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SILVER LAKE
CONSTRUCTION COMPANY

Safety Data Sheets

Hazardous Communication Program

ROBERTSON'S

ROCK ▪ SAND ▪ BASE MATERIALS
READY MIX CONCRETE

Safety Data Sheet

Material Name: Ready Mix Concrete, Freshly Mixed Unhardened Concrete

Section 1 - Product and Company Identification

Manufacturer Information

Robertson's Ready Mix
P.O. Box 3600
Corona, CA 92872
Phone: 800-834-7557
www.rrmca.com

Section 2 - Hazards Identification

GHS Classification:

Acute Toxicity Oral - Category 4
Acute Toxicity Dermal - Category 4
Acute Toxicity Inhalation - Category 3
Skin Corrosion/Irritation - Category 1B
Eye Damage - Category 1
Respiratory Sensitization - Category 1
Skin Sensitization - Category 1
Carcinogenicity - Category 1A
Specific Target Organ Toxicity Repeat Exposure - Category 1

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

Danger

Hazard Statements

Harmful if swallowed.
Harmful in contact with skin.
Toxic if inhaled.
Causes severe skin burns and eye damage.
Causes serious eye damage.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause cancer.
Causes damage to organs through prolonged or repeated exposure (lungs).

Precautionary Statements

Prevention

Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/protective clothing/eye protection/face protection.
Contaminated work clothing must not be allowed out of the workplace.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
In case of inadequate ventilation wear respiratory protection.

Response

If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center/doctor.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician. Wash contaminated clothing before reuse.
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or doctor/physician.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.

Storage

Store in a well-ventilated place.
Store in an appropriate container or containment structure.

Disposal

Dispose of contents/container in accordance with local/regional/international regulations.

Section 3 - Composition / Information on Ingredients

CAS #	Component	Percent
Not Available	Aggregates	36-92
65997-15-1	Cement, portland, chemicals	2-26
68131-74-8	Ashes, residues	0-25
7732-18-5	Water	6-13
14808-60-7	Quartz	5-13

Component Information/Information on Non-Hazardous Components

General Product Information

Trace Elements: Ready-Mix concrete is made from materials mined from the earth. Trace amounts of naturally occurring elements might be detected during chemical analysis of these materials.

Section 4 - First Aid Measures

First Aid: Eyes

Immediately flush eyes thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.

First Aid: Skin

Wash skin with cool water and pH-neutral soap or a mild detergent intended for use on skin. Seek medical treatment in all cases of prolonged exposure wet concrete, liquids from wet concrete products, or prolonged wet skin exposure to the dry ingredients in Ready-Mix concrete.

First Aid: Ingestion

Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

First Aid: Inhalation

Remove to fresh air. Seek medical help if coughing and other symptoms do not subside. (Inhalation of gross amounts of the dry ingredients in Ready-Mix concrete requires immediate medical attention.)

Section 5 - Fire Fighting Measures

General Fire Hazards

See Section 9 for Flammability Properties.
Non-combustible.

Hazardous Combustion Products

None

Extinguishing Media

Use appropriate extinguishing media for surrounding fire.

Unsuitable Extinguishing Media

None

Fire Fighting Equipment/Instructions

Firefighters should wear full protective gear.

Section 6 - Accidental Release Measures

Recovery and Neutralization

Stop the flow of material, if this is without risk.

Materials and Methods for Clean-Up

Collect dry material using a scoop. Avoid actions that cause dust to become airborne. Avoid inhalation of dust and contact with skin. Scrape up wet material and place in an appropriate container. Allow the material to harden before disposal.

Emergency Measures

Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment

Wear appropriate personal protective equipment as described in Section 8.

Environmental Precautions

Do not attempt to wash wet concrete down sewers or storm drains.

Prevention of Secondary Hazards

None

Section 7 - Handling and Storage

Handling Procedures

Avoid prolonged or repeated breathing of dust. Avoid contact with eyes and skin. Promptly remove dusty clothing or clothing which is wet with concrete and launder before reuse. Wash thoroughly after exposure to dust or wet concrete mixtures.

Storage Procedures

Normal temperatures and pressures do not affect the material.

Incompatibilities

Wet Ready-Mix concrete is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal.

Section 8 - Exposure Controls / Personal Protection

Component Exposure Limits

Cement, portland, chemicals (65997-15-1)

ACGIH: 1 mg/m3 TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable fraction)
OSHA: 15 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
NIOSH: 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)

Quartz (14808-60-7)

ACGIH: 0.025 mg/m3 TWA (respirable fraction)
NIOSH: 0.05 mg/m3 TWA (respirable dust)

Engineering Measures

Avoid actions that cause dust to become airborne. Use local exhaust or general dilution ventilation to control exposure within applicable limits.

Personal Protective Equipment: Respiratory

Use local or general ventilation to control exposures below applicable exposure limits. NIOSH or MSHA approved particulate filter respirators should be used in the context of respiratory protection program meeting the requirements of the OSHA respiratory protection standard [29 CFR 1910.134] to control exposures when ventilation or other controls are inadequate or discomfort or irritation is experienced. Respirator and/or filter cartridge selection should be based on American National Standards Institute (ANSI) Standards Z88.2 Practices for Respiratory Protection.

Personal Protective Equipment: Hands

Where prolonged exposure to unhardened concrete products might occur, wear impervious gloves to eliminate skin contact. Do not rely on barrier creams; barrier creams should not be used in place of gloves. Periodically wash areas contacted by wet cement or its dry ingredients with a pH neutral soap and water. Wash again at the end of the work. If irritation occurs, immediately wash the affected area and seek treatment.

Personal Protective Equipment: Eyes

When engaged in activities where wet concrete or its dry ingredients could contact the eye, wear safety glasses with side shields or goggles. In extremely dusty environments and unpredictable environments, wear unvented or indirectly vented goggles to avoid eye irritation or injury. Contact lenses should not be worn when working with wet concrete or its dry ingredients.

Personal Protective Equipment: Skin and Body

Where prolonged exposure to unhardened concrete products might occur, wear impervious clothing to eliminate skin contact. Where required, wear boots that are impervious to water to eliminate foot and ankle exposure. If clothing becomes saturated with wet concrete, it should be removed and replaced with clean dry clothing.

Section 9 - Physical & Chemical Properties

Appearance:	Gray granular mixture.	**Odor:**	None
Physical State:	Liquid, semi-solid	**pH:**	12-13 (in water)
Vapor Pressure:	Not Applicable	**Vapor Density:**	Not Applicable
Boiling Point:	Not Applicable	**Melting Point:**	Not Applicable
Solubility (H2O):	Slightly soluble	**Specific Gravity:**	1.70-3.00
Evaporation Rate:	Not Applicable	**VOC:**	Not Determined
Octanol/H2O Coeff.:	Not Determined	**Flash Point:**	None
Flash Point Method:	None	**Upper Flammability Limit (UFL):**	None
Lower Flammability Limit (LFL):	None	**Burning Rate:**	None
Auto Ignition:	Not Combustible		

Section 10 - Chemical Stability & Reactivity Information

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Unintentional contact with water.

Incompatible Products

Wet Ready-Mix concrete is alkaline. As such it is incompatible with acids, ammonium salts and aluminum metal.

Hazardous Decomposition Products

Will not spontaneously occur. Adding water results in hydration and produces (caustic) calcium hydroxide.

Section 11 - Toxicological Information

Acute Toxicity

Component Analysis - LD50/LC50

Ashes, residues (68131-74-8)
Oral LD50 Rat >2000 mg/kg

Water (7732-18-5)
Oral LD50 Rat >90 mL/kg

Quartz (14808-60-7)
Oral LD50 Rat 500 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

Discomfort or pain cannot be relied upon to alert a person to a hazardous skin exposure. Consequently, the only effective means of avoiding skin injury or illness involves minimizing skin contact, particularly contact with wet concrete. Exposed persons may not feel discomfort until hours after the exposure has ended and significant injury has occurred. Exposure during the handling or mixing of the dry ingredients in Ready-Mix concrete may cause drying of the skin with consequent mild irritation or more significant effects attributable to aggravation of other conditions. Exposure to wet concrete may cause more severe skin effects including thickening, cracking or fissuring of the skin. Prolonged exposure can cause severe skin damage in the form of (caustic) chemical burns.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Exposure to airborne dust during the handling or mixing of the dry ingredients in Ready-Mix concrete may cause immediate or delayed irritation or inflammation. Eye contact by splashes of wet concrete may cause effects ranging from moderate eye irritation to chemical burns and blindness. Such exposures require immediate first aid (see Section 4) and medical attention to prevent significant damage to the eye.

Potential Health Effects: Ingestion

Although inadvertent ingestion of small quantities of wet concrete or its dry ingredients are not known to be harmful, accidental ingestion of larger quantities can be harmful and requires immediate medical attention.

Potential Health Effects: Inhalation

The ingredients in Ready-Mix concrete contain crystalline silica. Exposure to these ingredients in excess of the applicable TLV or PEL (see Section 2) may cause or aggravate other lung conditions. Exposure to the dry ingredients in Ready-Mix concrete may cause irritation to the moist mucous membranes of the nose, throat, and upper respiratory system.

Respiratory Organs Sensitization/Skin Sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled. Some individuals may exhibit an allergic response upon exposure to wet concrete. The response may appear in a variety of forms ranging from a mild rash to severe skin ulcers. Persons already sensitized may react to their first contact with the product. Other persons may first experience this effect after years of contact with wet unhardened concrete products.

Generative Cell Mutagenicity

This product is not reported to have any mutagenic effects.

Carcinogenicity

A: General Product Information

May cause cancer.

Crystalline Silica: Exposures to respirable crystalline silica are not expected during the normal use of this product. Prolonged and repeated exposure to airborne free respirable crystalline silica can result in lung disease and/or lung cancer. IARC states that crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1).

B: Component Carcinogenicity

Cement, portland, chemicals (65997-15-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Quartz (14808-60-7)

ACGIH: A2 - Suspected Human Carcinogen
NIOSH: potential occupational carcinogen
NTP: Known Human Carcinogen (respirable size) (Select Carcinogen)
IARC: Monograph 100C [2012] (listed under Crystalline silica inhaled in the form of quartz or cristobalite from occupational sources); Monograph 68 [1997] (Group 1 (carcinogenic to humans))

Reproductive Toxicity

This product is not reported to have any reproductive toxicity effects.

Specified Target Organ General Toxicity: Single Exposure

This product is not reported to have any single exposure specific target organ toxicity effects.

Specified Target Organ General Toxicity: Repeated Exposure

Causes damage to organs through prolonged or repeated exposure (lungs).

Aspiration Respiratory Organs Hazard

This product is not reported to have any aspiration hazards.

Section 12 - Ecological Information

Ecotoxicity

A: General Product Information

This product is not reported to have any ecotoxicity effects.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Ashes, residues (68131-74-8)

Test & Species		Conditions
24 Hr EC50 Daphnia magna	140 - 2000 mg/L	

Persistence/Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility in Soil

No information available for the product.

Section 13 - Disposal Considerations

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

Section 14 - Transportation Information

DOT Information

Shipping Name: Not Regulated.

Section 15 - Regulatory Information

Regulatory Information

US Federal Regulations

Component Analysis

None of this products components are listed under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), or CERCLA (40 CFR 302.4).

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Cement, portland, chemicals	65997-15-1	No	Yes	Yes	Yes	Yes	No
Quartz	14808-60-7	No	Yes	Yes	Yes	Yes	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains chemicals known to the state of California to cause cancer, birth defects, or other reproductive harm.

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Quartz	14808-60-7	1 %

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Cement, portland, chemicals	65997-15-1	Yes	DSL	EINECS
Ashes, residues	68131-74-8	Yes	DSL	EINECS
Water	7732-18-5	Yes	DSL	EINECS
Quartz	14808-60-7	Yes	DSL	EINECS

Section 16 - Other Information

Hazardous Material Information System (HMIS):		
	Health	1
	Flammability	0
	Physical Hazard	0
	Personal Protection	B

NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme
Protective Equipment: Safety glasses, gloves

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

Other Information

SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, CONCERNING THE PRODUCT OR THE MERCHANTABILITY OR FITNESS THEREOF FOR ANY PURPOSE OR CONCERNING THE ACCURACY OF ANY INFORMATION PROVIDED BY ROBERTSON'S READY MIX, except that the product shall conform to contracted specifications. The information provided herein was believed by Robertson's Ready Mix to be accurate at the time of preparation or prepared from sources believed to be reliable, but it is the responsibility of the user to investigate and understand other pertinent sources of information to comply with all laws and procedures applicable to the safe handling and use of the product and to determine the suitability of the product for its intended use. Buyer's exclusive remedy shall be for damages and no claim of any kind, whether as to product delivered or for nondelivery of product, and whether based on contract, breach of warranty, negligence, or otherwise shall be greater in amount than the purchase price of the quantity of product in respect of which damages are claimed. In no event shall Seller be liable for incidental or consequential damages, whether Buyer's claim is based on contract, breach of warranty, negligence or otherwise.

End of Sheet

Material Safety Data Sheet

1. Product and company identification

Product name	ARCO Unleaded Gasoline
MSDS #	APPC306
Code	APPC306
Product use	USE AS MOTOR FUEL ONLY.
Synonyms	ARCO Unleaded Regular, Midgrade and Premium gasolines; ARCO EC Unleaded Regular, Midgrade and Premium gasolines, CARB Gasoline
Supplier	BP Products North America Inc. 150 West Warrenville Road Naperville, Illinois 60563-8460 USA
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

2. Hazards identification

Physical state	Liquid.
Color	Clear
Emergency overview	DANGER ! EXTREMELY FLAMMABLE. VAPOR MAY CAUSE FLASH FIRE. INHALATION OF VAPOR/AEROSOL CONCENTRATIONS ABOVE THE RECOMMENDED EXPOSURE LIMITS CAUSES HEADACHES, DIZZINESS, DROWSINESS, AND NAUSEA, AND MAY LEAD TO UNCONSCIOUSNESS OR DEATH. HARMFUL IF SWALLOWED. HARMFUL OR FATAL IF LIQUID IS ASPIRATED INTO LUNGS. CAUSES EYE AND SKIN IRRITATION. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. LONG-TERM EXPOSURE TO VAPORS HAS CAUSED CANCER IN LABORATORY ANIMALS. Extremely flammable liquid. Do not ingest. If ingested, do not induce vomiting. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Keep away from heat, sparks and flame. Keep container tightly closed and sealed until ready for use. Use only with adequate ventilation. Wash thoroughly after handling. Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.
Routes of entry	Dermal contact. Eye contact. Inhalation. Ingestion.
Potential health effects	
Eyes	Causes eye irritation.
Skin	Causes skin irritation. Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. See toxicological information (Section 11)
Inhalation	Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. See toxicological information (Section 11)
Ingestion	Aspiration hazard if swallowed. Can enter lungs and cause damage. See toxicological information (Section 11)

See toxicological information (Section 11)

3. Composition/information on ingredients

Ingredient name	CAS #	%
Gasoline	Mixture	90 - 100
Ethanol	64-17-5	0 - 10
Contains:		
Benzene	71-43-2	0 - 3
n-hexane	110-54-3	1 - 2
Cyclohexane	110-82-7	0 - 1
Ethylbenzene	100-41-4	0 - 2
Toluene	108-88-3	4 - 11
1,2,4-Trimethylbenzene	95-63-6	0 - 3
xylene	1330-20-7	4 - 11
Naphthalene	91-20-3	0 - 0.5

4. First aid measures

Eye contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Skin contact Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Clean shoes thoroughly before reuse. Wash contaminated clothing before reuse. Get medical attention.

Inhalation If inhaled, remove to fresh air. If not breathing, give artificial respiration. Get medical attention immediately.

Ingestion Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

5. Fire-fighting measures

Flammability of the product Extremely flammable liquid.

Flash point Closed cup: -42.778°C (-45°F)

Explosion limits Lower: 1.3%
Upper: 7.6%
(Estimated.)

Fire/explosion hazards Extremely flammable liquid and vapor. Vapor may cause flash fire. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Unusual fire/explosion hazards Extremely explosive in the presence of the following materials or conditions: open flames, sparks and static discharge and heat.

Extinguishing media

Suitable Use dry chemical, CO_2, water spray (fog) or foam.

Not suitable Do not use water jet.

Fire-fighting procedures Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Hazardous combustion products Combustion products may include the following:
carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)

Protective clothing (fire) Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special remarks on fire hazards Do not use water jet.

6. Accidental release measures

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Personal protection in case of a large spill

Chemical splash goggles. Chemical-resistant protective suit. Boots. Chemical-resistant gloves. Self-contained breathing apparatus (SCBA) should be used to avoid inhalation of the product. Suggested protective clothing might not be adequate. Consult a specialist before handling this product.

Methods for cleaning up

Large spill

Stop leak if without risk. Eliminate all ignition sources. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Small spill

Stop leak if without risk. Eliminate all ignition sources. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling

Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material.

Never siphon by mouth.
For use as a motor fuel only. Do not use as a cleaning solvent, thinner or for other non-motor fuel uses. Do not use as a portable heater or appliance fuel.
Warning! Customers should not re-enter vehicle during the re-fueling process as this can generate static electricity and cause a spark and flash fire hazard if sufficient vapors are present. The flow of gasoline through a pump nozzle can produce static electricity, which may cause a fire if gasoline is pumped into an ungrounded container. To avoid static spark hazard when filling portable containers:

- Fill only containers approved to hold gasoline
- Place container on the ground while dispensing fuel.
- Do not fill container in or on a vehicle or on a truck or trailer bed.
- Keep nozzle in contact with container while filling.

"Empty" containers retain liquid and vapor residues and can be dangerous. Do not pressurize, cut, weld, drill, grind or expose to heat, flame, sparks, static electricity, or other sources of ignition, containers with ANY residue; they may explode and cause injury or death.

Storage

Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Other information

Do not enter storage tanks without breathing apparatus unless the tank has been well ventilated and the tank atmosphere has been shown to contain hydrocarbon vapor concentrations of less than 1% of the lower flammability limit and an oxygen concentration of at least 20% volume.

Light hydrocarbon vapors can build up in the headspace of tanks. These can cause flammability/ explosion hazards even at temperatures below the normal flash point (note: flash point must not be regarded as a reliable indicator of the potential flammability of vapor in tank headspaces).

Tank headspaces should always be regarded as potentially flammable and care should be taken to avoid static electrical discharge and all ignition sources during filling, ullaging and sampling from storage tanks. When the product is pumped (e.g. during filling, discharge or ullaging) and when sampling, there is a risk of static discharge. Ensure equipment used is properly earthed or bonded to the tank structure. Electrical equipment should not be used unless it is intrinsically safe (i.e. will not produce sparks).

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name	Occupational exposure limits
Gasoline	**ACGIH TLV (United States).** TWA: 300 ppm 8 hour(s). Issued/Revised: 5/1996 TWA: 890 mg/m³ 8 hour(s). Issued/Revised: 5/1996 STEL: 500 ppm 15 minute(s). Issued/Revised: 5/1996 STEL: 1480 mg/m³ 15 minute(s). Issued/Revised: 5/1996
Ethanol	**ACGIH TLV (United States).** STEL: 1000 ppm 15 minute(s). Issued/Revised: 11/2008 **OSHA PEL (United States).** TWA: 1900 mg/m³ 8 hour(s). Issued/Revised: 6/1993 TWA: 1000 ppm 8 hour(s). Issued/Revised: 6/1993
Benzene	**ACGIH TLV (United States). Absorbed through skin.** STEL: 8 mg/m³ 15 minute(s). Issued/Revised: 5/1997 STEL: 2.5 ppm 15 minute(s). Issued/Revised: 5/1997 TWA: 1.6 mg/m³ 8 hour(s). Issued/Revised: 5/1997 TWA: 0.5 ppm 8 hour(s). Issued/Revised: 5/1997 **OSHA PEL (United States).** STEL: 5 ppm 15 minute(s). Issued/Revised: 6/1993 TWA: 1 ppm 8 hour(s). Issued/Revised: 6/1993 **OSHA PEL Z2 (United States).** AMP: 50 ppm 10 minute(s). Issued/Revised: 6/1993 CEIL: 25 ppm Issued/Revised: 6/1993 TWA: 10 ppm 8 hour(s). Issued/Revised: 6/1993
n-hexane	**OSHA PEL (United States). Absorbed through skin.** TWA (States of California & Washington): 50 ppm 8 hour(s). Form: Vapor TWA: 1800 mg/m³ 8 hour(s). Issued/Revised: 6/1993 TWA: 500 ppm 8 hour(s). Issued/Revised: 6/1993 STEL (State of Washington): 75 ppm 15 minute(s). **ACGIH TLV (United States). Absorbed through skin.** TWA: 50 ppm 8 hour(s). Issued/Revised: 9/1998
Cyclohexane	**ACGIH TLV (United States).** TWA: 100 ppm 8 hour(s). Issued/Revised: 1/2002 **OSHA PEL (United States).** TWA: 1050 mg/m³ 8 hour(s). Issued/Revised: 6/1993 TWA: 300 ppm 8 hour(s). Issued/Revised: 6/1993
Ethylbenzene	**ACGIH TLV (United States).** TWA: 20 ppm 8 hour(s). Issued/Revised: 12/2010 **OSHA PEL (United States).** TWA: 435 mg/m³ 8 hour(s). Issued/Revised: 6/1993 TWA: 100 ppm 8 hour(s). Issued/Revised: 6/1993
Toluene	**OSHA PEL Z2 (United States).** AMP: 500 ppm 10 minute(s). Issued/Revised: 6/1993 CEIL: 300 ppm Issued/Revised: 6/1993 TWA: 200 ppm 8 hour(s). Issued/Revised: 6/1993 **ACGIH TLV (United States).** TWA: 20 ppm 8 hour(s). Issued/Revised: 11/2006
1,2,4-Trimethylbenzene	**ACGIH TLV (United States).** TWA: 123 mg/m³ 8 hour(s). Issued/Revised: 9/1994 TWA: 25 ppm 8 hour(s). Issued/Revised: 9/1994
xylene	**ACGIH TLV (United States).** STEL: 651 mg/m³ 15 minute(s). Issued/Revised: 5/1996 STEL: 150 ppm 15 minute(s). Issued/Revised: 5/1996 TWA: 434 mg/m³ 8 hour(s). Issued/Revised: 5/1996 TWA: 100 ppm 8 hour(s). Issued/Revised: 5/1996 **OSHA PEL (United States).** TWA: 435 mg/m³ 8 hour(s). Issued/Revised: 6/1993 TWA: 100 ppm 8 hour(s). Issued/Revised: 6/1993

Naphthalene	**ACGIH TLV (United States). Absorbed through skin.** STEL: 79 mg/m³ 15 minutes. Issued/Revised: 5/1996 STEL: 15 ppm 15 minutes. Issued/Revised: 5/1996 TWA: 52 mg/m³ 8 hours. Issued/Revised: 5/1996 TWA: 10 ppm 8 hours. Issued/Revised: 5/1996 **OSHA PEL (United States).** TWA: 50 mg/m³ 8 hours. Issued/Revised: 6/1993 TWA: 10 ppm 8 hours. Issued/Revised: 6/1993

While specific OELs for certain components may be shown in this section, other components may be present in any mist, vapor or dust produced. Therefore, the specific OELs may not be applicable to the product as a whole and are provided for guidance only.

Some states may enforce more stringent exposure limits.

Control Measures

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

Personal protection

Eyes

Avoid contact with eyes. Safety glasses with side shields or chemical goggles.

Skin and body

Do not get on skin or clothing. Wear clothing and footwear that cannot be penetrated by chemicals or oil.

Respiratory

Use only with adequate ventilation. Avoid breathing vapor or mist. If ventilation is inadequate, use a NIOSH certified respirator with an organic vapor cartridge and P95 particulate filter.

CAUTION: The protection provided by air-purifying respirators is limited. Use a positive pressure air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are not known, or if concentrations exceed the protection limits of air-purifying respirator.

Hands

Wear gloves that cannot be penetrated by chemicals or oil.

The correct choice of protective gloves depends upon the chemicals being handled, the conditions of work and use, and the condition of the gloves (even the best chemically resistant glove will break down after repeated chemical exposures). Most gloves provide only a short time of protection before they must be discarded and replaced. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Gloves should therefore be chosen in consultation with the supplier/manufacturer and with a full assessment of the working conditions.

Consult your supervisor or Standard Operating Procedure (S.O.P) for special handling instructions.

9. Physical and chemical properties

Physical state

Liquid.

Color

Clear

Odor

Hydrocarbon.

Flash point

Closed cup: -42.778°C (-45°F)

Explosion limits

Lower: 1.3%
Upper: 7.6%
(Estimated.)

Density

750 kg/m³ (0.75 g/cm³)

Boiling point / Range

26.67 to 221°C (80 to 430°F)

Vapor pressure

48.134 to 103.146 kPa (361.97 to 775.66 mm Hg)

Volatility

100% (v/v)

Solubility

Very slightly soluble in water

10. Stability and reactivity

Stability and reactivity The product is stable.

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid Keep away from heat, sparks and flame. Avoid all possible sources of ignition (spark or flame).

Incompatibility with various substances Reactive or incompatible with the following materials: oxidizing materials.
Chlorine and Fluorine

Hazardous decomposition products carbon oxides (CO, CO_2) (carbon monoxide, carbon dioxide)

Hazardous polymerization Will not occur.

11. Toxicological information

Classification

Product/ingredient name	IARC	NTP	OSHA
xylene	3	-	-
Toluene	3	-	-
Benzene	1	Proven.	+
Ethylbenzene	2B	-	-
Naphthalene	2B	Possible	-

IARC :
1 - Carcinogenic to human.
2B - Possible carcinogen to human.
3 - Not classifiable as a human carcinogen.

NTP :
Proven - Known to be human carcinogens.
Possible - Reasonably anticipated to be human carcinogens.

OSHA :
+ Potential occupational carcinogen

Other information

Aspiration of this product into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this product. Do not siphon by mouth.

Excess exposure to vapors may produce headaches, dizziness, nausea, drowsiness, irritation of eyes, nose and throat and central nervous system depression. Aspiration of this material into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this product. Inhalation of unleaded gasoline vapors did not produce birth defects in laboratory animals. Ingestion of this material can cause gastrointestinal irritation and diarrhea.

In a long-term inhalation study of whole unleaded gasoline vapors, exposure-related kidney damage and kidney tumors were observed in male rats. Similar kidney effects were not seen in female rats or in mice. At the highest exposure level (2056 ppm), female mice had an increased incidence of liver tumors. Results from subsequent scientific studies have shown that a broad variety of chemicals cause these kidney effects only in the male rat. Further studies have discovered the means by which the physiology of the male rat uniquely predispose it to these effects. Consequently, the Risk Assessment Forum of the Environmental Protection Agency has recognized that these responses are not predictive of a human health hazard. The liver tumors that were increased in the high-dose female mice are likewise of questionable significance because of their high spontaneous occurrence even without chemical exposure and because the rate of their occurrence is accelerated by a broad spectrum of chemicals not commonly considered to be carcinogens (e.g., phenobarbital). Thus, the significance of the mouse liver tumor response in terms of human health is questionable.

Gasoline is a complex mixture of hydrocarbons and contains benzene (typically no more than 2 volume%), toluene, and xylene. Chronic exposure to high levels of benzene has been shown to cause cancer (leukemia) in humans and other adverse blood effects (anemia). Benzene is considered a human carcinogen by IARC, NTP and OSHA. Over exposure to xylene and toluene

can cause irritation to the upper respiratory tract, headache and narcosis. Some liver damage and lung inflammation were seen in chronic studies on xylene in guinea pigs but not in rats.

Solvent "sniffing" (abuse) or intentional overexposure to vapors can produce serious central nervous system effects, including unconsciousness, and possibly death.

Exposure to vapor at high concentrations may have the following effects: heart beat irregularity (arrhythmia)

Gasoline as a mixture is classified as a 2B (possible human) carcinogen by IARC.

Gasoline engine exhaust is classified as possibly carcinogenic to humans by IARC (2B). This classification is based primarily on animal and in vitro studies of gasoline engine exhaust condensates/extracts. Studies of the gaseous exhaust stream in animals did not provide sufficient evidence for classification as a carcinogen.

Gasoline: Additional toxicity information on components.

This product contains n-hexane. Overexposure to n-hexane may cause progressive and potentially irreversible damage to the peripheral nervous system, particularly in the arms and legs. Animal studies have also shown that n-hexane overexposure may cause testicular injury. However, animal studies conducted with commercial hexane, containing 53% n-hexane, showed neither peripheral nervous system damage nor testicular injury at inhalation exposures up to 9000 ppm.

Ethanol:
Irritancy - Skin: A single 4h semi-occlusive application to intact rabbit skin produced minimal signs of irritation (mean scores for erythema or oedema less than 2).

Irritancy - Eye. The eye irritancy has been investigated by OECD Test method 405. Single application to the rabbit eye produced conjunctival irritation and transient corneal damage. The effect was insufficient to warrant classification as an eye irritant.

Sensitization: The material is not sensitizing in standard animal tests. In rare cases non -irritant contact dermatitis has been identified in humans after skin exposure to this material. Such cases have been identified as delayed hypersensitivity or as urticarial reactions. In reactive individuals such reactions may also be elicited by drinking alcoholic drinks or by cross reaction to certain other alcohols.

Sub-acute/Subchronic Toxicity: It has been shown in many animal experiments that the repeated oral consumption of large doses of ethanol can lead to damage in practically all organ systems. The main manifestations of the toxic effects are shown by the liver.

Chronic toxicity/carcinogenicity: No convincing evidence of carcinogenic effects in animal studies.

Genotoxicity : The product has been tested in a number of bacterial and mammalian systems. The product did not exhibit mutagenic activity in the following systems (with and without metabolic activation): Drosophila. Salmonella typhimurium. Human lymphocytes in vitro. Most in vitro tests and all in vivo tests for chromosome abberations report negative results. The product did not induce micronuclei in standard bone marrow tests in vivo. There is some evidence that ethanol both induces SCE in vivo and can also act as an aneugen at high doses. Overall, there is no robust evidence that ethanol is a genotoxic hazard according to the criteria normally applied for the purpose of classification and labelling of industrial chemicals.

Reproductive/Developmental Toxicity: Adverse effects on the male reproductive system have been reported in laboratory animals following repeated exposure to high concentrations. Developmental effects have been observed in laboratory animals following large oral exposures.

Human data: In humans excessive consumption of alcoholic beverages during pregnancy is associated with the induction of Fetal Alcohol Syndrome in the offspring. Reduced birth weight and physical and mental defects occur. There is no evidence that such effects might be caused by exposures other than direct ingestion of alcoholic drinks. In humans high lifetime consumption of alcoholic beverages can be associated with certain cancers and effects on the liver. There is no evidence that these can be caused by exposure other than direct ingestion of alcoholic drinks (IARC 1988).

Potential chronic health effects

Carcinogenicity Contains material which can cause cancer. Risk of cancer depends on duration and level of exposure.

12. Ecological information

Ecotoxicity

No testing has been performed by the manufacturer.

Persistence/degradability Inherently biodegradable

Mobility Spillages may penetrate the soil causing ground water contamination.

Bioaccumulative potential This product is not expected to bioaccumulate through food chains in the environment.

Other ecological information Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal considerations

Waste information The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

NOTE: The generator of waste has the responsibility for proper waste identification (based on characteristic(s) or listing), transportation and disposal

14. Transport information

International transport regulations

Regulatory information	UN number	Proper shipping name	Class	Packing group	Additional information
DOT Classification	UN1203	Gasoline	3	II	-
TDG Classification	UN1203	GASOLINE	3	II	-
IMDG Classification	UN1203	GASOLINE. Marine pollutant	3	II	**Emergency schedules (EmS)** F-E, S-E
IATA/ICAO Classification	-----	Proper classification to be determined at the time of shipment	-----	-----	-

15. Regulatory information

U.S. Federal Regulations

United States inventory (TSCA 8b) All components are listed or exempted.

SARA 302/304: No products were found.
SARA 311/312 Hazards identification: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

SARA 313

Product name	CAS number	Concentration

Form R - Reporting requirements

Toluene	108-88-3	4 - 11
xylene	1330-20-7	4 - 11
Benzene	71-43-2	0 - 3
1,2,4-Trimethylbenzene	95-63-6	0 - 3
n-hexane	110-54-3	1 - 2
Ethylbenzene	100-41-4	0 - 2
Cyclohexane	110-82-7	0 - 1
Naphthalene	91-20-3	0 - 0.5

Supplier notification

Toluene	108-88-3	4 - 11
xylene	1330-20-7	4 - 11
Benzene	71-43-2	0 - 3
1,2,4-Trimethylbenzene	95-63-6	0 - 3
n-hexane	110-54-3	1 - 2
Ethylbenzene	100-41-4	0 - 2
Cyclohexane	110-82-7	0 - 1
Naphthalene	91-20-3	0 - 0.5

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):

CERCLA: Hazardous substances.: Benzene: 10 lbs. (4.54 kg); n-hexane: 5000 lbs. (2270 kg); Cyclohexane: 1000 lbs. (454 kg); Ethylbenzene: 1000 lbs. (454 kg); Toluene: 1000 lbs. (454 kg); xylene: 100 lbs. (45.4 kg); Naphthalene: 100 lbs. (45.4 kg);

State regulations

Massachusetts Substances

The following components are listed: XYLENE; TOLUENE; ETHYL ALCOHOL; BENZENE; PSEUDOCUMENE; HEXANE; ETHYL BENZENE; CYCLOHEXANE

New Jersey Hazardous Substances

The following components are listed: XYLENES; BENZENE, DIMETHYL-; TOLUENE; BENZENE, METHYL-; ETHYL ALCOHOL; ALCOHOL; BENZENE; PSEUDOCUMENE; 1,2,4-TRIMETHYL BENZENE; n-HEXANE; HEXANE; ETHYL BENZENE; BENZENE, ETHYL-; CYCLOHEXANE; NAPHTHALENE; MOTH FLAKES

Pennsylvania RTK Hazardous Substances

The following components are listed: GASOLINE; BENZENE, DIMETHYL-; BENZENE, METHYL-; DENATURED ALCOHOL; BENZENE; PSEUDOCUMENE; HEXANE; BENZENE, ETHYL-; CYCLOHEXANE; NAPHTHALENE

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.
Ethylbenzene; Naphthalene

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
Toluene

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.
Benzene

Other Prop 65 chemicals will result under certain conditions from the use of this material. For example, burning fuels produces combustion products including carbon monoxide, a Prop 65 reproductive toxin.

Other regulations

Canada inventory

All components are listed or exempted.

REACH Status

For the REACH status of this product please consult your company contact, as identified in Section 1.

Australia inventory (AICS)

At least one component is not listed.

China inventory (IECSC)

At least one component is not listed.

Japan inventory (ENCS)

All components are listed or exempted.

Korea inventory (KECI)

All components are listed or exempted.

Philippines inventory (PICCS)

All components are listed or exempted.

16. Other information

Label requirements

DANGER !

EXTREMELY FLAMMABLE.
VAPOR MAY CAUSE FLASH FIRE.
INHALATION OF VAPOR/AEROSOL CONCENTRATIONS ABOVE THE RECOMMENDED EXPOSURE LIMITS CAUSES HEADACHES, DIZZINESS, DROWSINESS, AND NAUSEA, AND MAY LEAD TO UNCONSCIOUSNESS OR DEATH.
HARMFUL IF SWALLOWED.
HARMFUL OR FATAL IF LIQUID IS ASPIRATED INTO LUNGS.
CAUSES EYE AND SKIN IRRITATION.
PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION.
LONG-TERM EXPOSURE TO VAPORS HAS CAUSED CANCER IN LABORATORY ANIMALS.

HMIS® Rating :

Health	*	**1**
Flammability		**3**
Physical Hazard		**0**
Personal protection		**X**

National Fire Protection Association (U.S.A.)

History

Date of issue 12/31/2012.

Date of previous issue 03/01/2012.

Prepared by Product Stewardship

Indicates information that has changed from previously issued version.

Notice to reader

All reasonably practicable steps have been taken to ensure this data sheet and the health, safety and environmental information contained in it is accurate as of the date specified below. No warranty or representation, express or implied is made as to the accuracy or completeness of the data and information in this data sheet.

The data and advice given apply when the product is sold for the stated application or applications. You should not use the product other than for the stated application or applications without seeking advice from BP Group.

It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations. The BP Group shall not be responsible for any damage or injury resulting from use, other than the stated product use of the material, from any failure to adhere to recommendations, or from any hazards inherent in the nature of the material. Purchasers of the product for supply to a third party for use at work, have a duty to take all necessary steps to ensure that any person handling or using the product is provided with the information in this sheet. Employers have a duty to tell employees and others who may be affected of any hazards described in this sheet and of any precautions that should be taken. You can contact the BP Group to ensure that this document is the most current available. Alteration of this document is strictly prohibited.

SAFETY DATA SHEET

SDS ID NO.: 0104ARC011 **Revision date** 01/29/2024

1. IDENTIFICATION

Product Name ARCO No. 2 Diesel

Synonym Ultra Low Sulfur Diesel; ULSD; B5; CARB Diesel; CARB ULSD
Product code 0104ARC011
Chemical family Complex Hydrocarbon Substance

Recommended use Fuel.
Restrictions on use All others.

Manufacturer, Importer, or Responsible Party Name and Address

TESORO REFINING & MARKETING COMPANY LLC
A subsidiary of Marathon Petroleum Corporation
539 South Main Street
Findlay, OH 45840

SDS information 1-419-421-3070 (M-F; 8-5 EST)

24 Hour Emergency Telephone CHEMTREC: 1-800-424-9300 (CCN# 13740)

2. HAZARD IDENTIFICATION

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Classification

Flammable liquids	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Carcinogenicity	Category 2
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 2
Aspiration toxicity	Category 1
Chronic aquatic toxicity	Category 2

Hazards Not Otherwise Classified (HNOC)
Static accumulating flammable liquid

2.2. Label Elements

Danger

FLAMMABLE LIQUID AND VAPOR
May accumulate electrostatic charge and ignite or explode
May be fatal if swallowed and enters airways
Harmful if inhaled
Causes skin irritation
May cause respiratory irritation
May cause drowsiness or dizziness
Suspected of causing cancer
May cause damage to organs (thymus, liver, bone marrow) through prolonged or repeated exposure
Toxic to aquatic life with long lasting effects

Appearance Yellow to Red Liquid **Physical State** Liquid **Odor** Hydrocarbon

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use only non-sparking tools.
Use explosion-proof electrical/ventilating/lighting/equipment
Take precautionary measures against static discharge
Do not breathe mist/vapors/spray
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/face protection
Wash hands and any possibly exposed skin thoroughly after handling
Avoid release to the environment

Precautionary Statements - Response
IF exposed or concerned: Get medical attention
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
If skin irritation occurs: Get medical attention
Wash contaminated clothing before reuse
If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing
Call a poison center or doctor if you feel unwell
If swallowed: Immediately call a poison center or doctor
Do NOT induce vomiting
In case of fire: Use water spray, fog or regular foam for extinction
Collect spillage

Precautionary Statements - Storage
Store in a well-ventilated place. Keep container tightly closed
Keep cool
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container at an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

May contain up to 5% Biodiesel.

Composition Information

Chemical Name	CAS Number	% Concentration
No. 2 Diesel Fuel	68476-34-6	50-100
Kerosine (petroleum)	8008-20-6	0-50
Fuels, Diesel, C9-18-Alkane Branched and Linear	1159170-26-9	0-5
Alkanes, C10-C20 branched and linear	928771-01-1	0-5
Naphthalene	91-20-3	0.3-2.6

All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

4. FIRST AID MEASURES

First aid measures

General advice

In case of accident or if you feel unwell, seek medical advice immediately (show directions for use or safety data sheet if possible).

Inhalation

Remove to fresh air. If not breathing, utilize bag valve mask or other form of barrier device to institute rescue breathing. If breathing is difficult, ensure airway is clear, give oxygen and continue to monitor. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest. Get immediate medical attention.

Skin contact

Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. May be absorbed through the skin in harmful amounts. Get medical attention if irritation persists. Any injection injury from high pressure equipment should be evaluated immediately by a physician as potentially serious (See NOTES TO PHYSICIAN).

Place contaminated clothing in closed container until cleaned or discarded. If clothing is to be laundered, inform the person performing the operation of contaminant's hazardous properties. Destroy contaminated, non-chemical resistant footwear.

Eye contact

Flush immediately with large amounts of water for at least 15 minutes. Gently remove contacts while flushing. Eyelids should be held away from the eyeball to ensure thorough rinsing. Gently remove contacts while flushing. Get medical attention if irritation persists.

Ingestion

Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs, keep head below hips, or if patient is lying down, turn body and head to side to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest. Get immediate medical attention.

Most important signs and symptoms, both short-term and delayed with overexposure

Adverse effects

Irritating to the skin and mucous membranes. Symptoms may include redness, itching, and inflammation. May cause nausea, vomiting, diarrhea, and signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Aspiration hazard. May cause coughing, chest pains, shortness of breath, pulmonary edema and/or chemical pneumonitis. Prolonged or repeated exposure may cause adverse effects to the thymus, liver, and bone marrow. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking.

Indication of any immediate medical attention and special treatment needed

Notes to physician

INHALATION: This material (or a component) sensitizes the myocardium to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided.

SKIN: Leaks or accidents involving high-pressure equipment may inject a stream of material through the skin and initially produce an injury that may not appear serious. Only a small puncture wound may appear on the skin surface but, without proper treatment and depending on the nature, original pressure, volume, and location of the injected material, can compromise blood supply to an affected body part. Prompt surgical debridement of the wound may be necessary to prevent irreversible loss of function and/or the affected body part. High pressure injection injuries may be SERIOUS SURGICAL EMERGENCIES.

INGESTION: This material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media For small fires, Class B fire extinguishing media such as CO2, dry chemical, foam or water spray can be used. For large fires, water spray, fog or foam can be used. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Unsuitable extinguishing media Do not use straight water streams to avoid spreading fire.

Specific hazards arising from the chemical This product has been determined to be a flammable liquid per the OSHA Hazard Communication Standard and should be handled accordingly. May accumulate electrostatic charge and ignite or explode. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the Emergency Response Guidebook 128.

Hazardous combustion products Smoke, carbon monoxide, and other products of incomplete combustion.

Explosion data
Sensitivity to mechanical impact: No.
Sensitivity to static discharge: Yes.

Special protective equipment and precautions for firefighters Firefighters should wear full protective clothing and positive-pressure self-contained breathing apparatus (SCBA) with a full face-piece, as appropriate. Avoid using straight water streams. Water spray and foam must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Keep run-off water out of sewers and water sources.

Additional firefighting tactics FIRES INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after the fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles: if this is impossible, withdraw from area and let fire burn.

EVACUATION: Consider initial downwind evacuation for at least 1000 feet. If tank, rail car or tank truck is involved in a fire, ISOLATE for 5280 feet (1 mile) in all directions; also, consider initial evacuation of 5280 feet (1 mile) in all directions.

NFPA	Health 1	Flammability 2	Instability 0	Special Hazard -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. All contaminated surfaces will be slippery.

Protective equipment Use personal protection measures as recommended in Section 8.

Emergency procedures Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate.

Environmental precautions Avoid release to the environment. Avoid subsoil penetration.

Methods and materials for containment Contain liquid with sand or soil. Prevent spilled material from entering storm drains, sewers, and open waterways.

Methods and materials for cleaning up Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids. Recover and return free product to proper containers. When recovering free liquids

ensure all equipment is grounded and bonded. Use only non-sparking tools.

7. HANDLING AND STORAGE

Safe handling precautions

NEVER SIPHON THIS PRODUCT BY MOUTH. Use appropriate grounding and bonding practices. Static accumulating flammable liquid. Bonding and grounding may be insufficient to eliminate the hazard from static electricity. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Vapors may travel along the ground or be moved by ventilation. Flashback may occur along vapor trails. No smoking. Use only non-sparking tools. Avoid breathing fumes, gas, or vapors. Use only with adequate ventilation. Avoid repeated and prolonged skin contact. Use personal protection measures as recommended in Section 8. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water. Do not cut, drill, grind or weld on empty containers since explosive residues may remain. Refer to applicable EPA, OSHA, NFPA and consistent state and local requirements.

Hydrocarbons are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering, pumping at high flow rates or loading and transfer operations. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic chemical vapors or mists from process equipment operating under elevated temperature and pressure, or sudden ingress of air into vacuum equipment may result in ignition of vapors or mists without the presence of obvious ignition sources. Nozzle spouts must be kept in contact with the containers or tank during the entire filling operation.

Portable containers should never be filled while in or on a motor vehicle or marine craft. Containers should be placed on the ground. Static electric discharge can ignite fuel vapors when filling non-grounded containers or vehicles on trailers. The nozzle spout must be kept in contact with the container before and during the entire filling operation. Use only approved containers.

A buildup of static electricity can occur upon re-entry into a vehicle during fueling especially in cold or dry climate conditions. The charge is generated by the action of dissimilar fabrics (i.e., clothing and upholstery) rubbing across each other as a person enters/exits the vehicle. A flash fire can result from this discharge if sufficient flammable vapors are present. Therefore, do not get back in your vehicle while refueling.

Cellular phones and other electronic devices may have the potential to emit electrical charges (sparks). Sparks in potentially explosive atmospheres (including fueling areas such as gas stations) could cause an explosion if sufficient flammable vapors are present. Therefore, turn off cellular phones and other electronic devices when working in potentially explosive atmospheres or keep devices inside your vehicle during refueling.

High-pressure injection of any material through the skin is a serious medical emergency even though the small entrance wound at the injection site may not initially appear serious. These injection injuries can occur from high-pressure equipment such as paint spray or grease or guns, fuel injectors, or pinhole leaks in hoses or hydraulic lines and should all be considered serious. High pressure injection injuries may be SERIOUS SURGICAL EMERGENCIES (See First Aid Section 4).

Storage conditions

Store in properly closed containers that are appropriately labeled and in a cool, well-ventilated area. Do not store near an open flame, heat or other sources of ignition.

Incompatible materials.

Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical Name	ACGIH TLV	OSHA PELS	NIOSH IDLH

No. 2 Diesel Fuel 68476-34-6	100 mg/m³ TWA Skin - potential significant contribution to overall exposure by the cutaneous route	-	-
Kerosine (petroleum) 8008-20-6	200 mg/m³ TWA Skin - potential significant contribution to overall exposure by the cutaneous route	-	-
Naphthalene 91-20-3	10 ppm TWA Skin - potential significant contribution to overall exposure by the cutaneous route	TWA: 10 ppm TWA: 50 mg/m³	250 ppm

Notes: No further information available.

Engineering measures Local or general exhaust required in an enclosed area or with inadequate ventilation. Use mechanical ventilation equipment that is explosion-proof.

Personal protective equipment

Eye protection Use goggles or face-shield if the potential for splashing exists.

Skin and body protection Wear neoprene, nitrile or PVA gloves to prevent skin contact. Glove suitability is based on workplace conditions and usage. Contact the glove manufacturer for specific advice on glove selection and breakthrough times.

Respiratory protection Use a NIOSH approved organic vapor chemical cartridge or supplied air respirators when there is the potential for airborne exposures to exceed permissible exposure limits or if excessive vapors are generated. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 29 CFR 1910.134. Self-contained breathing apparatus should be used for fire fighting.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Yellow to Red Liquid
Physical State	Liquid
Color	Yellow to Red
Odor	Hydrocarbon
Odor Threshold	No data available.

Property	**Values (method)**
pH	Not applicable
Melting Point / Freezing Point	No data available.
Initial Boiling Point / Boiling Range	154-366 °C / 310-691 °F (ASTM D86)
Flash Point	58-76 °C / 136-168 °F (ASTM D93)
Evaporation Rate	No data available.
Flammability (solid, gas)	Not applicable.
Flammability Limit in Air (%):	
Upper Flammability Limit:	No data available.
Lower Flammability Limit:	No data available.
Explosion Limits	No data available.
Vapor Pressure	No data available.
Vapor Density	No data available.
Specific Gravity / Relative Density	0.82-0.86
Water Solubility	No data available.
Partition Coefficient	No data available.
Autoignition Temperature	No data available.
Decomposition Temperature	No data available.
Kinematic Viscosity	1.7-4.1 cSt @ 40°C (ASTM D445)

VOC Content (%) No data available.

10. STABILITY AND REACTIVITY

Reactivity The product is non-reactive under normal conditions.

Chemical stability The material is stable at 70°F (21°C), 760 mmHg pressure.

Possibility of hazardous reactions None under normal processing.

Hazardous polymerization Will not occur.

Conditions to avoid Excessive heat, sources of ignition, open flame.

Incompatible materials. Strong oxidizing agents.

Hazardous decomposition products None known under normal conditions of use. However, use in an area without adequate ventilation may result in hazardous levels of carbon monoxide and carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Potential short-term adverse effects from overexposures

Inhalation Harmful if inhaled. May cause irritation of respiratory tract. May cause drowsiness or dizziness. Breathing high concentrations of this material in a confined space or by intentional abuse can cause irregular heartbeats which can cause death.

Eye contact Exposure to vapor or contact with liquid may cause mild eye irritation, including tearing, stinging, and redness.

Skin contact Irritating to skin. Effects may become more serious with repeated or prolonged contact. May be absorbed through the skin in harmful amounts.

Ingestion May be fatal if swallowed or vomited and enters airways. May cause irritation of the mouth, throat and gastrointestinal tract.

Acute toxicological data

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
No. 2 Diesel Fuel 68476-34-6	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	>1 - <5 mg/L (Rat) 4 h
Kerosine (petroleum) 8008-20-6	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 5.28 mg/L (Rat) 4 h
Fuels, Diesel, C9-18-Alkane Branched and Linear 1159170-26-9	-	-	>1 - <5 mg/l (Rat) 4 h
Alkanes, C10-C20 branched and linear 928771-01-1	-	> 2000 mg/kg (Rat)	>1 - <5 mg/l (Rat) 4 h
Naphthalene 91-20-3	533 mg/kg (Mouse)	> 2000 mg/kg (Rabbit)	> 340 mg/m³ (Rat) 1 h

Immediate and delayed effects as well as chronic effects from short and long-term exposure

PETROLEUM MIDDLE DISTILLATES: Petroleum derived middle distillates have produced skin tumors in mice after repeated and prolonged skin contact. Additional studies indicated prolonged skin irritation contributes to tumor development. Repeated dermal exposures to high concentrations in test animals resulted in reduced litter size and weight, and increased fetal resorptions at doses toxic to the mother. Inhalation exposure to high concentrations resulted in respiratory tract irritation, lung changes/infiltration/accumulation, and reduction in lung function. Repeated dermal application of petroleum gas oils resulted in decreased liver, thymus, and spleen weights, and altered bone marrow function. Microscopic alterations included liver hypertrophy and necrosis, decreased hematopoiesis and lymphocyte depletion. Altered mental state, drowsiness, peripheral motor neuropathy,

irreversible brain damage (so-called Petrol Sniffer's Encephalopathy), delirium, seizures, and sudden death have been reported from repeated overexposure to some hydrocarbon solvents, naphthas, and gasoline.

NAPHTHALENE: Excessive exposure to naphthalene may cause nausea, vomiting, diarrhea, blood in the urine, and a yellow color to the skin. Lifetime inhalation exposure of laboratory rodents to naphthalene resulted in cancers of the respiratory tract in male and female rats. A small increase in cancer of the lung was observed in female mice, but no evidence of lung cancer was observed in male mice. Long-term exposure to excessive airborne naphthalene concentrations may result in destruction of red blood cells, a condition referred to as hemolytic anemia.

DIESEL EXHAUST: The combustion of diesel fuels produces gases including carbon monoxide, carbon dioxide, oxides of nitrogen and/or sulfur, and hydrocarbons that can be irritating and hazardous with overexposure. Long-term occupational overexposure to diesel exhaust and diesel exhaust particulate matter has been associated with an increased risk of respiratory disease, including lung cancer, and is characterized as a “known human carcinogen” by the International Agency for Research on Cancer (IARC), as “a reasonably anticipated human carcinogen” by the National Toxicology Program, and as “likely to be carcinogenic to humans” by the EPA, based upon animal and occupational exposure studies. However, uncertainty exists with these classifications because of deficiencies in the supporting occupational exposure/epidemiology studies, including reliable exposure estimates. Lifetime animal inhalation studies with pulmonary overloading exposure concentrations of diesel exhaust emissions have produced tumors and other adverse health effects. However, in more recent long-term animal inhalation studies of diesel exhaust emissions, no increase in tumor incidence and in fact a substantial reduction in adverse health effects along with significant reductions in the levels of hazardous material emissions were observed and are associated with fuel composition alterations coupled with new technology diesel engines.

Adverse effects related to the physical, chemical and toxicological characteristics

Signs and symptoms Irritating to the skin and mucous membranes. Symptoms may include redness, itching, and inflammation. May cause nausea, vomiting, diarrhea, and signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. Aspiration hazard. May cause coughing, chest pains, shortness of breath, pulmonary edema and/or chemical pneumonitis. Repeated or prolonged skin contact may cause drying, reddening, itching and cracking. Prolonged or repeated exposure may cause damage to organs.

Acute toxicity Harmful if inhaled.

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/eye irritation None known.

Sensitization None known.

Mutagenic effects None known.

Carcinogenicity Suspected of causing cancer.

Chemical Name	ACGIH (Class)	IARC (Class)	NTP	OSHA
No. 2 Diesel Fuel 68476-34-6	Confirmed animal carcinogen (A3)	Possible human carcinogen (2B)	Not Listed	Not Listed
Kerosine (petroleum) 8008-20-6	Confirmed animal carcinogen (A3)	Not Classifiable (3)	Not Listed	Not Listed
Naphthalene 91-20-3	Confirmed animal carcinogen (A3)	Possible human carcinogen (2B)	Reasonably anticipated to be a human carcinogen	Not Listed

Reproductive toxicity None known.

Specific Target Organ Toxicity (STOT) - single exposure May cause respiratory irritation. May cause drowsiness or dizziness.

Specific Target Organ Toxicity (STOT) - repeated exposure May cause damage to organs (thymus, liver, bone marrow) through prolonged or repeated exposure.

Aspiration hazard May be fatal if swallowed or vomited and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicity This product should be considered toxic to aquatic organisms, with the potential to cause long lasting adverse effects in the aquatic environment.

Chemical Name	Fish	Crustacea	Algae/aquatic plants
No. 2 Diesel Fuel 68476-34-6	96-hr LC50 = 35 mg/l Fathead minnow (flow-through)	48-hr EL50 = 6.4 mg/l Daphnia magna	-
Kerosine (petroleum) 8008-20-6	96-hr LL50 = 18-25 mg/l Fish	48-hr EL50 = 1.4-21 mg/l Invertebrates	72-hr EL50 = 5.0-11 mg/l Algae
Naphthalene 91-20-3	96-hr LC50 = 0.91-2.82 mg/l Rainbow trout (static) 96-hr LC50 = 1.99 mg/l Fathead minnow (static)	48-hr LC50 = 1.6 mg/l Daphnia magna	-

Persistence and degradability Expected to be inherently biodegradable.

Bioaccumulation Has the potential to bioaccumulate.

Mobility in soil May partition into air, soil and water.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Description of waste residues This material may be a flammable liquid waste.

Safe handling of wastes Handle in accordance with applicable local, state, and federal regulations. Use personal protection measures as required. Use appropriate grounding and bonding practices. Use only non-sparking tools. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. No smoking.

Disposal of wastes / methods of disposal The user is responsible for determining if any discarded material is a hazardous waste (40 CFR 262.11). Dispose of in accordance with federal, state and local regulations.

Contaminated packaging disposal Empty containers should be completely drained and then discarded or recycled, if possible. Do not cut, drill, grind or weld on empty containers since explosive residues may be present. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT

UN/Identification No: NA 1993
UN Proper Shipping Name: Diesel Fuel
Transport Hazard Class(es): 3
Packing Group: III

IATA

UN/Identification No: UN 1202
UN Proper Shipping Name: Diesel Fuel
Transport Hazard Class(es): 3
Packing Group: III
ERG code: 3L

IMDG

UN/Identification No: UN 1202
UN Proper Shipping Name: Diesel Fuel
Transport Hazard Class(es): 3

Packing Group:	III
EmS No:	F-E, S-E
Marine Pollutant:	Yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

15. REGULATORY INFORMATION

Regulatory Information

US TSCA Chemical Inventory This product and/or its components are listed on the TSCA Chemical Inventory or are exempt.

Canada DSL/NDSL Inventory This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

EPA Superfund Amendment & Reauthorization Act (SARA)

SARA Section 302 This product does not contain any component(s) included on EPA's Extremely Hazardous Substance (EHS) List above the de minimis threshold.

SARA Section 304 This product may contain component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

Chemical Name	Hazardous Substances RQs
Naphthalene 91-20-3	100 lb 45.4 kg

SARA Section 311/312 The following EPA hazard categories apply to this product:

Flammable
Hazard Not Otherwise Classified (HNOC)-Physical
Acute toxicity
Skin corrosion or irritation
Carcinogenicity
Specific target organ toxicity
Aspiration hazard

SARA Section 313 This product may contain component(s), which if in exceedance of the de minimus threshold, may be subject to the reporting requirements of SARA Title III Section 313 Toxic Release Reporting (Form R).

Chemical Name	CERCLA/SARA 313 Emission reporting
Naphthalene 91-20-3	0.1 % de minimis concentration

U.S. State Regulations

California Proposition 65 This product can expose you to chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm.

Chemical Name	California Proposition 65
No. 2 Diesel Fuel 68476-34-6	Engine exhaust, Carcinogen, initial date 10/01/90
Naphthalene 91-20-3	Carcinogen, initial date 04/19/2002

For more information, go to www.P65Warnings.ca.gov.

State Right-To-Know Regulations The following component(s) of this material are identified on the regulatory lists below:

Chemical Name	New Jersey Right-To-Know	Pennsylvania Right-To-Know	Massachusetts Right-To Know
No. 2 Diesel Fuel 68476-34-6	Listed	Listed	Not Listed
Kerosine (petroleum) 8008-20-6	Listed	Listed	Listed
Naphthalene 91-20-3	Listed	Listed	Listed

16. OTHER INFORMATION

Prepared by Toxicology & Product Safety

NFPA

Revision Notes

Revision date 01/29/2024

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is intended as guidance for safe handling, use, processing, storage, transportation, accidental release, clean-up and disposal and is not considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

CITGO TRANSGARD® Tractor Hydraulic Fluid
Material Safety Data Sheet

CITGO Petroleum Corporation
P.O. Box 4689
Houston, TX 77210

MSDS No. 633310001
Revision Date 11/15/2011

IMPORTANT: This MSDS is prepared in accordance with 29 CFR 1910.1200. Read this MSDS before transporting, handling, storing or disposing of this product and forward this information to employees, customers and users of this product.

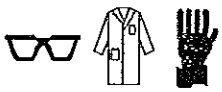
Hazard Rankings

	HMIS	NFPA
Health Hazard	1	0
Fire Hazard	1	1
Reactivity	0	0

* = Chronic Health Hazard

Protective Equipment

Minimum Recommended
See Section 8 for Details



Emergency Overview

Physical State Liquid.
Color Amber. **Odor** Mild petroleum odor

WARNING:
Oil injected into the skin from high-pressure leaks can cause severe injury.
Most damage occurs during the first few hours.
Seek medical attention immediately.
Surgical removal of oil may be necessary.
Spills may create a slipping hazard.

SECTION 1. PRODUCT IDENTIFICATION

Trade Name	CITGO TRANSGARD® Tractor Hydraulic Fluid	**Technical Contact**	(800) 248-4684
Product Number	633310001	**Medical Emergency**	(832) 486-4700
CAS Number	Mixture.	**CHEMTREC Emergency (United States Only)**	(800) 424-9300
Product Family	Hydraulic oil		
Synonyms	Hydraulic oil; Tractor hydraulic fluid; Formula No. FP-6876; CITGO® Material Code: 633310001		

SECTION 2. COMPOSITION

Component Name(s)	CAS Registry No.	Concentration (%)
Highly-refined mineral oils (petroleum)	Various	83.358 - 93.0
Distillates, petroleum, hydrotreated heavy naphthenic	64742-52-5	0 - 5
Methacrylate copolymer	NJTS 800962-5279	1.38 - 2.76
Proprietary Ingredients	Proprietary Mixture	0 - 1

SECTION 3. HAZARDS IDENTIFICATION

Also see Emergency Overview and Hazard Ratings on the top of Page 1 of this MSDS.

Major Route(s) of Entry Skin contact.

Signs and Symptoms of Acute Exposure

Inhalation	At elevated temperatures or in enclosed spaces, product mist or vapors may irritate the mucous membranes of the nose, the throat, bronchi, and lungs.
Eye Contact	This product can cause transient mild eye irritation with short-term contact with liquid sprays or mists. Symptoms include stinging, watering, redness, and swelling.
Skin Contact	This material can cause mild skin irritation from prolonged or repeated skin contact. Injection under the skin can cause inflammation and swelling. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.
Ingestion	If swallowed, large volumes of material can cause generalized depression, headache, drowsiness, nausea, vomiting and diarrhea. Smaller doses can cause a laxative effect. If aspirated into the lungs, liquid can cause lung damage.
Chronic Health Effects Summary	This product contains a petroleum-based mineral oil. Prolonged or repeated skin contact can cause mild irritation and inflammation characterized by drying, cracking, (dermatitis) or oil acne. Repeated or prolonged inhalation of petroleum-based mineral oil mists at concentrations above applicable workplace exposure levels can cause respiratory irritation or other pulmonary effects.
Conditions Aggravated by Exposure	Disorders of the following organs or organ systems that may be aggravated by significant exposure to this material or its components include: Skin
Target Organs	Contains material which causes damage to the following organs: eyes. May cause damage to the following organs: skin.
Carcinogenic Potential	This product is not known to contain any components at concentrations above 0.1% which are considered carcinogenic by OSHA, IARC or NTP.

OSHA Hazard Classification is indicated by an "X" in the box adjacent to the hazard title. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

OSHA Health Hazard Classification				OSHA Physical Hazard Classification					
Irritant		Sensitizer		Combustible		Explosive		Pyrophoric	
Toxic		Highly Toxic		Flammable		Oxidizer		Water-reactive	
Corrosive		Carcinogenic		Compressed Gas		Organic Peroxide		Unstable	

SECTION 4. FIRST AID MEASURES

Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid. For more specific information, refer to Exposure Controls and Personal Protection in Section 8 of this MSDS.

Inhalation	Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately. Keep the affected individual warm and at rest.
Eye Contact	Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness, or pain persists.
Skin Contact	If burned by hot material, cool skin by quenching with large amounts of cool water. For contact with product at ambient temperatures, remove contaminated shoes and clothing. Wipe off excess material. Wash exposed skin with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists. Thoroughly clean contaminated clothing before reuse. Clean or discard contaminated leather goods. If material is injected under the skin, seek medical attention immediately.

Ingestion	Do not induce vomiting unless directed to by a physician. Do not give anything to drink unless directed to by a physician. Never give anything by mouth to a person who is not fully conscious. Seek medical attention immediately.
Notes to Physician	SKIN: In the event of injection in underlying tissue, immediate treatment should include extensive incision, debridement and saline irrigation. Inadequate treatment can result in ischemia and gangrene. Early symptoms may be minimal. INGESTION: The viscosity range of the product(s) represented by this MSDS is greater than 100 SUS at 100°F. Careful gastric lavage may be considered to evacuate large quantities of material.

SECTION 5. FIRE FIGHTING MEASURES

NFPA Flammability Classification	NFPA Class-IIIB combustible material.
Flash Point	Closed cup: 218°C (424°F). (Pensky-Martens (ASTM D-93)) Open cup: 226°C (439°F) (Cleveland.).
Lower Flammable Limit	No data. **Upper Flammable Limit** No data.
Autoignition Temperature	Not available.
Hazardous Combustion Products	Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and oxides of sulfur, phosphorus, zinc and/or nitrogen.
Special Properties	This material can burn but will not readily ignite. This material will release vapors when heated above the flash point temperature that can ignite when exposed to a source of ignition. In enclosed spaces, heated vapor can ignite with explosive force. Mists or sprays may burn at temperatures below the flash point.
Extinguishing Media	Use dry chemical, foam, carbon dioxide or water fog. Water or foam may cause frothing. Carbon dioxide and inert gas can displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces.
Protection of Fire Fighters	Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. For more specific information, refer to the Emergency Overview on Page 1, Exposure Controls and Personal Protection in Section 8 and Disposal Considerations in Section 13 of this MSDS.

Do not touch damaged containers or spilled material unless wearing appropriate protective equipment. Slipping hazard; do not walk through spilled material. Stop leak if you can do so without risk. For small spills, absorb or cover with dry earth, sand, or other inert non-combustible absorbent material and place into waste containers for later disposal. Contain large spills to maximize product recovery or disposal. Prevent entry into waterways or sewers. In urban area, cleanup spill as soon as possible. In natural environments, seek cleanup advice from specialists to minimize physical habitat damage. This material will float on water. Absorbent pads and similar materials can be used. Comply with all laws and regulations.

SECTION 7. HANDLING AND STORAGE

Handling

Keep containers closed and do not handle or store near heat, sparks, or any other potential ignition sources. Avoid contact with oxidizing agents. Never siphon by mouth. Avoid contact with eyes, skin, and clothing. Avoid contamination and extreme temperatures.

Empty containers may contain product residues that can ignite with explosive force. Drain and purge equipment, as necessary, to remove material residues. Follow proper entry procedures, including compliance with 29 CFR 1910.146 prior to entering confined spaces such as tanks or pits. Use appropriate respiratory protection when concentrations exceed any established occupational exposure level (See Section 8). Promptly remove contaminated clothing. Wash exposed skin thoroughly with soap and water after handling.

Do not pressurize, cut, weld, braze solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Protect containers against physical damage. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

Storage

Keep container tightly closed. Store in a cool, dry, well-ventilated area. Store only in approved containers. Do not store with strong oxidizing agents. Do not store at elevated temperatures. Avoid storing product in direct sunlight for extended periods of time. Storage area must meet OSHA requirements and applicable fire codes. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers or waste residues of this product.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of mists and/or vapors below the recommended exposure limits (see below). An eye wash station and safety shower should be located near the work-station.

Personal Protective Equipment

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required.

Eye Protection

Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. Wear goggles if splashing or spraying is anticipated. Wear goggles and face shield if material is heated above 125°F (51°C). Have suitable eye wash water available.

Hand Protection

None required for incidental contact. Use gloves constructed of chemical resistant materials such as heavy nitrile rubber if frequent or prolonged contact is expected. Use heat-protective gloves when handling product at elevated temperatures.

Body Protection

Use clean protective clothing if splashing or spraying conditions are present. Protective clothing may include long-sleeve outer garment, apron, or lab coat. If significant contact occurs, remove oil-contaminated clothing as soon as possible and promptly shower. Launder contaminated clothing before reuse or discard. Wear heat protective boots and protective clothing when handling material at elevated temperatures.

Respiratory Protection The need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).

General Comments Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities, or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners. Since specific exposure standards/control limits have not been established for this product, the "Oil Mist, Mineral" exposure limits shown below are suggested as minimum control guidelines.

Occupational Exposure Guidelines

Substance	Applicable Workplace Exposure Levels
Highly-refined mineral oils (petroleum)	**ACGIH (United States).** TWA: 5 mg/m^3 8 hour(s). STEL: 10 mg/m^3 15 minute(s). **OSHA (United States).** TWA: 5 mg/m^3 8 hour(s).
Distillates, petroleum, hydrotreated heavy naphthenic	**ACGIH (United States).** TWA: 5 mg/m^3 8 hour(s). STEL: 10 mg/m^3 15 minute(s). **OSHA (United States).** TWA: 5 mg/m^3 8 hour(s).
Proprietary Ingredients	Not available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL)

Physical State	Liquid.	**Color**	Amber.	**Odor**	Mild petroleum odor
Specific Gravity	0.88 (Water = 1)	**pH**	Not applicable	**Vapor Density**	>1 (Air = 1)
Boiling Range	Not available.			**Melting/Freezing Point**	Not available.
Vapor Pressure	<0.001 kPa (<0.01 mm Hg) (at 20°C)			**Volatility**	Negligible volatility.
Solubility in Water	Negligible solubility in cold water.			**Viscosity (cSt @ 40°C)**	Not available.

Flash Point Closed cup: 218°C (424°F). (Pensky-Martens (ASTM D-93)) Open cup: 226°C (439°F) (Cleveland.).

Additional Properties Gravity, °API (ASTM D287) = 29.66 @ 60° F
Density = 7.34 Lbs/gal.
Viscosity (ASTM D2161) = AP 250 SUS @ 100° F

SECTION 10. STABILITY AND REACTIVITY

Chemical Stability Stable. **Hazardous Polymerization** Not expected to occur.

Conditions to Avoid Keep away from extreme heat, sparks, open flame, and strongly oxidizing conditions.

Materials Incompatibility Strong oxidizers.

Hazardous Decomposition Products No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS.

SECTION 11. TOXICOLOGICAL INFORMATION

For other health-related information, refer to the Emergency Overview on Page 1 and the Hazards Identification in Section 3 of this MSDS.

Toxicity Data

Highly-refined mineral oils (petroleum)

ORAL (LD50): Acute: >5000 mg/kg [Rat].
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

Distillates, petroleum, hydrotreated heavy naphthenic

ORAL (LD50): Acute: >5000 mg/kg [Rat].
DERMAL (LD50): Acute: >2000 mg/kg [Rabbit].

Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects.

Hydraulic oil

Repeated or prolonged skin contact with certain hydraulic oils can cause mild skin irritation characterized by drying, cracking (dermatitis) or oil acne. Injection under the skin, in muscle or into the blood stream can cause irritation, inflammation, swelling, fever, and systemic effects, including mild central nervous system depression. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Analysis for ecological effects has not been conducted on this product. However, if spilled, this product and any contaminated soil or water may be harmful to human, animal, and aquatic life. Also, the coating action associated with petroleum and petroleum products can be harmful or fatal to aquatic life and waterfowl.

Environmental Fate

An environmental fate analysis is not available for this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum products. Petroleum-based (mineral) lubricating oils normally will float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment. This material contains phosphorus which is a controlled element for disposal in effluent waters in most sections of North America. Phosphorus is known to enhance the formation of algae. Severe algae growth can reduce oxygen content in the water possibly below levels necessary to support marine life.

SECTION 13. DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal methodologies for spent materials and residues at the time of disposition.

Conditions of use may cause this material to become a "hazardous waste", as defined by federal or state regulations. It is the responsibility of the user to determine if the material is a "hazardous waste" at the time of disposal. Transportation, treatment, storage, and disposal of waste material must be conducted in accordance with RCRA regulations (see 40 CFR 260 through 40 CFR 271). State and/or local regulations may be more restrictive. Contact your regional US EPA office for guidance concerning case specific disposal issues. Empty drums and pails retain residue. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose this product's empty container to heat, flame, or other ignition sources. DO NOT attempt to clean it. Empty drums and pails should be drained completely, properly bunged or sealed, and promptly sent to a reconditioner.

SECTION 14. TRANSPORT INFORMATION

The shipping description below may not represent requirements for all modes of transportation, shipping methods or locations outside of the United States.

US DOT Status Not regulated by the U.S. Department of Transportation as a hazardous material.

Proper Shipping Name Not regulated.

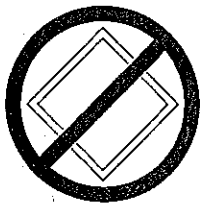
Hazard Class Not regulated.

Packing Group Not applicable.

UN/NA Number Not regulated.

Reportable Quantity A Reportable Quantity (RQ) has not been established for this material.

Placard(s)



Emergency Response Guide No. Not applicable.

MARPOL III Status Not a DOT "Marine Pollutant" per 49 CFR 171.8.

SECTION 15. REGULATORY INFORMATION

TSCA Inventory This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.

SARA 302/304 Emergency Planning and Notification The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to Subparts 302 and 304 to submit emergency planning and notification information based on Threshold Planning Quantities (TPQs) and Reportable Quantities (RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. No components were identified.

SARA 311/312 Hazard Identification The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories:

No SARA 311/312 hazard categories identified.

SARA 313 Toxic Chemical Notification and Release Reporting This product contains the following components in concentrations above *de minimis* levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA: Zinc and zinc compounds, Concentration <2%

CERCLA	The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are: Zinc and zinc compounds, Concentration: <2%
Clean Water Act (CWA)	This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.
California Proposition 65	This material may contain the following components which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): Toluene: <0.005
New Jersey Right-to-Know Label	Petroleum Oil (Hydraulic Oil)
Additional Remarks	No additional regulatory remarks.

SECTION 16. OTHER INFORMATION

Refer to the top of Page 1 for the HMIS and NFPA Hazard Ratings for this product.

REVISION INFORMATION

Version Number	3.0
Revision Date	11/15/2011

ABBREVIATIONS

AP: Approximately	EQ: Equal	>: Greater Than	<: Less Than
NA: Not Applicable	ND: No Data	NE: Not Established	

ACGIH: American Conference of Governmental Industrial Hygienists

AIHA: American Industrial Hygiene Association

IARC: International Agency for Research on Cancer

NIOSH: National Institute of Occupational Safety and Health

NPCA: National Paint and Coating Manufacturers Association

EPA: US Environmental Protection Agency

HMIS: Hazardous Materials Information System

OSHA: Occupational Safety and Health Administration

NTP: National Toxicology Program

NFPA: National Fire Protection Association

DISCLAIMER OF LIABILITY

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED REGARDING ITS CORRECTNESS. SOME INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE SUBSTANCE ITSELF. THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION OR PRODUCTS FOR THEIR PARTICULAR PURPOSE.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE, AND DISPOSAL OF THE PRODUCT ARE

BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO 'OT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ,RISING OUT OF OR IN ANY WAY CONNECTED WITH HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

***** END OF MSDS *****

RIVER CITY PETROLEUM, INC.

RCP 32; 46; 68

Date Issued: 1/02/01

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Company: River City Petroleum, Inc.
4870 E. Cartier Ave.
Las Vegas, Nevada 89115

Product Name: RCP 32; 46; 68

Product Codes: 351145
351146
351147

Product Category:
Petroleum Lubrication Oil

Medical Emergency Telephone Number: 702-643-9200

Transportation Emergency Telephone Number: 702-643-9200

Product Information and Technical Assistance: 702-643-9200

SECTION 2: COMPOSITION / INFORMATION ON INGREDIENTS

Components:	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Distillates (petroleum), hydrotreated heavy paraffinic or Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-54-7 or 64742-54-7	Greater than 99%
Property additives	Mixture	Less than 1%

SEE SECTION 8 FOR EXPOSURE LIMITS

SECTION 3: HAZARDS IDENTIFICATION

Emergency Overview

OSHA Required Label Information
In compliance with hazard and right-to-know requirements, where applicable OSHA Hazard Warnings may be found on the label, bill of lading or invoice

accompanying this shipment.

Note: Product label may contain non-OSHA related information also.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

VARIABILITY AMONG INDIVIDUALS

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)

Prolonged or repeated skin contact may cause skin irritation.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

None recognized

SECTION 4: FIRST AID MEASURES

EYE CONTACT

If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN

In case of skin contact, remove any contaminated clothing and wash skin with soap and water. Launder or dry-clean clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

INHALATION

Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

INGESTION

If ingested, DO NOT induce vomiting; call a physician immediately.

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT (MINIMUM) AUTOIGNITION TEMPERATURE

Greater than 219°C (426°F)
ASTM D 92, Cleveland Open Cup — Not determined

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)
Estimated values: Lower Flammable Limit 0.9% Upper Flammable Limit 7%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES
Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Tenth Edition (1991):

Use water spray, dry chemical, foam or carbon dioxide to extinguish the fire. Use water to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to provide protection for persons attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing of gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS
Fumes, smoke, carbon monoxide, sulfur oxides, phosphorus oxides, metal oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

SECTION 6: ACCIDENTAL RELEASE MEASURES

CLEAN WATER ACT / OIL POLLUTION ACT
This product may be classified as an oil under Section 311 of the Clean Water Act, and under the Oil Pollution Act. Discharges or spills into or leading to surface waters that cause a sheen must be reported to the National Response Center (1-800-424-8802).

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Recover free product. Add sand, earth or other suitable absorbent to spill area. Minimize breathing vapors. Minimize skin contact. Open all windows and doors. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas.

Assure conformity with applicable governmental regulations.

SECTION 7: STORAGE AND HANDLING

HANDLING PRECAUTIONS
Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.

"EMPTY" CONTAINER WARNING
"Empty" containers retain residue (liquid and/or vapor) and can be dangerous.

DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Do not attempt to refill or clean containers since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMIT FOR TOTAL PRODUCT
5 mg/m3 for oil mist (aerosol) for an 8-hour workday

BASIS
OSHA Regulation 29 CFR 1910.1000 and recommended by the American Conference of Governmental Industrial Hygienists (ACGIH). ACGIH states that the air is to be sampled by a method that does not collect vapor; in addition, it lists a 10 mg/m3 STEL.

VENTILATION
Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. No smoking, or use of flame or other ignition sources.

RESPIRATORY PROTECTION
Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES
Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION
Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT
Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS
To prevent fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system in accordance with (THE) National Fire Protection Association PUBLICATIONS.

To prevent fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system in accordance with (THE) National Fire Protection Association PUBLICATIONS.

Keep containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants.

In order to prevent fire or explosion hazards, use appropriate equipment.

Information on electrical equipment appropriate for use with this product may be found in the latest edition of the National Electrical Code (NFPA-70). This document is available from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

PERSONAL HYGIENE
Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before re-use. Remove contaminated shoes and thoroughly clean before re-use; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE
IBP Approximately 291°C (555°F)
by ASTM D 2887

SPECIFIC GRAVITY (15.6°C/15.6°C)
0.87

MOLECULAR WEIGHT
Not determined

pH
Essentially neutral

POUR, CONGEALING OR MELTING POINT
-24°C (-11°F)
Pour Point by ASTM D 97

VISCOSITY
68 cSt @ 40°C

PRODUCT APPEARANCE AND ODOR
Clear liquid, light yellow color
Faint petroleum hydrocarbon odor

VAPOR PRESSURE
Less than 0.01 mm Hg @ 20°C

VAPOR DENSITY (AIR = 1)
Greater than 5

PERCENT VOLATILE BY VOLUME
Negligible from open container in 4 hours @ 38°C (100°F)

EVAPORATION RATE @ 1 ATM. AND 25°C (77°F) (n-BUTYL ACETATE = 1)
Less than 0.01

SOLUBILITY IN WATER @ 1 ATM. AND 25 Deg C (77 Deg F)
Negligible; less than 0.1%

SECTION 10: STABILITY AND REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite, calcium

hypochlorite, etc., as this presents a serious explosion hazard.

SECTION 11: TOXICOLOGICAL INFORMATION

NATURE OF HAZARD AND TOXICITY INFORMATION

Repeated and prolonged overexposure to oil mists may result in droplet deposition, oil granuloma formation, inflammation and increased incidence of infection.

In accordance with the current OSHA Hazard Communication Standard criteria, this product does not require a cancer hazard warning. This is because the product is formulated from base stocks which are severely hydrotreated, severely solvent extracted, and/or processed by mild hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as atmospheric distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

Prolonged or repeated skin contact with this product tends to remove skin oils, possibly leading to irritation and dermatitis; however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

SECTION 12: ECOLOGICAL INFORMATION

Do not discharge this product into public waters or waterways unless authorized by a National Pollution Discharge Elimination System (NPDES) permit issued by the Environmental Protection Agency (EPA).

Environmental and Ecological data may be available for this product. Write or call Exxon to obtain further information. Refer to Section 6 and Section 15 for Accidental Release Information and Regulatory Reporting Information.

SECTION 13: DISPOSAL CONSIDERATION

Options for disposal of this product may depend on the conditions under which it was used. To determine the proper method of disposal, refer to RCRA (40 CFR 261), as well as federal EPA and state and local regulations.

Please refer to Sections 5, 6 and 15 for additional information.

SECTION 14: TRANSPORTATION INFORMATION

TRANSPORTATION INCIDENT INFORMATION
For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents.

U.S. DOT HAZARDOUS MATERIALS SHIPPING DESCRIPTION
Not regulated

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL LAWS AND REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUTES:

THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355 (SARA Sections 301-304)
No TPQ for product or any constituent greater than 1% or 0.1% (carcinogen).

TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372 (SARA Section 313)
No toxic chemical is present greater than 1% or 0.1% (carcinogen).

HAZARDOUS CHEMICAL REPORTING, EPA REGULATION 40 CFR 370 (SARA Sections 311-312)
EPA Hazard Classification Code: Not Applicable

TOXIC SUBSTANCES CONTROL ACT (TSCA)
This product, as manufactured by Exxon, does not contain polychlorinated biphenyls (PCB's).

All components of this product are listed on the U.S. TSCA inventory.

SECTION 16: OTHER INFORMATION

The health and safety information presented herein must be used in conjunction with the pertinent standards for training, work practices and facilities design established by OSHA, NIOSH, NFPA, API, NEC, NSC, UNDERWRITERS, BUREAU OF MINES, and similar organizations.

The information and recommendations contained herein are, to the best of Exxon's knowledge and belief, accurate and reliable as of the date issued. Exxon does not warrant or guarantee their accuracy or reliability, and Exxon shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container.

The Environmental Information included under Section 15 hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by Exxon Company, U.S.A. in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Exxon's interpretation of the available data.

EXXON COMPANY, U.S.A

GEAR OIL GX 80W-90

DATE ISSUED: 03/22/99
SUPERSEDES DATE: 10/27/97

MATERIAL SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

COMPANY: EXXON COMPANY, U.S.A.
P.O. BOX 2180
HOUSTON, TX 77252-2180

PRODUCT NAME
GEAR OIL GX 80W-90

PRODUCT CODE
255417

PRODUCT CATEGORY
Petroleum Lubricating Oil

MEDICAL EMERGENCY TELEPHONE NUMBER: (713) 656-3424

TRANSPORTATION EMERGENCY TELEPHONE NUMBERS
(BAYTOWN) (281) 834-3296 (CHEMTREC) 1-800-424-9300

Product Information and Technical Assistance: 1-800-443-9966

FAXED MSDSs: 1-800-298-4007 MAILED MSDSs OR OTHER ASSISTANCE: (713) 656-5949

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENTS	CAS NO. OF COMPONENTS	APPROXIMATE CONCENTRATION
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7	Approximately 80-93%
or	or	
Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	
and	and	
Residual oils (petroleum), hydrotreated	64742-57-0	
or	or	
Residual oils (petroleum), solvent-dewaxed	64742-62-7	
or	or	
Distillates (petroleum), solvent-refined heavy paraffinic	64741-88-4	
Proprietary additives	Mixture	Approximately 7-20%

SEE SECTION 8 FOR EXPOSURE LIMITS

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

OSHA REQUIRED LABEL INFORMATION

In compliance with hazard and right-to-know requirements, where applicable OSHA Hazard Warnings may be found on the label, bill of lading or invoice accompanying this shipment.

Note: Product label may contain non-OSHA related information also.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS)

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) - HAZARD IDENTIFICATION

Health	Flammability	Reactivity	BASIS
1	1	0	Recommended by Exxon

VARIABILITY AMONG INDIVIDUALS

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

EFFECTS OF OVEREXPOSURE (Signs and symptoms of exposure)

Prolonged or repeated skin contact may cause skin irritation.

PRE-EXISTING MEDICAL CONDITIONS WHICH MAY BE AGGRAVATED BY EXPOSURE

None recognized

SECTION 4: FIRST AID MEASURES

EYE CONTACT

If splashed into the eyes, flush with clear water for 15 minutes or until irritation subsides. If irritation persists, call a physician.

SKIN

In case of skin contact, remove any contaminated clothing and wash skin with soap and water. Launder or dry-clean clothing before reuse. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

INHALATION

Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem. If overcome by vapor from hot product, immediately remove from exposure and call a physician. If breathing is irregular or has stopped, start resuscitation; administer oxygen, if available. If overexposed to oil mist, remove from further exposure until excessive oil mist condition subsides.

INGESTION

If ingested, DO NOT induce vomiting; call a physician immediately.

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT (MINIMUM)
165~C (329~F)
ASTM D 92, Cleveland Open Cup

AUTOIGNITION TEMPERATURE
Greater than 260~C (500~F)

FLAMMABLE OR EXPLOSIVE LIMITS (APPROXIMATE PERCENT BY VOLUME IN AIR)
Estimated values: Lower Flammable Limit 0.9% Upper Flammable Limit 7%

EXTINGUISHING MEDIA AND FIRE FIGHTING PROCEDURES
Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size or potential size of fire and circumstances related to the situation. Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialtists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Guide on Hazardous Materials", Tenth Edition (1991):

Use water spray, dry chemical, foam, or carbon dioxide to extinguish the fire. Water or foam may cause frothing. Use water to keep fire-exposed containers cool. Water spray may be used to flush spills away from exposures. Minimize breathing of gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

DECOMPOSITION PRODUCTS UNDER FIRE CONDITIONS
Fumes, smoke, carbon monoxide, sulfur oxides, nitrogen oxides, phosphorus oxides, aldehydes and other decomposition products, in the case of incomplete combustion.

SECTION 6: ACCIDENTAL RELEASE MEASURES

CLEAN WATER ACT / OIL POLLUTION ACT
This product may be classified as an oil under Section 311 of the Clean Water Act, and under the Oil Pollution Act. Discharges or spills into or leading to surface waters that cause a sheen must be reported to the National Response Center (1-800-424-8802).

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED
Recover free product. Add sand, earth, or other suitable absorbent to spill area. Minimize skin contact. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas.

Assure conformity with applicable governmental regulations.

SECTION 7: STORAGE AND HANDLING

HANDLING PRECAUTIONS
Use product with caution around heat, sparks, pilot lights, static electricity, and open flame.

"EMPTY" CONTAINER WARNING

"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH.

Do not attempt to refill or clean containers since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI Z49.1, and other governmental and industrial references pertaining to cleaning, repairing, welding, or other contemplated operations.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT FOR TOTAL PRODUCT	BASIS
5 mg/m3 for oil mist (aerosol) for an 8-hour workday	OSHA Regulation 29 CFR 1910.1000 and recommended by the American Conference of Governmental Industrial Hygienists (ACGIH). ACGIH states that the air is to be sampled by a method that does not collect vapor; in addition, it lists a 10 mg/m3 STEL.

VENTILATION

Use local exhaust to capture vapor, mists or fumes, if necessary. Provide ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. No smoking, or use of flame or other ignition sources.

RESPIRATORY PROTECTION

Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

PROTECTIVE GLOVES

Use chemical-resistant gloves, if needed, to avoid prolonged or repeated skin contact.

EYE PROTECTION

Use splash goggles or face shield when eye contact may occur.

OTHER PROTECTIVE EQUIPMENT

Use chemical-resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact.

WORK PRACTICES / ENGINEERING CONTROLS

To prevent fire or explosion risk from static accumulation and discharge, effectively bond and/or ground product transfer system in accordance with (THE) National Fire Protection Association PUBLICATIONS.

Keep containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants.

In order to prevent fire or explosion hazards, use appropriate equipment.

Information on electrical equipment appropriate for use with this product may be found in the latest edition of the National Electrical Code (NFPA-70). This document is available from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

PERSONAL HYGIENE
Minimize breathing vapor, mist or fumes. Avoid prolonged or repeated contact with skin. Remove contaminated clothing; launder or dry-clean before re-use. Remove contaminated shoes and thoroughly clean before re-use; discard if oil-soaked. Cleanse skin thoroughly after contact, before breaks and meals, and at end of work period. Product is readily removed from skin by waterless hand cleaners followed by washing thoroughly with soap and water.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

The following data are approximate or typical values and should not be used for precise design purposes.

BOILING RANGE
IBP Approximately 321~C (610~F)

SPECIFIC GRAVITY (15.6~C/15.6~C)
0.89

MOLECULAR WEIGHT
Not determined

pH
Essentially neutral

POUR, CONGEALING OR MELTING POINT
-18~C (0~F)
Pour Point by ASTM D 97

VISCOSITY
14.5 cSt @ 100 Deg C

PRODUCT APPEARANCE AND ODOR
Clear, dark amber liquid
Mild, bland petroleum odor

VAPOR PRESSURE
Less than 0.01 mm Hg @ 20~C

VAPOR DENSITY (AIR = 1)
Greater than 5

PERCENT VOLATILE BY VOLUME
Negligible from open container in 4 hours @ 38~C (100~F)

EVAPORATION RATE @ 1 ATM. AND 25~C (77~F) (n-BUTYL ACETATE = 1)
Less than 0.01

SOLUBILITY IN WATER @ 1 ATM. AND 25~C (77~F)
Negligible; less than 0.1%

SECTION 10: STABILITY AND REACTIVITY

This product is stable and will not react violently with water. Hazardous polymerization will not occur. Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite, calcium hypochlorite, etc., as this presents a serious explosion hazard.

SECTION 11: TOXICOLOGICAL INFORMATION

NATURE OF HAZARD AND TOXICITY INFORMATION

Repeated and prolonged overexposure to oil mists may result in droplet deposition, oil granuloma formation, inflammation and increased incidence of infection.

In accordance with the current OSHA Hazard Communication Standard criteria, this product does not require a cancer hazard warning. This is because the product is formulated from base stocks which are severely hydrotreated, severely solvent extracted, and/or processed by mild hydrotreatment and extraction. Alternatively, it may consist of components not otherwise affected by IARC criteria, such as atmospheric distillates or synthetically derived materials, and as such is not characterized by current IARC classification criteria.

Prolonged or repeated skin contact with this product tends to remove skin oils, possibly leading to irritation and dermatitis; however, based on human experience and available toxicological data, this product is judged to be neither a "corrosive" nor an "irritant" by OSHA criteria.

Product contacting the eyes may cause eye irritation.

Product has a low order of acute oral and dermal toxicity, but minute amounts aspirated into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

This product is judged to have an acute oral LD50 (rat) greater than 5 g/kg of body weight, and an acute dermal LD50 (rabbit) greater than 3.16 g/kg of body weight.

SECTION 12: ECOLOGICAL INFORMATION

Do not discharge this product into public waters or waterways unless authorized by a National Pollution Discharge Elimination System (NPDES) permit issued by the Environmental Protection Agency (EPA).

Environmental and Ecological data may be available for this product. Write or call Exxon to obtain further information. Refer to Section 6 and Section 15 for Accidental Release information and Regulatory Reporting information.

SECTION 13: DISPOSAL CONSIDERATION

Options for disposal of this product may depend on the conditions under which it was used. To determine the proper method of disposal, refer to RCRA (40 CFR 261), as well as federal EPA and state and local regulations.

Please refer to Sections 5, 6 and 15 for additional information.

SECTION 14: TRANSPORTATION INFORMATION

TRANSPORTATION INCIDENT INFORMATION

For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents.

U.S. DOT HAZARDOUS MATERIALS SHIPPING DESCRIPTION
Not regulated

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

THE FOLLOWING INFORMATION MAY BE USEFUL IN COMPLYING WITH VARIOUS STATE AND FEDERAL LAWS AND REGULATIONS UNDER VARIOUS ENVIRONMENTAL STATUTES:

THRESHOLD PLANNING QUANTITY (TPQ), EPA REGULATION 40 CFR 355
(SARA Sections 301-304)
No TPQ for product or any constituent greater than 1% or 0.1% (carcinogen).

TOXIC CHEMICAL RELEASE REPORTING, EPA REGULATION 40 CFR 372 (SARA Section 313)
No toxic chemical is present greater than 1% or 0.1% (carcinogen).

HAZARDOUS CHEMICAL REPORTING, EPA REGULATION 40 CFR 370 (SARA Sections 311-312)
EPA Hazard Classification Code: Not Applicable

TOXIC SUBSTANCES CONTROL ACT (TSCA)
This product, as manufactured by Exxon, does not contain polychlorinated biphenyls (PCB's).

All components of this product are listed on the U.S. TSCA inventory.

SECTION 16: OTHER INFORMATION

The health and safety information presented herein must be used in conjunction with the pertinent standards for training, work practices and facilities design established by OSHA, NIOSH, NFPA, API, NEC, NSC, UNDERWRITERS, BUREAU OF MINES, and similar organizations.

The information and recommendations contained herein are, to the best of Exxon's knowledge and belief, accurate and reliable as of the date issued. Exxon does not warrant or guarantee their accuracy or reliability, and Exxon shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container.

The Environmental Information included under Section 15 hereof as well as the Hazardous Materials Identification System (HMIS) and National Fire Protection Association (NFPA) ratings have been included by Exxon Company, U.S.A. in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Exxon's interpretation of the available data.

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

PRODUCT

Product Name: **EXXON XD-3 EXTRA 15W-40**
Product Description: Base Oil and Additives
Product Code: 441659-00, 97P658
Intended Use: Engine oil

COMPANY IDENTIFICATION

Supplier: EXXON MOBIL CORPORATION
3225 GALLOWS RD.
FAIRFAX, VA. 22037 USA

24 Hour Health Emergency	609-737-4411
Transportation Emergency Phone	800-424-9300
ExxonMobil Transportation No.	281-834-3296
MSDS Requests	613-228-1467
Product Technical Information	800-662-4525, 800-947-9147

SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS

Reportable Hazardous Substance(s) or Complex Substance(s)

Name	CAS#	Concentration*
ZINC DITHIOPHOSPHATE	68649-42-3	1 - 5%

* All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

SECTION 3 HAZARDS IDENTIFICATION

This material is not considered to be hazardous according to regulatory guidelines (see (M)SDS Section 15).

POTENTIAL HEALTH EFFECTS

Excessive exposure may result in eye, skin, or respiratory irritation. High-pressure injection under skin may cause serious damage.

NFPA Hazard ID:	Health:	0	Flammability:	1	Reactivity: 0
HMIS Hazard ID:	Health:	0	Flammability:	1	Reactivity: 0

NOTE: This material should not be used for any other purpose than the intended use in Section 1 without expert advice. Health studies have shown that chemical exposure may cause potential human health risks which may vary from person to person.

SECTION 4 FIRST AID MEASURES

INHALATION

At ambient/normal handling temperatures, minimal or no irritation due to inhalation of vapor/mist is expected.

SKIN CONTACT

Wash contact areas with soap and water. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should be evaluated immediately by a physician as a surgical emergency. Even though initial symptoms from high pressure injection may be minimal or absent, early surgical treatment within the first few hours may significantly reduce the ultimate extent of injury.

EYE CONTACT

Flush thoroughly with water. If irritation occurs, get medical assistance.

INGESTION

First aid is normally not required. Seek medical attention if discomfort occurs.

SECTION 5 FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Appropriate Extinguishing Media: Use water fog, foam, dry chemical or carbon dioxide (CO2) to extinguish flames.

FIRE FIGHTING

Fire Fighting Instructions: Evacuate area. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply. Firefighters should use standard protective equipment and in enclosed spaces, self-contained breathing apparatus (SCBA). Use water spray to cool fire exposed surfaces and to protect personnel.

Hazardous Combustion Products: Smoke, Fume, Carbon monoxide, Aldehydes, Sulfur oxides

FLAMMABILITY PROPERTIES

Flash Point [Method]: 228°C (442°F) [Cleveland Open Cup]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D

SECTION 6 ACCIDENTAL RELEASE MEASURES

NOTIFICATION PROCEDURES

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. U.S. regulations require reporting releases of this material to the environment which exceed the reportable quantity or oil spills which could reach any waterway including intermittent dry creeks. The National Response Center can be reached at (800)424-8802.

SPILL MANAGEMENT

Land Spill: Stop leak if you can do it without risk. Recover by pumping or with suitable absorbent.

Water Spill: Confine the spill immediately with booms. Stop leak if you can do it without risk. Warn other

shipping. Remove from the surface by skimming or with suitable absorbents. Seek the advice of a specialist before using dispersants. Report spills as required to appropriate authorities.

Water spill and land spill recommendations are based on the most likely spill scenario for this material; however, geographic conditions, wind, temperature, (and in the case of a water spill) wave and current direction and speed may greatly influence the appropriate action to be taken. For this reason, local experts should be consulted. Note: Local regulations may prescribe or limit action to be taken.

ENVIRONMENTAL PRECAUTIONS

Large Spills: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7 HANDLING AND STORAGE

HANDLING

Avoid contact with used product. Prevent small spills and leakage to avoid slip hazard.

Static Accumulator: This material is a static accumulator.

STORAGE

Do not store in open or unlabelled containers.

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limits/standards for materials that can be formed when handling this product: When mists / aerosols can occur, the following are recommended: 5 mg/m³ - ACGIH TLV, 10 mg/m³ - ACGIH STEL, 5 mg/m³ - OSHA PEL.

NOTE: Limits/standards shown for guidance only. Follow applicable regulations.

ENGINEERING CONTROLS

The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Control measures to consider:

No special requirements under ordinary conditions of use and with adequate ventilation.

PERSONAL PROTECTION

Personal protective equipment selections vary based on potential exposure conditions such as applications, handling practices, concentration and ventilation. Information on the selection of protective equipment for use with this material, as provided below, is based upon intended, normal usage.

Respiratory Protection: If engineering controls do not maintain airborne contaminant concentrations at a level which is adequate to protect worker health, an approved respirator may be appropriate. Respirator selection, use, and maintenance must be in accordance with regulatory requirements, if applicable. Types of respirators to be considered for this material include:

No special requirements under ordinary conditions of use and with adequate ventilation.

For high airborne concentrations, use an approved supplied-air respirator, operated in positive pressure mode. Supplied air respirators with an escape bottle may be appropriate when oxygen levels are inadequate, gas/vapor warning properties are poor, or if air purifying filter capacity/rating may be exceeded.

Hand Protection: Any specific glove information provided is based on published literature and glove manufacturer data. Work conditions can greatly effect glove durability; inspect and replace worn or damaged gloves. The types of gloves to be considered for this material include:
No protection is ordinarily required under normal conditions of use.

Eye Protection: If contact is likely, safety glasses with side shields are recommended.

Skin and Body Protection: Any specific clothing information provided is based on published literature or manufacturer data. The types of clothing to be considered for this material include:
No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.

Specific Hygiene Measures: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping.

ENVIRONMENTAL CONTROLS
See Sections 6, 7, 12, 13.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Typical physical and chemical properties are given below. Consult the Supplier in Section 1 for additional data.

GENERAL INFORMATION
Physical State: Liquid
Form: Clear
Color: Amber
Odor: Marketable
Odor Threshold: N/D

IMPORTANT HEALTH, SAFETY, AND ENVIRONMENTAL INFORMATION
Relative Density (at 15 °C): 0.879
Flash Point [Method]: 228°C (442°F) [Cleveland Open Cup]
Flammable Limits (Approximate volume % in air): LEL: 0.9 UEL: 7.0
Autoignition Temperature: N/D
Boiling Point / Range: > 315.6°C (600°F)
Vapor Density (Air = 1): N/D
Vapor Pressure: [N/D at 20 °C]
Evaporation Rate (n-butyl acetate = 1): N/D
pH: N/A
Log Pow (n-Octanol/Water Partition Coefficient): > 3.5
Solubility in Water: Negligible
Viscosity: 118 cSt (118 mm²/sec) at 40 °C | 15.3 cSt (15.3 mm²/sec) at100°C
Oxidizing Properties: See Sections 3, 15, 16.

OTHER INFORMATION

Freezing Point: N/D
Melting Point: N/A
Pour Point: -30°C (-22°F)
DMSO Extract (mineral oil only), IP-346: < 3 %wt

SECTION 10 STABILITY AND REACTIVITY

STABILITY: Material is stable under normal conditions.

CONDITIONS TO AVOID: Excessive heat. High energy sources of ignition.

MATERIALS TO AVOID: Strong oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: Material does not decompose at ambient temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Route of Exposure	Conclusion / Remarks
Inhalation	
Toxicity (Rat): LC50 > 5000 mg/m³	Minimally Toxic. Based on test data for structurally similar materials.
Irritation: No end point data.	Negligible hazard at ambient/normal handling temperatures. Based on assessment of the components.
Ingestion	
Toxicity (Rat): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Skin	
Toxicity (Rabbit): LD50 > 2000 mg/kg	Minimally Toxic. Based on test data for structurally similar materials.
Irritation (Rabbit): Data available.	Negligible irritation to skin at ambient temperatures. Based on test data for structurally similar materials.
Eye	
Irritation (Rabbit): Data available.	May cause mild, short-lasting discomfort to eyes. Based on test data for structurally similar materials.

CHRONIC/OTHER EFFECTS

For the product itself:

Diesel engine oils: Not carcinogenic in animals tests. Used and unused diesel engine oils did not produce any carcinogenic effects in chronic mouse skin painting studies.

Contains:

Base oil severely refined: Not carcinogenic in animal studies. Representative material passes IP-346, Modified Ames test, and/or other screening tests. Dermal and inhalation studies showed minimal effects; lung non-specific infiltration of immune cells, oil deposition and minimal granuloma formation. Not sensitizing in test animals.

Oils that are used in gasoline engines may become hazardous and display the following properties: Carcinogenic in animal tests. Caused mutations in vitro. Possible allergen and photoallergen. Contains polycyclic aromatic compounds (PAC) from combustion products of gasoline and/or thermal degradation products.

Additional information is available by request.

The following ingredients are cited on the lists below: None.

--REGULATORY LISTS SEARCHED--

1 = NTP CARC	3 = IARC 1	5 = IARC 2B
2 = NTP SUS	4 = IARC 2A	6 = OSHA CARC

SECTION 12 ECOLOGICAL INFORMATION

The information given is based on data available for the material, the components of the material, and similar materials.

ECOTOXICITY

Material -- Not expected to be harmful to aquatic organisms.

MOBILITY

Base oil component -- Low solubility and floats and is expected to migrate from water to the land. Expected to partition to sediment and wastewater solids.

PERSISTENCE AND DEGRADABILITY

Biodegradation:

Base oil component -- Expected to be inherently biodegradable

SECTION 13 DISPOSAL CONSIDERATIONS

Disposal recommendations based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

DISPOSAL RECOMMENDATIONS

Product is suitable for burning in an enclosed controlled burner for fuel value or disposal by supervised incineration at very high temperatures to prevent formation of undesirable combustion products.

REGULATORY DISPOSAL INFORMATION

RCRA Information: The unused product, in our opinion, is not specifically listed by the EPA as a hazardous waste (40 CFR, Part 261D), nor is it formulated to contain materials which are listed as hazardous wastes. It does not exhibit the hazardous characteristics of ignitability, corrositivity or reactivity and is not formulated with contaminants as determined by the Toxicity Characteristic Leaching Procedure (TCLP). However, used product may be regulated.

Empty Container Warning PRECAUTIONARY LABEL TEXT: Empty containers may retain residue and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH

CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to refill or clean container since residue is difficult to remove. Empty drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

SECTION 14. TRANSPORT INFORMATION

LAND (DOT): Not Regulated for Land Transport

LAND (TDG): Not Regulated for Land Transport

SEA (IMDG): Not Regulated for Sea Transport according to IMDG-Code

AIR (IATA): Not Regulated for Air Transport

SECTION 15. REGULATORY INFORMATION

OSHA HAZARD COMMUNICATION STANDARD: When used for its intended purposes, this material is not classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

NATIONAL CHEMICAL INVENTORY LISTING: AICS, DSL, EINECS, KECI, PICCS, TSCA

EPCRA

Chemical Name	CAS Number	Typical Value	Component TPQ	Product TPQ
PHOSPHORUS	7723-14-0	0.274971 %weight	100 lbs	36367.43 lbs

SARA (311/312) REPORTABLE HAZARD CATEGORIES: None.

SARA (313) TOXIC RELEASE INVENTORY:

Chemical Name	CAS Number	Typical Value
ZINC DITHIOPHOSPHATE	68649-42-3	1 - 5%

The Following Ingredients are Cited on the Lists Below:

Chemical Name	CAS Number	List Citations *
PHOSPHORUS	7723-14-0	18
ZINC DITHIOPHOSPHATE	68649-42-3	13, 15, 17

--REGULATORY LISTS SEARCHED--

1 = ACGIH ALL	6 = TSCA 5a2	11 = CA P65 REPRO	16 = MN RTK
2 = ACGIH A1	7 = TSCA 5e	12 = CA RTK	17 = NJ RTK
3 = ACGIH A2	8 = TSCA 6	13 = IL RTK	18 = PA RTK
4 = OSHA Z	9 = TSCA 12b	14 = LA RTK	19 = RI RTK
5 = TSCA 4	10 = CA P65 CARC	15 = MI 293	

* EPA recently added new chemical substances to its TSCA Section 4 test rules. Please contact the supplier to confirm whether the ingredients in this product currently appear on a TSCA 4 or TSCA 12b list.
Code key:CARC=Carcinogen; REPRO=Reproductive

SECTION 16 OTHER INFORMATION

N/D = Not determined, N/A = Not applicable

THIS SAFETY DATA SHEET CONTAINS THE FOLLOWING REVISIONS:
No revision information is available.

The information and recommendations contained herein are, to the best of ExxonMobil's knowledge and belief, accurate and reliable as of the date issued. ExxonMobil assumes no responsibility for accuracy of information unless the document is the most current available from an official ExxonMobil distribution system. The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container. Appropriate warnings and safe-handling procedures should be provided to handlers and users. Alteration of this document is strictly prohibited. Except to the extent required by law, republication or retransmission of this document, in whole or in part, is not permitted. The term, "ExxonMobil" is used for convenience, and may include any one or more of ExxonMobil Chemical Company, Exxon Mobil Corporation, or any affiliates in which they directly or indirectly hold any interest.

Internal Use Only
MHC: 0, 0, 0, 0, 0, 0 PPEC: A

DGN: 2003626XUS (508349)

Issued Date: 8/24/1989
Revised Date: 05-01-11

MATERIAL SAFETY DATA SHEET

BORA-CARE®

Health Emergencies: CHEMTREC® (800) 424-9300

SECTION 1 - PRODUCT AND COMPANY INFORMATION

Manufacturer: Nisus Corporation
100 Nisus Drive
Rockford, TN 37853
(800) 266-0870

Product Trade Name: **BORA-CARE®**
EPA Registration No. 64405-1
Chemical Family: Glycol borate solution
Formula: Proprietary Mixture CAS No.: N/A

SECTION 2 – INGREDIENTS INFORMATION

40% Disodium Octaborate Tetrahydrate

60% mixed glycols (monoethylene and polyethylene glycols are used in the manufacturing process)

SECTION 3 – HEALTH HAZARD INFORMATION

Hazard Rating: NFPA			
	Health	1	Slight hazard
	Flammability	0	
	Reactivity	0	

Material or Component: Manufactured using Ethylene Glycol CAS No. 107-21-1
TLV 50.00 ppm ACGIH Type CEIL
(Note this is a raw material and there is no free ethylene glycol present.)

EYE CONTACT: Causes moderate eye irritation. Direct contact may cause burning, tearing and redness in sensitive individuals.
SKIN CONTACT: This material is essentially non-irritating. Prolonged or repeated exposure to this material may cause softening of the skin. Persons with preexisting skin disorders may be more susceptible to the effects of this material. Harmful if absorbed through skin.
INGESTION: Ingestion of large amounts may cause nausea, mental sluggishness followed by difficulty in breathing and heart failure, kidney and brain damage, possibly death.
INHALATION: Harmful if inhaled. Breathing high concentrations of vapors may cause nausea, dizziness or drowsiness, and irritation of the nose and throat. Preexisting lung disorders may be aggravated by exposure to this material.

SECTION 4 - EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible.
SKIN CONTACT: Take off contaminated clothing. Immediately rinse skin with plenty of water for 15-20 minutes.
EYE CONTACT: Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
INGESTION: SEEK EMERGENCY MEDICAL ATTENTION If the victim is drowsy or unconscious, place on the left side with the head down. Do not give anything by mouth. If victim is conscious and alert, vomiting should be induced for ingestion of more than 1 – 2 tablespoons for an adult, preferably with syrup of ipecac under direction from a physician or poison center. If syrup of ipecac is not available, vomiting can be induced by gently placing two fingers in back of throat. If large amounts are ingested, treat for glycol and borate toxicity. If possible, do not leave victim unattended.

NOTE TO PHYSICIAN: Treat for exposure to glycols. Contains borates. Monitor electrolytes.

SECTION 5 - FIRE AND EXPLOSION DATA

FLASH POINT Above 220°F (Tag Closed Cup)
FLAMMABLE LIMITS: Not known.
EXTINGUISHING MEDIA: CO_2, dry powder or universal type foam.
FIRE AND EXPLOSION HAZARDS: This material will not readily ignite.
FIRE FIGHTING PROCEDURES: Avoid inhaling smoke. The use of a SCBA is recommended for fire fighters. Water spray may be useful in minimizing vapors and cooling containers exposed to heat and flame.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

PRECAUTIONS IN CASE OF RELEASE OR SPILL: Absorb with organic liquid absorbent. Do not let material or washwaters enter sewers or waterways. Where large release has occurred see ecological section.

SECTION 7 - HANDLING AND STORAGE

HANDLING AND STORAGE PRECAUTIONS: Store between 40°F and 90°F. Do not store in direct sunlight. Keep containers tightly closed.
Store in areas not accessible to children and pets.
Do not store with strong oxidizers.
Locked storage is required for EPA registered materials.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION

RESPIRATORY PROTECTION: Good ventilation. When applying Bora-Care in confined spaces, provide ventilation or an exhaust system or use of a NIOSH-approved dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C) with a prefilter approved for pesticides (MSHA/NIOSH approval prefix TC-23C), or a canister approved for pesticides (MSHA/NIOSH approval prefix TC-14G) or a NIOSH-approved respirator with any N, R, P or HE prefilter is recommended.
VENTILATION: Exhaust to ventilate.

Bora-Care is easily washed form eyes and skin.

US EPA requires the following personal protective equipment when applying registered materials:

PROTECTIVE GLOVES: Some materials that are chemical-resistant to this product are barrier laminate; butyl, nitrile, neoprene and natural rubbers ≥ 14 mils; polyethylene; polyvinyl chloride; and viton ≥ 14 mils. If you want more options, follow the instructions for category C on an EPA chemical-resistance category selection chart.

EYE PROTECTION: Use safety glasses, goggles or face shield.
OTHER PROTECTIVE EQUIPMENT: Applicators, mixers and other handlers must wear long-sleeved shirt, long pants, socks, shoes, chemical-resistant gloves and protective eyewear. It is recommended that a source of clean water be available in the work area for flushing eyes and washing skin.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear viscous gel
% Volatile: 36% by weight by TGA (as water)
Vapor Pressure: Negligible (<0.1)
Odor: None
pH: 50% aqueous solution 6.9 - 7. 1
Specific Gravity: 1.38 g/ml
Boiling Point: Above 212° F
% Solubility in Water: 100%

SECTION 10 - STABILITY AND REACTIVITY

STABILITY: Stable
CONDITIONS TO AVOID: Exposure to strong oxidizing agents. INCOMPATIBILITY (MATERIALS TO AVOID). This material is incompatible with strong oxidizing agents. This product may corrode aluminum.
HAZARDOUS POLYMERIZATION: Will not occur
HAZARDOUS DECOMPOSITION PRODUCTS: Ethylene oxide, carbon monoxide, carbon dioxide.

SECTION 11 - TOXICOLOGY

Bora-Care is of very low acute mammalian toxicity.

Acute oral LD_{50} - greater than 5000 mg/kg body weight (Sprague-Dawley male and female rats).
Acute dermal LD_{50} - greater than 2000 mg/kg body weight (New Zealand Albino male and female rabbits).
Acute inhalation LC_{50} – 5.06 mg/L for 4 hours (Sprague-Dawley male and female rats).
Intentional misuse by deliberately concentrating and inhaling this material may be harmful or fatal.
None of the major constituents of this material have been identified as carcinogens or probable carcinogens by IARC or OSHA.
The RfD for ethylene glycol is 2.0 mg/kg/day based on kidney toxicity in rats. US EPA has a high confidence in the study on which the RfD was based. The RfD is protective of animal demonstrated chronic and reproductive effects. Preexisting kidney disorders may be aggravated by exposure to this material.
Borates have been shown to have some chronic toxicity in animals fed high doses, similar to that of alcohol, but this has not been found in humans.

SECTION 12 – ECOLOGICAL INFORMATION

General: Boron (B) is the element in disodium octaborate tetrahydrate (the active ingredient in Bora-Care) which is used by convention to report borate product ecological effects. To convert disodium octaborate tetrahydrate into the equivalent boron (B) content, multiply by 0.2096. Bora-Care contains 8.4% B by weight.
Phytotoxicity: Boron is an essential micronutrient for healthy growth of plants; however, it can be harmful to boron sensitive plants (e.g. grass and ornamentals) in high quantities.
Algal Toxicity: Green algae, *Scenedesmus subspicatus*
96-hr EC_{10} = 24 mg B/L
Invertebrate Toxicity: Daphnids, *Daphnia magna straus*
24-hr EC_{50}=242 mg B/L
Test substance: sodium tetraborate
Fish Toxicity:
Seawater:
Dab, *Limanda limanda*
96-hr LC_{50} 74 MG B/LL
Freshwater:
Rainbow trout, *S. gairdneri* (embryo-larval stage)
24-day LC_{50} = 88 mg B/L
32-day LC_{50}) = 54 mg B/L
Goldfish, *Carassius auratus* (embryo-larval stage)
7-day LC_{50} = 65 mg B/L
3-day LC_{50} = 71 mg B/L

The LC_{50} of ethylene glycol = 9500 to 51,000 mg/l depending on organism, so is of no relevance. See above boron ecological information.

In the event of accidental environmental release, dilute with water.

Bora-Care is rapidly diluted to natural background micronutrient levels of boron, and the organic glycol components are biodegraded by microorganisms with a half-life of between 1 and 10 days (90% in one day using OECD 302B Test).

SECTION 13 – DISPOSAL CONSIDERATION

Make up only the amount of solution to be used that day. Excess solution can be used in treatment or further diluted with water and this diluted solution used to dilute product in future applications.

WASTE DISPOSAL METHOD: Unopened containers may be returned to Nisus corporation for reprocessing. Contact your State Pesticide, Environmental Control Agency or local authorities for proper disposal guidelines. Most sewage facilities will allow discharge to sewage of small volumes. Very large volume can retard sewage processing.

SECTION 14 – TRANSPORTATION INFORMATION

DOT Hazard Classification: Not Regulated

SECTION 15 – REGULATORY INFORMATION

EPA Registration No. 64405-1
Chemical Family: Glycol borate solution

Hazard Rating: NFPA	Health	1	Slight hazard
	Flammability	0	
	Reactivity	0	

SECTION 16 – OTHER INFORMATION

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind expressed or implied is made with respect to the information contained herein. This information and product are furnished on the condition that the persons receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use thereof.

100 Nisus Drive • Rockford, TN 37853 USA • (800) 264-0870

****

PRODUCT IDENTIFICATION

****

PRODUCT NAME: MASTERLINE - TERMITICIDE T/C

MSDS#: 39421

DATE ISSUED: 12/16/97

SUPERSEDES: NEW

ISSUED BY: 009999

TERMITICIDE T/C
LOW ODOR FORMULA

MATERIAL SAFETY DATA SHEET

Distributed by
Van Waters & Rogers Inc.
a Royal Vopak company

Emergency Response Telephone Number
For Spills Call: 1-800-535-5053
Other Emergencies Call:1-800-535-5053

I. MATERIAL IDENTIFICATION
Product name: Masterline - Termiticide T/C EPA Registration No.: 55431-160

INGREDIENTS: (% W/W)

-pyrifos (CAS Reg. No. 2921,88-2)
Diethyl O-(3.5.6-trichloro-2-pyridinyl phosphorothioate 42.40%
Inert Ingredients 57.60%
Proprietary emulsifiers
Xylene range aromatic solvent CAS # 64742-95-6
Chemical Class: Organophosphate Insecticide
EPA Signal Word: Warning

II. HAZARDOUS INGREDIENTS

MATERIAL	OSHA PEL	ACGIH TLV
Active Ingredient: Chlorpyrifos	0.2 mg/m3 skin	0.2 mg/m3(skin)
Inept Ingredients: Trade Secret	NA	NA

III. HEALTH HAZARD INFORMATION

EYE: May cause moderate eye irritation. May cause slight corneal injury. Effects may be slow to heal. Vapors may irritate eyes.

SKIN CONTACT: Short single exposure not likely to cause significant skin irritation. Prolonged or repeated exposure may cause skin irritation. A test in guinea pigs indicated that this product may have weak skin sensitization potential. However, experience in the manufacture and use of this product has not provided evidence for skin sensitizing properties. Furthermore, the product did not sensitize human subjects when tested at an end-use dilution.

ABSORPTION: A single prolonged exposure may result in the material absorbed in harmful amounts. The LD50 for skin absorption in rabbits is mg/kg (males) and 930 mg/kg (females).

INGESTION: Single dose oral toxicity is moderate. The oral LD50 for male rats is 2266 mg/kg. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; however, swallowing amounts larger

e lung), may cause lung damage or even death due to chemical pneumonia.

HALATION: The LC50 for female rats is between 2.6 - 3.6 mg/l for 4 hours. c sive exposure to solvent may cause respiratory tract irritation and l nervous system depression. Signs and symptoms of central nervous a depression, in order of increasing exposure, are headache, dizziness, owsiness, and Incoordination.

STEMIC (OTHER TARGET ORGANS) EFFECTS: Excessive exposure may produce ganophosphate type cholinesterase inhibition. Signs and symptoms of cessive exposure to active ingredient may be headache, dizziness, coordination, muscle twitching, tremors, nausea, abdominal cramps, arrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, htness in chest, excessive urination, convulsions. Active ingredient duced mild adrenal effects when fed to rats, but only at doses that greatly ceeded any exposures that would be received during use of this prod- t. Solvent has been reported to cause liver, kidney, and blood effects at gh exposure levels. Xylene, a minor component of this mixture, is reported o have caused hearing loss in laboratory animals upon inhalation of high oncentrations; such effects have not been reported in humans.

ANCER INFORMATION: Active ingredient did not cause cancer in long-term nimal studies. Xylene was not found to be carcinogenic in a National oxicology Program bioassay in rats and mice.

ERATOLOGY (BIRTH DEFECTS): Active ingredient did not cause birth defects n laboratory animals. Solvent was toxic to the fetus in laboratory animal ests, but only at doses that were toxic to the mothers. Very high oncentrations of solvent (producing severe toxicity to adult animals) nduced an increase in cleft palate in mice, which is a common develop- ental abnormality in mice and is associated with stress to the maternal ar als. No malformations were induced at exposures less than those causing e toxicity to the adult animals.

REPRODUCTIVE EFFECTS: Chlorpyrifos did not interfere with fertility in reproduction studies in laboratory animals. Some evidence of toxicity to the offspring occurred, but only at a dose high enough to produce significant toxicity to the parent animals. In a 3-generation reproduction study on the solvent, the only effects observed were at exposures that produced severe toxicity to the parent animals.

MUTAGENICITY (EFFECTS ON GENETIC MATERIAL): Results of in vitro ('test tube') and animal mutagenicity tests on the aromatic solvent have been negative. Based on a majority of negative data and some equivocal or marginally positive results, active ingredient is considered to have minimal mutagenic potential.

IV. FIRST AID PROCEDURES

EYES: Flush eyes with plenty of water for 15 minutes. Get medical attention.

SKIN: Immediately wash skin with plenty of soap and water. Get medical attention. Before washing, remove contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

INGESTION: Call a physician or poison control center immediately. Do not induce vomiting. Contains an aromatic Petroleum solvent. Do not give anything by mouth to an unconscious person.

LATION: Remove to fresh air If symptoms of cholinesterase inhibition ar and get medical attention Immediately.

NOTE TO PHYSICIAN: The decision of whether to induce vomiting or not should be made by an attending physician. If lavage is performed, endotracheal and/or esophageal control is suggested. Danger from lung aspiration must be weighed

cholinesterase inhibitor. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if clearly; however, use only in conjunction with atropine. In case of acute poisoning, use antidote immediately after establishing an open airway and respiration. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

7. PHYSICAL HAZARD INFORMATION

CHEMICAL AND PHYSICAL PROPERTIES

Color.	Yellow
Physical State:	Liquid
Odor.	Solvent-Type odor
Boiling Point:	290 F (143 C)
Density:	9.42 lbs/gal (1.13 g/cc)
Vapor Pressure:	<10mmHg @ 25 C
Vapor Density:	Not determined
Solubility:	Emulsifiable in water
pH:	5.2 as an aqueous dispersion
Viscosity:	50.1 cps
Stability:	Stable in commercial packaging (high density polyethylene) and under normal storage conditions

FIRE AND EXPLOSION HAZARDS

Flash Point:	127 F to 131 F (53 C to 55 C)
Method Used:	TCC
Flammability Limits:	LFL 1 %
	UFL: 6% (xylene range aromatic solvent)
Extinguishing Media:	Foam, CO2, and dry chemical.

Fire & Explosion Precautions: Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Toxic irritating gases may be formed under fire conditions. Rapid decomposition above 320 - 392 F (160 - 200 C). Violent rupture of containers due to over-pressurization may occur at temperatures generated during fire.

Fire-Fighting Equipment: Wear positive pressure, self-contained breathing apparatus and use full protective equipment if product is involved in fire.

REACTIVITY

Stability: (CONDITIONS TO AVOID) Avoid heating above 127 F (53-C). Chlorpyrifos undergoes exothermic decomposition at approximately 266 F (130 C) which can lead to higher temperatures and violent decomposition if generated heat is not removed. Contains petroleum derivative solvent which will burn.

Incompatibility: (SPECIFIC MATERIALS TO AVOID) None known.

Hazardous Decomposition: Under fire conditions, hydrogen chloride, ethyl sulfide, diethyl sulfide and nitrogen oxides can be formed.

Hazardous Polymerization: Will not occur.

ENVIRONMENTAL PROTECTION

In CASE OF SPILL OR LEAK: Absorb spills with an absorbent material such as SAWDUST, ZORBALL, or dirt. Thoroughly wash body areas which come into contact with this product. Contain spill to keep out of sewers. For large spills, consult manufacturer.

STE DISPOSAL METHOD: Do not contaminate food, feed, or water by storage disposal. Pesticide wastes are toxic. Improper disposal of excess ides, spray mixture or rinsate is a violation of federal law. If wastes cannot be disposed of by use according to label instructions, tact your State Pesticide or Environmental Control Agency, or the zardous waste representative at the nearest EPA regional office for idance.

VIRONMENTAL PRECAUTIONS: This pesticide is toxic to birds and wildlife, id is extremely toxic to fish and aquatic organisms. Do not apply directly water. Drift and runoff from treated areas may be hazardous to aquatic ganisms in adjacent aquatic sites.

II. PERSONAL PROTECTION AND PRECAUTIONS

XPOSURE GUIDELINE(S):
hlorpyrifos: ACGIH TLV and OSHA PEL are 0.2 mg/m3 (Skin).
,2,4-Trimethylbenzene': ACGIH TLV and OSHA PEL are 123 mg/m3.

ylene: ACGIH TLV and OSHA PEL are 434 mg/m3, STEL 651 mg/m3.
umene: ACGIH TLV and OSHA PEL are 246 mg/m3 (Skin).

romatic Naptha: None established.
apthalene: ACGIH TLV and OSHA PEL are 52 mg/m3, STEL 79 mg/m3.

ylene range aromatic solvent: None established. Supplier recommends a uideline of 246 mg/m3 for the total product which is a mixture of petroleum ydrocarbons.

Components of xylene range aromatic solvent.

LATION: Provide general and/or local exhaust ventilation to control rborne levels below the exposure guidelines.

ESPIRATORY PROTECTION: Atmospheric levels should be maintained below the xposure guideline. When respiratory protection is required for certain perations, use an approved air-purifying respirator.

KIN PROTECTION: Use protective clothing impervious to this material. election of specific items such as gloves, boots, apron, or full-body suit ill depend on operation. Remove contaminated clothing immediately, wash kin area with soap and water, and launder clothing before reuse.

YE PROTECTION: Use chemical goggles. If vapor exposure causes eye iscomfort, use a full-face respirator.

PECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: See label. Keep ut of reach of children. Do not swallow. Do not get in eyes or on skin. void breathing mist or vapors. Keep away from heat and open flame. Handle oncentrate in ventilated area. Wash thoroughly after handling. Depending n degree of exposure of personnel, consider monitoring blood cholinesterase evels. Keep away from foods, feedstuffs and domestic water supplies.

III. DOT HAZARDOUS MATERIALS INFORMATION

ROPER SHIPPING NAME: Organophosphorus Pesticides, Liquid, Toxic Chlorpyrifos)

RD CLASS OR DIVISION: 6.1

DENTIFICATION NUMBER: UN 3018
ACKING GROUP: III

DDITIONAL INFORMATION: As per DOT Regulations, Chlorpyrifos is designated a Marine Pollutant and has a Reportable Quantity (RQ) of one pound

(0.454 kg).

IX. REGULATORY INFORMATION

SARA 313 INFORMATION: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

CHEMICAL NAME	CAS NUMBER
1,2,4-Trimethylbenzene	95-63-6
Xylene (mixed isomers)	1330-20-7
Cumene	98-82-8
Napthalene	91-20-3

SARA HAZARD CATEGORY This product has been reviewed according to the EPA "Hazardous Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

An immediate health hazard
A delayed health hazard
A fire hazard

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW.- The following product components are cited on certain state lists as mentioned. Non-listed components may be shown is section II of the MSDS.

Chemical Name	CAS Number	List
1,2,4-Trimethylbenzene	95-63-6	NJ3, PA1, PA3
Cumene	98-82-8	NJ2, NJ3, PA1, PA3
Xylene	1330-20-7	NJ1, NJ2, NJ3, PA1, PA3
Chlorpyrifos	2921-88-2	NJ3, PA1, PA3

NJ1 = New Jersey Special Health Hazard Substance (present at greater than or equal to 0.1 %)
NJ2 = New Jersey Environmental Hazardous Substance (present at greater than or equal to 1.0%)
NJ3 = New Jersey Workplace Hazardous Substance (present at greater than or equal to 1.0%).
PA1 = Pennsylvania Hazardous Substance (present at greater than or equal to 1.0%).
PA3 = Pennsylvania Environmental Hazardous Substance (present at greater than or equal to 1.0%).

OSHA HAZARD COMMUNICATION STANDARD: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910. 1200.

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) RATINGS:

Category	Rating
Health	2
Flammability	2
Reactivity	1

COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT (CERCLA, or SUPER-FUND): This product contains the following substance(s) known as "Hazardous Substances" under CERCLA which may require reporting of releases:

Category:

Chemical Name	CAS Number	RQ	% in Product
Chlorpyrifos	2921-88-2	1	42.4%

sue Date: December 16, 1997

...cument is prepared pursuant to the OSHA Hazard Communication ...ard (29 CFR 1910.1200). In addition, other substances not "Hazardous" ... this OSHA Standard may be listed. Where proprietary ingredient shows, ...e identity may be available as provided in this standard.

---------- FOR ADDITIONAL INFORMATION ----------

CONTACT: MSDS COORDINATOR VOPAK USA INC.
DURING BUSINESS HOURS, PACIFIC TIME (425)889-3400

---------- NOTICE ----------

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ARTICULAR PURPOSE, WITH RESPECT TO THE PRODUCT OR INFORMATION PROVIDED HEREIN,

ND SHALL UNDER NO CIRCUMSTANCES BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL AMAGES.**

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* * * E N D O F M S D S * * *

DISTRIBUTED BY:
Unisource Worldwide
6600 Governors Lake Parkway
Norcross, GA 30071

PRODUCT NAME: AIRSTRIP PROFESSIONAL FLOOR STRIPPER
PRODUCT NUMBER:
DATE ISSUED: 03/11/2005
SUPERSEDES:

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: AIRSTRIP PROFESSIONAL FLOOR STRIPPER
PRODUCT USE: FLOOR STRIPPER

SUPPLIER: ECOLAB, INC. PROFESSIONAL PRODUCTS DIVISION
370 N. WABASHA ST.
ST. PAUL, MN 55102
1-800-247-5362

CODE: 916759-01

DATE OF ISSUE: 03/11/2005

EMERGENCY HEALTH INFORMATION: 1-800-328-0026
OUTSIDE UNITED STATES AND CANADA CALL: 1-651-222-5352 (IN USA)

SECTION 2. COMPOSITION, INFORMATION ON INGREDIENTS

NAME	CAS NUMBER	% BY WEIGHT
2-BUTOXYETHANOL	111-76-2	25
SODIUM HYDROXIDE	1310-73-2	5
2-AMINOETHANOL	141-43-5	5-20
XYLENESULFONIC ACID, SODIUM SALT	1300-72-7	1-5
POLY(OXY-1,2-ETHANEDIYL).ALPHA.-(NONYLPHENYL)-.OMEGA.-HYDROXY-	9016-45-9	1-5

SECTION 3. HAZARDS IDENTIFICATION

PHYSICAL STATE: LIQUID. (LIQUID.)
EMERGENCY OVERVIEW: DANGER!

CAUSES EYE AND SKIN BURNS.
HARMFUL IF SWALLOWED.
CAUSES SEVERE RESPIRATORY TRACT IRRITATION.
COMBUSTIBLE LIQUID AND VAPOR.
VAPOR MAY CAUSE FIRE.
DO NOT INGEST. DO NOT GET IN EYES, ON SKIN OR ON CLOTHING. AVOID BREATHING VAPOR OR MIST. KEEP AWAY FROM HEAT, SPARKS AND FLAME. KEEP CONTAINER CLOSED. USE ONLY WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

SECTION 3. HAZARDS IDENTIFICATION (CONTINUED)

POTENTIAL ACUTE HEALTH EFFECTS

EYES: CORROSIVE TO EYES.

SKIN: CORROSIVE TO THE SKIN.

INHALATION: SEVERELY IRRITATING TO THE RESPIRATORY SYSTEM.

INGESTION: HARMFUL IF SWALLOWED. MAY CAUSE BURNS TO MOUTH, THROAT AND STOMACH.

SEE TOXICOLOGICAL INFORMATION (SECTION 11)

SECTION 4. FIRST AID MEASURES

EYE CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COOL, RUNNING WATER. REMOVE CONTACT LENSES AND CONTINUE FLUSHING WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH SKIN WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH CLOTHING BEFORE REUSE. CLEAN SHOES THOROUGHLY BEFORE REUSE. GET MEDICAL ATTENTION IMMEDIATELY.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. GET MEDICAL ATTENTION IF SYMPTOMS APPEAR.

INGESTION: RINSE MOUTH; THEN DRINK ONE OR TWO LARGE GLASSES OF WATER. DO NOT INDUCE VOMITING UNLESS DIRECTED TO DO SO BY MEDICAL PERSONNEL. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL ATTENTION IMMEDIATELY.

SECTION 5. FIRE FIGHTING MEASURES

FLASH POINT: 82 C (CLOSED CUP)

FIRE FIGHTING MEDIA AND INSTRUCTIONS: IN CASE OF FIRE, USE WATER SPRAY (FOG) FOAM, DRY CHEMICALS, OR CO2. DIKE AREA OF FIRE TO PREVENT PRODUCT RUN-OFF. COMBUSTIBLE LIQUID AND VAPOR. MAY BURN, BUT DOES NOT IGNITE READILY. UNDER HIGH TEMPERATURES OR UNDER MODERATE HEATING MIGHT RELEASE VAPOR IN SUFFICIENT QUANTITIES TO PRODUCE HAZARDOUS ATMOSPHERES WITH AIR.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS: FIRE FIGHTERS SHOULD WEAR APPROPRIATE PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS (SCBA) WITH A FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE.

PRODUCT NAME: AIRSTRIP PROFESSIONAL FLOOR STRIPPER DATE ISSUED: 03/11/2005

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: VENTILATE AREA OF LEAK OR SPILL. DO NOT TOUCH DAMAGED CONTAINERS OR SPILLED MATERIAL UNLESS WEARING APPROPRIATE PROTECTIVE EQUIPMENT (SECTION 8). STOP LEAK IF WITHOUT RISK. PREVENT ENTRY INTO SEWERS, WATER COURSES, BASEMENTS OR CONFINED AREAS.

ENVIRONMENTAL PRECAUTIONS: AVOID DISPERSAL OF SPILLED MATERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS.

METHODS FOR CLEANING UP: IF EMERGENCY PERSONNEL ARE UNAVAILABLE, CONTAIN SPILLED MATERIAL. FOR SMALL SPILLS, ADD ABSORBENT (SOIL MAY BE USED IN THE ABSENCE OF OTHER SUITABLE MATERIALS), AND USE NON-SPARKING OR EXPLOSION-PROOF MEANS TO TRANSFER MATERIAL TO A SEALED, APPROPRIATE CONTAINER FOR DISPOSAL. FOR LARGE SPILLS, DIKE SPILLED MATERIAL OR OTHERWISE CONTAIN IT TO ENSURE RUNOFF DOES NOT REACH A WATERWAY. PLACE SPILLED MATERIAL IN AN APPROPRIATE CONTAINER FOR DISPOSAL.

SECTION 7. HANDLING AND STORAGE

HANDLING: DO NOT INGEST. DO NOT GET IN EYES, ON SKIN OR ON CLOTHING. KEEP CONTAINER CLOSED. USE ONLY WITH ADEQUATE VENTILATION. DO NOT BREATHE VAPOR OR MIST. KEEP AWAY FROM HEAT, SPARKS AND FLAME. TO AVOID FIRE, MINIMIZE IGNITION SOURCES. WASH THOROUGHLY AFTER HANDLING.

STORAGE: KEEP OUT OF THE REACH OF CHILDREN. STORE IN A SEGREGATED AND APPROVED AREA. KEEP CONTAINER IN A COOL, WELL-VENTILATED AREA. KEEP CONTAINER TIGHTLY CLOSED AND SEALED UNTIL READY FOR USE. AVOID ALL POSSIBLE SOURCES OF IGNITION (SPARK OR FLAME). STORE BETWEEN 0 AND 50 C.

SECTION 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

ENGINEERING CONTROLS: PROVIDE EXHAUST VENTILATION OR OTHER ENGINEERING CONTROLS TO KEEP THE AIRBORNE CONCENTRATIONS OF VAPORS BELOW THEIR RESPECTIVE OCCUPATIONAL EXPOSURE LIMITS. ENSURE THAT EYEWASH STATIONS AND SAFETY SHOWERS ARE PROXIMAL TO THE WORK-STATION LOCATION.

PERSONAL PROTECTION

EYES: USE CHEMICAL SPLASH GOGGLES. FOR CONTINUED OR SEVERE EXPOSURE WEAR A FACE SHIELD OVER THE GOGGLES.

HANDS: USE CHEMICAL RESISTANT, IMPERVIOUS GLOVES.

SKIN: USE SYNTHETIC APRON, OTHER PROTECTIVE EQUIPMENT AS NECESSARY TO PREVENT SKIN CONTACT.

PRODUCT NAME: AIRSTRIP PROFESSIONAL FLOOR STRIPPER DATE ISSUED: 03/11/2005

SECTION 8. EXPOSURE CONTROLS, PERSONAL PROTECTION (CONTINUED)

RESPIRATORY: USE A PROPERLY FITTED, AIR-PURIFYING OR AIR-FED RESPIRATOR COMPLYING WITH AN APPROVED STANDARD IF A RISK ASSESSMENT INDICATES THIS IS NECESSARY. RESPIRATOR SELECTION MUST BE BASED ON KNOWN OR ANTICIPATED EXPOSURE LEVELS, THE HAZARDS OF THE PRODUCT AND THE SAFE WORKING LIMITS OF THE SELECTED RESPIRATOR.

NAME	EXPOSURE LIMITS
2-BUTOXYETHANOL	ACGIH TLV (UNITED STATES, 1/2004). NOTES: 2002 ADOPTION. TWA: 20 PPM 8 HOUR(S). FORM: ALL FORMS.
2-AMINOETHANOL	ACGIH TLV (UNITED STATES, 9/2004). STEL: 15 MG/M3 15 MINUTE(S). FORM: ALL FORMS. STEL: 6 PPM 15 MINUTE(S). FORM: ALL FORMS. TWA: 7.5 MG/M3 8 HOUR/HOURS. FORM: ALL FORMS. TWA: 3 PPM 8 HOUR/HOURS. FORM: ALL FORMS.
SODIUM HYDROXIDE	ACGIH TLV (UNITED STATES, 9/2004). CEIL: 2 MG/M3. FORM: ALL FORMS.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: LIQUID. (LIQUID.)
COLOR: CLEAR.
ODOR: SWEETISH.
PH: 13.25 (100%)
BOILING/CONDENSATION POINT: GT 100 C
SPECIFIC GRAVITY: 1.06 (WATER = 1)
VISCOSITY: DYNAMIC: 1 CP
DISPERSION PROPERTIES: EASILY DISPERSED IN COLD WATER, HOT WATER.
SOLUBILITY: EASILY SOLUBLE IN COLD WATER, HOT WATER.

SECTION 10. STABILITY AND REACTIVITY

STABILITY: THE PRODUCT IS STABLE.
REACTIVITY: SLIGHTLY REACTIVE TO REACTIVE WITH METALS, ACIDS.

SECTION 11. TOXICOLOGICAL INFORMATION

POTENTIAL ACUTE HEALTH EFFECTS

EYES: CORROSIVE TO EYES.

SKIN: CORROSIVE TO THE SKIN.

INHALATION: SEVERELY IRRITATING TO THE RESPIRATORY SYSTEM.

DISTRIBUTED BY:
Unisource Worldwide
6600 Governors Lake Parkway
Norcross, GA 30071

PRODUCT NAME: PROFESSIONAL LYSOL BRAND II DISINFECTANT SPRAY - ALL SCENTS (AEROSOL)
PRODUCT NUMBER:
DATE ISSUED: 08/08/2002
SUPERSEDES:

RECKITT BENCKISER

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

MSDS# NOT AVAILABLE
VALIDATION DATE: 08/08/2002
PRINT DATE: 08/09/2002

PRODUCT NAME:
PROFESSIONAL LYSOL BRAND II DISINFECTANT SPRAY - ALL SCENTS (AEROSOL)

PRODUCT DESCRIPTION: A PROFESSIONAL DISINFECTANT SPRAY THAT KILLS VIRUSES, BACTERIA, MOLD AND MILDEW.

PRODUCT IDENTIFIER: EPA REG. NO. 777-72-675; ORIGINAL SCENT, FRESH SCENT, COUNTRY SCENT, CRISP LINEN, SPRING WATERFALL, SUMMER BREEZE.

ITEM NUMBER: 36241-04675-07

FORMULA NUMBER: 432-124A (F/F 359979) ORIGINAL SCENT, 73-087 (F/F 356593) FRESH SCENT, 147-082 (F/F 356595) COUNTRY SCENT, 258-011 (F/F 356597) CRISP LINEN SCENT, 550-095 (F/F 367851) SPRING WATERFALL, 629-183C (F/F 372171) SUMMER BREEZE SCENT.

UPC NUMBER: 36241-04650 ORIGINAL; 36241-04675 FRESH SCENT; 36241-74260 COUNTRY SCENT; 36241-74827 CRISP LINEN SCENT; 36241-75523 SPRING WATERFALL AND 36241-74520 SUMMER BREEZE SCENT, ALL 19 OZ. SIZE.

MANUFACTURER:
RECKITT BENCKISER, INC.
1655 VALLEY ROAD
WAYNE, N.J. 07474

IN CASE OF EMERGENCY: TELEPHONE: 800-677-9218 (PROFESSIONAL PRODUCTS)
TRANSPORTATION EMERGENCIES: CHEMTREC: 800-424-9300 (U.S. & CANADA)

PRODUCT NAME: PROFESSIONAL LYSOL BRAND II DISINFECTANT SPRAY - ALL SCENTS (AEROSOL) DATE ISSUED: 08/08/2002

SECTION 2. COMPOSITION AND INFORMATION ON INGREDIENTS

NAME	CAS #	% BY WT.	EXPOSURE LIMITS: TLV/PEL
1) CARBON DIOXIDE	124-38-9	4.0	TWA:9000 MG/M3 FROM ACGIH TLV TWA:5000 PPM FROM ACGIH TLV TWA:9000 STEL:54 MG/M3 FROM OSHA TWA:5000 PPM FROM OSHA
2) ETHANOL	64-17-5	79.0	TWA:1880 MG/M3 FROM ACGIH TLV TWA:1000 PPM FROM ACGIH TLV TWA:1900 MG/M3 FROM OSHA TWA:1000 PPM FROM OSHA

SECTION 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: WARNING: FLAMMABLE. CONTENTS UNDER PRESSURE. CAUSES EYE IRRITATION. DO NOT SPRAY IN EYES, ON SKIN OR ON CLOTHING.

KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. EXPOSURE TO TEMPERATURE ABOVE 130 F MAY CAUSE BURSTING. DO NOT PUNCTURE OR INCINERATE.

KEEP OUT OF REACH OF CHILDREN.

SECTION 4. FIRST AID MEASURES

EYE CONTACT: IMMEDIATELY FLUSH EYES THOROUGHLY WITH WATER, REMOVE ANY CONTACT LENSES, AND CONTINUE TO FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

SKIN CONTACT: IF ON SKIN, WASH WITH PLENTY OF SOAP AND WATER. IF IRRITATION OCCURS OR PERSISTS, GET MEDICAL ATTENTION.

INHALATION: IF REQUIRED, REMOVE TO FRESH AIR

INGESTION: RINSE MOUTH AND DRINK A GLASS OF WATER. IF SYMPTOMS PERSIST, CONSULT A PHYSICIAN. NEVER GIVE AN UNCONSCIOUS PERSON ANYTHING TO INGEST.

SECTION 5. FIRE AND EXPLOSION DATA

FLAMMABILITY: FLAMMABLE. SEE SECTION 14 FOR ANY SHIPPING CLASSIFICATIONS.

FLASH POINT: NOT APPLICABLE. AEROSOL FLAME EXTENSION GREATER THAN 18 INCHES OR 45 CM.

EXPLOSIVE LIMITS IN AIR: LOWER: 3.3% UPPER: 19%

PRODUCTS OF COMBUSTION: NOT AVAILABLE.

PRODUCT NAME: PROFESSIONAL LYSOL BRAND II DISINFECTANT SPRAY - ALL SCENTS (AEROSOL) DATE ISSUED: 08/08/2002

SECTION 5. FIRE AND EXPLOSION DATE (CONTINUED)

FIRE AND EXPLOSION HAZARDS: CONTENTS UNDER PRESSURE. DO NOT USE OR STORE NEAR HEAT OR OPEN FLAME. DO NOT PUNCTURE OR INCINERATE. EXPOSURE TO TEMPERATURES ABOVE 130 F (55 C) MAY CAUSE BURSTING.

FIRE FIGHTING MEDIA AND INSTRUCTIONS: WATER SPRAY, FOAM, DRY CHEMICAL OR CARBON DIOXIDE. USE MEDIA SUITABLE FOR SURROUNDING FIRE. USE WATER SPRAY TO COOL FIRE EXPOSED CONTAINERS.

SPECIAL FIRE FIGHTING INSTRUCTIONS: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING APPROPRIATE FOR FIGHTING A TYPICAL CHEMICAL FIRE. MOVE CONTAINERS AWAY FROM FIRE IF POSSIBLE AND SAFE TO DO SO. PROVIDE SHIELDING FOR VENTING, RUPTURING OR BURSTING CONTAINERS.

SECTION 6. ACCIDENTAL RELEASE MEASURES

ACCIDENTAL SPILL: SMALL SPILLS: SOAK UP ANY SPILLED LIQUID WITH AN INERT ABSORBENT MATERIAL AND DISPOSE OF IN AN APPROPRIATE WASTE CONTAINER. RINSE SURFACE RESIDUE AND FLUSH TO SINK OR SANITARY SEWER.

FOR LARGE SPILLS DUE TO RUPTURED CONTAINERS, ELIMINATE ALL SOURCES OF IGNITION AND VENTILATE THE AREA WITH EQUIPMENT RATED FOR USE IN FLAMMABLE ENVIRONMENTS. DIKE, CONTAIN AND COLLECT LIQUID AND STORE IN METAL CONTAINERS FOR DISPOSAL ACCORDING TO LOCAL, STATE OR FEDERAL REGULATIONS.

SECTION 7. HANDLING AND STORAGE

HANDLING AND STORAGE:

WARNING: FLAMMABLE. CONTENTS UNDER PRESSURE. CAUSES EYE IRRITATION. DO NOT SPRAY IN EYES, ON SKIN OR ON CLOTHING. KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. DO NOT EXPOSE TO HEAT OR STORE AT TEMPERATURES ABOVE 55 C (130 F) AS CONTAINER MAY BURST.

STORE IN ORIGINAL CONTAINER IN COOL, DRY AREAS INACCESSIBLE TO SMALL CHILDREN. DO NOT PUNCTURE OR INCINERATE CONTAINER. KEEP OUT OF REACH OF CHILDREN.

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION REQUIREMENTS: NONE REQUIRED UNDER NORMAL USE CONDITIONS. FOR OCCUPATIONAL SITUATIONS, USE SUFFICIENT VENTILATION TO KEEP HAZARDOUS INGREDIENTS BELOW THEIR THRESHOLD LIMIT VALUES (SEE SECTION #2).

EYE PROTECTION: NONE REQUIRED UNDER NORMAL USE CONDITIONS. WHEN HANDLING IN LARGE QUANTITIES OR RESPONDING TO EMERGENCY SITUATIONS, THE USE OF APPROPRIATE EYE PROTECTION IS RECOMMENDED. EMERGENCY RESPONDERS SHOULD WEAR FULL EYE AND FACE PROTECTION.

ITEM#: 10043362 10069604 10105178 40E9638 40R6169 40R8811 DATE: 06/16/06

M2005890 MATERIAL SAFETY DATA SHEET PAGE 3 OF 5

PRODUCT NAME: PROFESSIONAL LYSOL BRAND II DISINFECTANT SPRAY - ALL SCENTS (AEROSOL) DATE ISSUED: 08/08/2002

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION (CONTINUED)

SKIN PROTECTION: NONE REQUIRED UNDER NORMAL USE CONDITIONS. EMERGENCY RESPONDERS SHOULD WEAR IMPERMEABLE GLOVES.

RESPIRATORY PROTECTION: NONE REQUIRED FOR NORMAL RECOMMENDED USE, AVOID PROLONGED BREATHING OF VAPORS. A SELF CONTAINED BREATHING APPARATUS (SCBA) SHOULD BE USED BY EMERGENCY RESPONDERS TO AVOID INHALATION OF THE VAPORS WHICH MAY BE GENERATED BY THIS PRODUCT DURING SPILL CLEAN-UP OR FIRE SITUATIONS.

OTHER PROTECTION: EMERGENCY RESPONDERS SHOULD WEAR IMPERMEABLE CLOTHING AND FOOTWEAR WHEN RESPONDING TO A SITUATION WHERE CONTACT WITH THE LIQUID IS POSSIBLE.

WORK/HYGIENIC PRACTICES: WASHING WITH SOAP AND WATER AFTER USE IS RECOMMENDED AS GOOD HYGIENIC PRACTICE TO PREVENT POSSIBLE EYE IRRITATION FROM HAND CONTACT.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

DESCRIPTION: AEROSOL CONTAINER.
ODOR: VARIOUS SCENTS. SEE SECTION 1.
COLOR: CLEAR SPRAY MIST.
PH: 10 (BASIC.)
BOILING/CONDENSATION POINT: NOT AVAILABLE.
SPECIFIC GRAVITY: 0.835 @ 25 C
VAPOR PRESSURE: 95 - 105 PSIG
VAPOR DENSITY: GT 1 (CONCENTRATE)*
VISCOSITY: NOT AVAILABLE
SOLUBILITY: COMPLETE
PHYSICAL CHEMICAL COMMENTS: NOT AVAILABLE

SECTION 10. STABILITY AND REACTIVITY DATA

CHEMICAL STABILITY: THE PRODUCT IS STABLE.

CONDITIONS OF INSTABILITY: KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. DO NOT PUNCTURE OR INCINERATE CONTAINER. EXPOSURE TO TEMPERATURES ABOVE 130 F (55 C) MAY CAUSE BURSTING.

INCOMPATIBILITY WITH VARIOUS SUBSTANCES: STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON DIOXIDE, CARBON MONOXIDE, AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING THERMAL DECOMPOSITION.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

PRODUCT NAME: PROFESSIONAL LYSOL BRAND II DISINFECTANT SPRAY - ALL SCENTS (AEROSOL) DATE ISSUED: 08/08/2002

SECTION 11. TOXICOLOGICAL INFORMATION

EXPOSURE EFFECTS:

EYE CONTACT: CAUSES EYE IRRITATION.

SKIN CONTACT: NONE EXPECTED. MAY CAUSE SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT.

INHALATION: NONE EXPECTED.

INGESTION: INGESTION IS UNLIKELY THROUGH THE NORMAL ANTICIPATED USE OF THIS PRODUCT. INGESTION OF SMALL QUANTITIES IS NOT EXPECTED TO CAUSE ANY SIGNIFICANT ADVERSE EFFECTS. CONTAINS DENATURED ETHANOL; INGESTION MAY RESULT IN ETHANOL POISONING.

CARCINOGENICITY: NOT LISTED AS CARCINOGENIC BY OSHA, NTP OR IARC.

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY: NOT AVAILABLE.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND FEDERAL REGULATIONS.

CONTAINER DISPOSAL: REPLACE CAP AND DISCARD IN TRASH. DO NOT PUNCTURE OR INCINERATE. DO NOT REUSE EMPTY CONTAINER.

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION: ORM-D.
PROPER SHIPPING NAME: CONSUMER COMMODITY.
DOT IDENTIFICATION NUMBER: NOT APPLICABLE.
PACKING GROUP: NOT APPLICABLE.
MARITIME TRANSPORTATION: NOT APPLICABLE.
HAZARDOUS SUBSTANCES REPORTABLE QUANTITY: NOT APPLICABLE.
SPECIAL PROVISIONS FOR TRANSPORT: ORM-D: FOR US DOMESTIC SHIPMENTS ONLY.
TDG CLASSIFICATION: CONSUMER COMMODITY - TRANSBORDER CONSIGNMENT.
ADR CLASSIFICATION: NOT APPLICABLE.
IMDG CLASSIFICATION: AEROSOLS, CLASS 2.1 UN1950 - LIMITED QUANTITY.
IATA CLASSIFICATION: AEROSOLS, 2.1, UN1950, LIMITED QUANTITY.

PRODUCT NAME: PROFESSIONAL LYSOL BRAND II DISINFECTANT SPRAY - ALL SCENTS (AEROSOL) DATE ISSUED: 08/08/2002

SECTION 15. REGULATORY INFORMATION

FEDERAL AND STATE REGULATIONS: SARA TITLE III, SECTION 313 TOXIC CHEMICAL NOTIFICATION & RELEASE REPORTING: NONE

CALIFORNIA PROPOSITION 65: THIS PRODUCT CONTAINS THE FOLLOWING INGREDIENTS WHICH REQUIRE A WARNING UNDER THE SAFE DRINKING WATER & TOXIC ENFORCEMENT ACT: NONE

OTHER CLASSIFICATIONS:
WHMIS (CANADA): CLASS B-2: FLAMMABLE LIQUID WITH A FLASH POINT LOWER THAN 37.8 C (100 F).

NEW JERSEY RIGHT-TO-KNOW REGULATION: NEW JERSEY WORKER AND COMMUNITY RIGHT TO KNOW ACT: THIS EPA REGISTERED PRODUCT IS EXEMPT FROM THE LABELING REQUIREMENTS OF THE ABOVE ACT. N.J.A.C. 8:59-5.5#1.

PRODUCT NAME: AIRSTRIP PROFESSIONAL FLOOR STRIPPER DATE ISSUED: 03/11/2005

SECTION 11. TOXICOLOGICAL INFORMATION (CONTINUED)

INGESTION: HARMFUL IF SWALLOWED. MAY CAUSE BURNS TO MOUTH, THROAT AND STOMACH.

CHRONIC EFFECTS ON HUMANS: CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: BLOOD, KIDNEYS, LUNGS, LIVER, LYMPHATIC SYSTEM, UPPER RESPIRATORY TRACT, SKIN, CENTRAL NERVOUS SYSTEM (CNS), EYE, LENS OR CORNEA.

SECTION 12. ECOLOGICAL INFORMATION

PRODUCTS OF DEGRADATION: THESE PRODUCTS ARE CARBON OXIDES (CO, CO2) AND WATER, NITROGEN OXIDES (NO, NO2, ETC...), SULFUR OXIDES (SO2, SO3, ETC...). SOME METALLIC OXIDES.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: THE GENERATION OF WASTE SHOULD BE AVOIDED OR MINIMIZED WHENEVER POSSIBLE. AVOID DISPERSAL OF SPILLED MATERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS. DISPOSAL OF THIS PRODUCT, SOLUTIONS AND ANY BY-PRODUCTS SHOULD AT ALL TIMES COMPLY WITH THE REQUIREMENTS OF ENVIRONMENTAL PROTECTION AND WASTE DISPOSAL LEGISLATION AND ANY REGIONAL LOCAL AUTHORITY REQUIREMENTS.

WASTE CLASSIFICATION: UNUSED PRODUCT IS D002 (CORROSIVE).

CONSULT YOUR LOCAL OR REGIONAL AUTHORITIES.

SECTION 14. TRANSPORT INFORMATION

REGULATORY INFORMATION: DOT CLASSIFICATION

UN NUMBER: UN1719

PROPER SHIPPING NAME: CAUSTIC ALKALI LIQUIDS, N.O.S. (SODIUM HYDROXIDE, 2-AMINOETHANOL).

CLASS: 8

PACKING GROUP: II.

ADDITIONAL INFORMATION: LIMITED QUANTITY: YES
PACKAGING INSTRUCTION: PASSENGER AIRCRAFT
QUANTITY LIMITATION: 1 L
CARGO AIRCRAFT: QUANTITY LIMITATION: 30 L
SPECIAL PROVISIONS: B2, IB2, T11, TP2, TP27.

APPLIES ONLY DURING ROAD TRANSPORT

ANY VARIATION OF THE SHIPPING DESCRIPTION BASED ON THE PACKAGING IS NOT ADDRESSED.

PRODUCT NAME: AIRSTRIP PROFESSIONAL FLOOR STRIPPER DATE ISSUED: 03/11/2005

SECTION 15. REGULATORY INFORMATION

HCS CLASSIFICATION: COMBUSTIBLE LIQUID. CORROSIVE MATERIAL. TARGET ORGAN EFFECTS.

U.S. FEDERAL REGULATIONS:
SARA 302/304/311/312 EXTREMELY HAZARDOUS SUBSTANCES: NONE.
SARA 302/304 EMERGENCY PLANNING AND NOTIFICATION: NONE.

TSCA 8(B) INVENTORY: ALL MATERIALS ARE LISTED OR EXEMPT.

SARA 313:
FORM R- REPORTING REQUIREMENTS
PRODUCT NAME: 2-BUTOXYETHANOL CONCENTRATION: 24.75-24.975

CALIFORNIA PROP. 65: NO PRODUCTS WERE FOUND.

SECTION 16. OTHER INFORMATION

HAZARDOUS MATERIAL INFORMATION SYSTEM (U.S.A.)
HEALTH* 3
FIRE HAZARD 2
REACTIVITY 0
PERSONAL PROTECTION B

DATE OF ISSUE: 03/11/2005
RESPONSIBLE NAME: REGULATORY AFFAIRS
DATE OF PREVIOUS ISSUE: NO PREVIOUS VALIDATION.

NOTICE TO READER: THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT WITH RESPECT TO THE FORMULA USED TO MANUFACTURE THE PRODUCT IN THE COUNTRY OF ORIGIN. AS DATA, STANDARDS, AND REGULATIONS CHANGE, AND CONDITIONS OF USE AND HANDLING ARE BEYOND OUR CONTROL, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

MANUFACTURED BY:
Unisource Worldwide
6600 Governors Lake Parkway
Norcross, GA 30071

PRODUCT NAME: ALLSTAR SEPTOPHENE ANTIMICROBIAL LOTION SOAP
PRODUCT NUMBER: U15011
DATE ISSUED: 05/05/2000
SUPERSEDES:

24 HR. EMERGENCY NO.: 888-660-6737

HMIS RATING:
HEALTH - 1
FLAMMABILITY - 0
REACTIVITY - 0
PERSONAL PROTECTION - NA

1. PRODUCT

PRODUCT: ALLSTAR SEPTOPHENE ANTIMICROBIAL LOTION SOAP

2. HAZARDOUS (OR OTHER) INGREDIENTS

HAZARDOUS (OR OTHER) INGREDIENTS	CAS NUMBER	OSHA PEL	ACGIH TLV	% RANGE
ETHANOLAMINE	141-43-5	TWA: 3 PPM	TWA: 3 PPM	LT 4

OSHA STANDARDS AND SARA TITLE III DO NOT APPLY TO THIS COSMETIC PRODUCT. COSMETICS AND UNLISTED INGREDIENTS ARE NOT CONSIDERED HAZARDOUS OR REPORTABLE BY ANY FEDERAL (OSHA, WHMIS, SARA, EPCRA, RCRA), ANY STATE OR ANY OTHER RIGHT-TO-KNOW REGULATIONS.

3. HEALTH HAZARD DATA

THIS SKIN CARE COSMETIC IS NOT HAZARDOUS OR TOXIC UNDER NORMAL USE CONDITIONS.

ROUTES OF ENTRY: ( )INHALATION ( )SKIN (X)EYE (X)INGESTION

CARCINOGENICITY: (X)NOT LISTED ( )NTP ( )IARC ( )OSHA ( )ACGIH

OVEREXPOSURE:
MEDICAL CONDITIONS AGGRAVATED: NONE KNOWN.
POTENTIAL EFFECTS: MAY CAUSE EYE IRRITATION.

PRODUCT NAME: ALLSTAR SEPTOPHENE ANTIMICROBIAL LOTION SOAP
PRODUCT NUMBER: U15011
DATE ISSUED: 05/05/2000
SUPERSEDES:

4. EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: FLUSH IMMEDIATELY AND THOROUGHLY WITH WATER FOR 15 MINUTES. IF CONDITION WORSENS OR IRRITATION PERSISTS, CONTACT A PHYSICIAN.

INGESTION: DO NOT INDUCE VOMITING. IF VOMITING OCCURS, LOWER THE PERSON'S HEAD BELOW THEIR KNEES TO AVOID ASPIRATION. CONTACT PHYSICIAN OR POISON CONTROL CENTRE.

5. FIRE FIGHTING OR EXPLOSION DATA

FLASH POINT, F/C: NA
(PMCC METHOD)

FLAMMABILITY LIMITS -
LEL, %: NA
UEL, %: NA

EXTINGUISHING MEDIA: (X)WATER FOG (X)ALCOHOL FOAM (X)CO2 (X)DRY CHEMICAL ( )OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS: NONE KNOWN

SPECIAL FIRE FIGHTING PROCEDURES: NONE KNOWN

NFPA 704 RATING: 0 0 0 NA

6. ACCIDENTAL RELEASE MEASURES

NOT REPORTABLE UNDER CERCLA OR SARA TITLE III SECTION 304.

IF MATERIAL IS RELEASED OR SPILLED: PICK UP LARGE SPILLS OR ABSORB ON INERT MATERIAL. COLLECT IN SEALED APPROVED CONTAINER FOR DISPOSAL. FLUSH AREA WITH WATER TO CLEAN UP SMALL AMOUNTS AND REDUCE POSSIBLE SLIPPERY FLOOR HAZARD.

7. PRECAUTIONS FOR SAFE HANDLING AND USE

STORE AWAY FROM THE REACH OF SMALL CHILDREN

PERSONAL PRECAUTIONS: AVOID CONTACT WITH THE EYES. DO NOT TAKE INTERNALLY.

STORAGE AND OTHER PRECAUTIONS: STORE AT AMBIENT INDOOR CONDITIONS. KEEP CONTAINERS SEALED.

PRODUCT NAME: ALLSTAR SEPTOPHENE ANTIMICROBIAL LOTION SOAP
DATE ISSUED: 05/05/2000
SUPERSEDES:
PRODUCT NUMBER: U15011

8. CONTROL AND PROTECTION MEASURES

COMPLY IF APPLICABLE EXPOSURE LIMITS SHOWN IN SECTION 2 ABOVE.

TLV (ACGIH): NOT APPLICABLE
PEL (OSHA): NA
TWA: NONE
STEL: NONE
SKIN NOTE: NA

VENTILATION -
MECHANICAL: NOT REQUIRED IF USED AS DIRECTED.
LOCAL: NOT REQUIRED.
SPECIAL: NOT REQUIRED.

PERSONAL PROTECTION -
RESPIRATORY: NOT REQUIRED IF USED AS DIRECTED.
EYES: NOT REQUIRED.
SKIN: NOT REQUIRED.
PROTECTIVE EQUIPMENT OR CLOTHING: NOT REQUIRED.

WORK/HYGIENIC PRACTICE: ROUTINE PERSONAL HYGIENE.

9. PHYSICAL AND CHEMICAL CHARACTERISTICS

BOILING POINT, F/C: N/D
MELTING POINT, F/C: ND
VAPOR PRESSURE (MM HG): ND
SPECIFIC GRAVITY (H2O=1): 1.02
VAPOR DENSITY (AIR=1): ND
EVAPORATION RATE (H2O=1): ND
VOLATILITY, %: GT 75 (0 VOC)
PH (UNDILUTED): 8.8-9.6
SOLUBILITY IN WATER: COMPLETE
VISCOSITY, CPS: 3,000-10,000
COLOR/CLARITY/FORM & ODOR: WHITE OPAQUE LIQUID, BABY POWDER FRAGRANCE

10. STABILITY AND REACTIVITY DATA

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: NONE KNOWN

CONDITIONS TO AVOID: NONE KNOWN

INCOMPATIBILITY (AVOID): NONE KNOWN

DECOMPOSITION OR BY-PRODUCTS: COMBUSTION MAY PRODUCE CO, CO2, NOX.

PRODUCT NAME: ALLSTAR SEPTOPHENE ANTIMICROBIAL LOTION SOAP
DATE ISSUED: 05/05/2000
SUPERSEDES:
PRODUCT NUMBER: U15011

11. TOXICOLOGICAL INFORMATION

ALSO SEE SECTION 3

NO ACUTE TOXIC EFFECTS EXPECTED BY INHALATION, INGESTION, OR CONTACT DURING ANTICIPATED HANDLING AND USAGE. NO LONG TERM CHRONIC EFFECTS.

IRRITANT: NOT A PRIMARY IRRITANT.

SENSITIZATION: NONE KNOWN

SYNERGISM: NONE KNOWN

SKIN LD50: NOT APPLICABLE

ORAL LD50: ND

INHALATION LC50: NOT APPLICABLE

12. ECOLOGICAL INFORMATION

NOT EXPECTED TO CAUSE ADVERSE ENVIRONMENTAL EFFECTS. NOT CONSIDERED ENVIRONMENTAL HARMFUL FROM NORMAL DILUTION, EXPECTED USAGE AND TYPICAL DRAINAGE TO SEWERS, SEPTIC SYSTEMS, AND TREATMENT PLANTS.

POTENTIAL -
BIODEGRADATION: ND
OXYGEN DEPLETION: ND
BIOCONCENTRATION: ND

AFFECTS -
AQUATIC ORGANISMS: ND
WASTE PLANT MICROBES: ND
BOD: NE
COD: NE

13. DISPOSAL GUIDELINES

DISPOSE ACCORDING TO LOCAL, STATE/PROVINCE, FEDERAL & INTERNATIONAL REGULATIONS. NOT A CHARACTERISTIC HAZARDOUS OR LISTED WASTE BY USERS & RCRA (40CFR PART 261).

PRODUCT NAME: ALLSTAR SEPTOPHENE ANTIMICROBIAL LOTION SOAP
DATE ISSUED: 05/05/2000
SUPERSEDES:
PRODUCT NUMBER: U1S011

14. TRANSPORT REGULATIONS

NOT HAZARDOUS BY DOT, HM-181, TDG, IATA, & IMO REGULATIONS
SHIPPING CLASS: NOT REGULATED AS HAZARDOUS
LABEL: NOT APPLICABLE
UN/NA/PIN: NOT APPLICABLE

15. REGULATORY CONSIDERATIONS

NOT REGULATED BY DOT, OSHA, WHMIS, TSCA, SARA, OR STATES.

COSMETICS & INGREDIENTS ARE NOT CONSIDERED HAZARDOUS OR REPORTABLE BY ANY FEDERAL (TSCA, OSHA, WHMIS, SARA, CERCLA, EPCRA, RCRA), ANY STATE, OR ANY OTHER RIGHT-TO-KNOW LAWS MAKE EXCEPTIONS, EXCLUSIONS AND EXEMPTIONS FOR COSMETIC PRODUCTS THAT ARE REGULATED BY AND LABELED ACCORDING TO THE FOOD AND DRUG ADMINISTRATION (FDA).

TSCA; DSL, EINECS: COMPONENTS OF THE PRODUCT ARE LISTED, EXEMPTED OR EXCLUDED FROM THESE REQUIREMENTS.

SARA TITLE III -
SEC. 302 EHS, TPQ: NA
SEC. 304 EHS, RQ: NA
SEC. 311/312: NA
SEC. 313: NONE

USA STATE REGULATIONS -
REPORTABLE SUBSTANCES PRESENT AT NOTIFICATION QUANTITIES: NA AND NONE KNOWN.

INTERNATIONAL HAZARD CLASS -
CANADA (WHMIS OR TDG): NOT A CONTROLLED PRODUCT
EEC: NOT REGULATED

16. OTHER RELEVANT INFORMATION

NO DATA AVAILABLE UNLESS SPECIFICALLY INDICATED BELOW.

DATE: 05/05/2000

NOTICE: THE INFORMATION HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE AS OF THE DATE OF PREPARATION OF THIS MATERIAL SAFETY DATA SHEET. HOWEVER, NO WARRANTY OR REPRESENTATION, EXPRESSED OR IMPLIED, IS MADE AS TO THE ACCURACY OR COMPLETENESS OF THE FOREGOING DATA AND SAFETY INFORMATION. THE USER ASSUMES ALL LIABILITY FOR ANY DAMAGE OR INJURY RESULTING FROM ABNORMAL USE FROM ANY FAILURE TO ADHERE TO RECOMMENDED PRACTICES OR FROM ANY HAZARDS INHERENT IN THE NATURE OF THE PRODUCT.

NA = NOT APPLICABLE, ND = NOT DATA, NE = NOT ESTABLISHED.

FORM COMPLIES OSHA FORM 174, EEC, & DRAFT ANSI FORMATS.

DISTRIBUTED BY:
Unisource Worldwide
6600 Governors Lake Parkway
Norcross, GA 30071

PRODUCT NAME: BEHOLD
PRODUCT NUMBER:
DATE ISSUED: 05/23/2006
SUPERSEDES:

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: BEHOLD
PRODUCT USE: FURNITURE POLISH

SUPPLIER: ECOLAB, INC. PROFESSIONAL PRODUCTS DIVISION
370 N. WABASHA ST.
ST. PAUL, MN 55102
1-800-247-5362

CODE: 907253

DATE OF ISSUE: 05/23/2006

EMERGENCY HEALTH INFORMATION: 1-800-328-0026
OUTSIDE UNITED STATES AND CANADA CALL: 1-651-222-5352 (IN USA)

SECTION 2. COMPOSITION, INFORMATION ON INGREDIENTS

NAME	CAS NUMBER	% BY WEIGHT
NAPHTHA (PETROLEUM), HYDROTREATED HEAVY	64742-48-9	5-20
ISOBUTANE	75-28-5	5-20
PROPANE	74-98-6	1-5

SECTION 3. HAZARDS IDENTIFICATION

PHYSICAL STATE: LIQUID (AEROSOL)
EMERGENCY OVERVIEW: CAUTION!

CONTENTS UNDER PRESSURE. MAY CAUSE RESPIRATORY TRACT AND EYE IRRITATION. CAN CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION. AVOID ALL POSSIBLE SOURCES OF IGNITION (SPARK OR FLAME). KEEP AWAY FROM HEAT AND DIRECT SUNLIGHT. DO NOT PUNCTURE, INCINERATE OR STORE THE CONTAINER AT TEMPERATURES ABOVE 49 C (120 F) OR IN DIRECT SUNLIGHT. AVOID BREATHING VAPOR OR MIST. KEEP AWAY FROM HEAT, SPARKS AND FLAME. KEEP CONTAINER CLOSED. USE ONLY WITH ADEQUATE VENTILATION. WASH THOROUGHLY AFTER HANDLING.

SECTION 3. HAZARDS IDENTIFICATION (CONTINUED)

POTENTIAL ACUTE HEALTH EFFECTS

EYES: MODERATELY IRRITATING TO EYES.

SKIN: NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS.

INHALATION: MODERATELY IRRITATING TO THE RESPIRATORY SYSTEM. HIGH VAPOR CONCENTRATION CAN CAUSE HEADACHES, DIZZINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS.

INGESTION: MAY BE HARMFUL IF SWALLOWED.

SEE TOXICOLOGICAL INFORMATION (SECTION 11)

SECTION 4. FIRST AID MEASURES

EYE CONTACT: IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES WITH COOL RUNNING WATER. REMOVE CONTACT LENSES AND CONTINUE FLUSHING WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. GET MEDICAL ATTENTION IF IRRITATION PERSISTS.

SKIN CONTACT: FLUSH CONTAMINATED SKIN WITH PLENTY OF WATER. WASH CLOTHING BEFORE REUSE.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. GET MEDICAL ATTENTION.

INGESTION: RINSE MOUTH; THEN DRINK ON OR TWO GLASSES OF WATER. DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL ATTENTION IMMEDIATELY.

SECTION 5. FIRE FIGHTING MEASURES

FLASH POINT: 23 TO 37.8 C (CLOSED CUP)

FLAMMABLE LIMITS: LOWER: 0.9% UPPER: 7%

FIRE FIGHTING MEDIA AND INSTRUCTIONS: IN CASE OF FIRE, USE WATER SPRAY, (FOG), FOAM, DRY CHEMICAL OR CO2.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS: CONTAINERS MAY EXPLODE WHEN HEATED. RUPTURED CYLINDERS MAY ROCKET. FIRE-FIGHTERS SHOULD WEAR APPROPRIATE PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS (SCBA) WITH A FULL FACE-PIECE OPERATED IN POSITIVE PRESSURE MODE.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: IMMEDIATELY CONTACT EMERGENCY PERSONNEL. ELIMINATE ALL IGNITION SOURCES. KEEP UNNECESSARY PERSONNEL AWAY. USE SUITABLE PROTECTIVE EQUIPMENT (SECTION 8). DO NOT TOUCH OR WALK THROUGH SPILLED MATERIAL.

ENVIRONMENTAL PRECAUTIONS: AVOID DISPERSAL OF SPILLED MATERIAL AND RUNOFF AND CONTACT WITH SOIL, WATERWAYS, DRAINS AND SEWERS.

METHODS FOR CLEANING UP: IF EMERGENCY PERSONNEL ARE UNAVAILABLE, CONTAIN SPILLED MATERIAL. FOR SMALL SPILLS ADD ABSORBENT (SOIL MAY BE USED IN THE ABSENCE OF OTHER SUITABLE MATERIALS) SCOOP UP MATERIAL AND PLACE IN A SEALED, LIQUID PROOF CONTAINER FOR DISPOSAL. FOR LARGE SPILLS DIKE SPILLED MATERIAL OR OTHERWISE CONTAIN MATERIAL TO ENSURE RUNOFF DOES NOT REACH A WATERWAY. PLACE SPILLED MATERIAL IN AN APPROPRIATE CONTAINER FOR DISPOSAL.

SECTION 7. HANDLING AND STORAGE

HANDLING: AVOID CONTACT WITH EYES. USE ONLY WITH ADEQUATE VENTILATION. AVOID BREATHING VAPOR OR MIST. KEEP AWAY FROM HEAT SPARKS AND FLAME. TO AVOID FIRE, ELIMINATE IGNITION SOURCES. WASH THOROUGHLY AFTER HANDLING.

STORAGE: KEEP OUT OF THE REACH OF CHILDREN. STORE IN A SEGREGATED AND APPROVED AREA. KEEP CONTAINER TIGHTLY CLOSED AND SEALED UNTIL READY FOR USE. AVOID ALL POSSIBLE SOURCES OF IGNITION (SPARK OR FLAME) STORE BETWEEN 0 AND 40 C.

SECTION 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

ENGINEERING CONTROLS: PROVIDE EXHAUST VENTILATION OR OTHER ENGINEERING CONTROLS TO KEEP THE AIRBORNE CONCENTRATIONS OF VAPORS BELOW THEIR RESPECTIVE OCCUPATIONAL EXPOSURE LIMITS.

PERSONAL PROTECTION

EYES: NO PROTECTIVE EQUIPMENT IS NEEDED UNDER NORMAL USE CONDITIONS.

HANDS: NO PROTECTIVE EQUIPMENT IS NEEDED UNDER NORMAL USE CONDITIONS.

SKIN: NO PROTECTIVE EQUIPMENT IS NEEDED UNDER NORMAL USE CONDITIONS.

RESPIRATORY: AVOID BREATHING VAPOR OR MIST.

NAME	EXPOSURE LIMITS
ISOBUTANE	ACGIH TLV (UNITED STATES, 1/2004). TWA: 1000 PPM 8 HOUR(S). FORM: ALL FORMS ACGIH TLV (UNITED STATES, 1/2004). TWA: 1000 PPM 8 HOUR(S). FORM: ALL FORMS OSHA PEL (UNITED STATES, 8/1997). TWA: 1800 MG/M3 8 HOUR(S). FORM: ALL FORMS TWA: 1000 PPM 8 HOUR(S). FORM: ALL FORMS

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: LIQUID (AEROSOL)
COLOR: WHITE
ODOR: FRAGRANCE-LIKE.
PH: NOT AVAILABLE.
SPECIFIC GRAVITY: 0.93 (WATER = 1)
SOLUBILITY: PARTIALLY SOLUBLE IN COLD WATER, HOT WATER.

SECTION 10. STABILITY AND REACTIVITY

STABILITY: THE PRODUCT IS STABLE.
REACTIVITY: SLIGHTLY REACTIVE TO REACTIVE WITH OXIDIZING AGENTS.

SECTION 11. TOXICOLOGICAL INFORMATION

POTENTIAL ACUTE HEALTH EFFECTS

EYES: MODERATELY IRRITATING TO EYES.

SKIN: NO KNOWN SIGNIFICANT EFFECTS OR CRITICAL HAZARDS.

INHALATION: MODERATELY IRRITATING TO THE RESPIRATORY SYSTEM. HIGH VAPOR CONCENTRATIONS CAN CAUSE HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS.

INGESTION: MAY BE HARMFUL IF SWALLOWED.

CHRONIC EFFECTS ON HUMANS: CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS: THE NERVOUS SYSTEM, CENTRAL NERVOUS SYSTEM (CNS).

SECTION 12. ECOLOGICAL INFORMATION

PRODUCTS OF DEGRADATION: THESE PRODUCTS ARE CARBON OXIDES (CO, CO2) AND WATER.

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: DO NOT PUNCTURE OR INCINERATE CONTAINER.

WASTE CLASSIFICATION: UNUSED PRODUCT IS D001 (IGNITABLE)

CONSULT YOUR LOCAL OR REGIONAL AUTHORITIES.

'RODUCT NAME: BEHOLD DATE ISSUED: 05/23/2006

.ECTION 14. TRANSPORT INFORMATION

:EGULATORY INFORMATION: DOT CLASSIFICATION

IN NUMBER:

'ROPER SHIPPING NAME: CONSUMER COMMODITY

ILASS: ORM-D

'ACKING GROUP:

ADDITIONAL INFORMATION:

APPLIES ONLY DURING ROAD TRANSPORT

ANY VARIATION OF THE SHIPPING DESCRIPTION BASED ON THE PACKAGING IS NOT ADDRESSED.

SECTION 15. REGULATORY INFORMATION

HCS CLASSIFICATION:
IRRITATING MATERIAL
TARGET ORGAN EFFECTS

U.S. FEDERAL REGULATIONS:
SARA 302/304/311/312 EXTREMELY HAZARDOUS SUBSTANCES: NONE.
SARA 302/304 EMERGENCY PLANNING AND NOTIFICATION: NONE.

TSCA 8(B) INVENTORY: ALL MATERIALS ARE LISTED OR EXEMPT..

CALIFORNIA PROP. 65: NO PRODUCTS WERE FOUND.

SECTION 16. OTHER INFORMATION

HAZARDOUS MATERIAL INFORMATION SYSTEM (U.S.A.)
HEALTH 1
FIRE HAZARD 2
REACTIVITY 0
PERSONAL PROTECTION

DATE OF ISSUE: 05/23/2006
RESPONSIBLE NAME: REGULATORY AFFAIRS
DATE OF PREVIOUS ISSUE: NO PREVIOUS VALIDATION

NOTICE TO READER: THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT WITH RESPECT TO THE FORMULA USED TO MANUFACTURE THE PRODUCT IN THE COUNTRY OF ORIGIN. AS DATA, STANDARDS, AND REGULATIONS CHANGE, AND CONDITIONS OF USE AND HANDLING ARE BEYOND OUR CONTROL, NO WARRANTY, EXPRESS OR IMPLIED, IS MADE AS TO THE COMPLETENESS OR CONTINUING ACCURACY OF THIS INFORMATION.

Product Name: **PLANIBOND EBA PART A** Description: **Crack Filler**

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPLOSION, EXPOSURE OR ACCIDENT CONTACT THE FOLLOWING NUMBERS:

EMERGENCY 24 HOUR NUMBERS: (USA) CHEMTREC 1-800-424-9300 (Canada) CANUTEC 1-613-996-6666
GENERAL INFORMATION NUMBERS: (USA) 1-954-246-8888 (Canada) 1-450-662-1212
CONSUMER STATEMENT:
DANGER : Vapor Harmful. Skin, eye and respiratory irritant. Harmful of fatal if swallowed.
WORK AND HYGIENE PRACTICE:
Remove contaminated clothing immediately. Wash hands, after each use and before eating, drinking, or using toiletries. Minimize contact of product on skins.

I - GENERAL INFORMATION

MANUFACTURER:

USA and Puerto Rico	Canada
MAPEI CORPORATION	MAPEI, INC.
1144 East Newport Center Drive	2900 Francis-Hughes Avenue
Deerfield Beach, FL 33442	Laval, QC H7L 3J5
Ph: (954) 246-8888	Ph: (450) 662-1212

MSDS PREPARED BY:
Regulatory Affairs Department - MAPEI North America

REVISION DATE: 05-08-17
For most current MSDS, download document from: www.mapei.com

II - PHYSICAL CHARACTERISTICS

Calculated VOC (See below.)	0 g/L
Boiling Point	N/A
Vapor Pressure (mmHg)	N/A
Vapor Density (AIR=1)	N/A
Specific Gravity (H20=1)	1, 17
Melting/Freezing Point (F)	N/A
Evaporation Rate (Butyl Acetate=1)	N/A
Solubility in water	Negligible
pH (paste/liquid)	N/A
Appearance and Odor	White liquid. Epoxy odor.

(VOC per CA South Coast Air Quality Management District, Rule 1168)

III - HAZARD ASSESSMENT

Hazardous Components (specific chemical identity; common names):	% Percent (Optional)
Bisphenol A (cas# 25085-99-8)	60-100%
Glycidyl ether of ortho cresol (cas# 2210-79-9)	10-30%

For California (Proposition 65): This product contains no chemicals reportable under proposition 65.
All ingredients are listed within the US TSCA and Canadian DSL.
(USA) - HMIS (Hazardous Materials Identification System) Rating: Health - 2 Fire - 0 Reactivity - 1 Protection - E
(Canada) - WHMIS (Workplace Hazardous Materials Information System) Classifications: D2B;

IV - TRANSPORTATION

By GROUND - USA and Puerto Rico (DOT):
Same as Canada
By GROUND - Canada (TDG):
Not regulated
By SEA (IMDG):
Call MAPEI
By AIR (IATA):
Call MAPEI

NOTE: Classifications utilizing the term "LIMITED QUANTITY" at the end of a transportation mode's shipping description allows the product container to be packaged within a sturdy outer container (over pack) in lieu of a UN container for that mode of transportation.

V - FIRE AND EXPLOSION HAZARD DATA

Flash Point - N/E Lower Explosive Limit (%) - N/E Upper Explosive Limit (%) - N/E
Unusual Fire and Explosion Hazards - Some decomposition products may be harmful.
Extinguishing Media:
Product will not burn until all water content has evaporated. Water spray, carbon dioxide, dry chemical or foam.
Special Fire Fighting Procedures:
Wear standard fire fighting gear with self-contained breathing apparatus.

Product Name: **PLANIBOND EBA PART A** Description: **Crack filler**

VI - REACTIVITY DATA

Stability: Stable Conditions to Avoid: None known.
Incompatibility (Materials to Avoid): Strong oxidizing agents, strong acids, and strong bases.
Hazard Decomposition of By-products: Carbon monoxide, carbon dioxide, oxides of nitrogen, and other unidentified organic compounds.
Polymerization: Will Not Occur Conditions to Avoid: None known.

VII - HEALTH HAZARD DATA AND FIRST AID

Routes of entry during normal usage: Inhalation? YES Skin? YES Ingestion? YES
Health Hazards:
Acute: Inhalation or contact can cause irritation to eyes, skin, nose or throat to sensitive person. If ingested can cause nausea, vomiting, gripping and diarrhea
Chronic: See section III of the MSDS
Carcinogenicity: NTP - **No** IARC - No OSHA – No

Signs and Symptoms of Overexposure:
Nausea; vomiting; nose and throat irritation; eye irritation and skin irritation
Medical Conditions That Can Be Aggravated by Exposure:
Allergies, skin and respiratory disorders. Product sensitivity.

VIII - EMERGENCY AND FIRST AID PROCEDURE

Eyes - Flush with cool water for 15 minutes while holding eyelid open. If irritation persists, seek medical attention immediately.
Skin - Avoid contact with skin. Remove contaminated clothing. Wash affected area thoroughly with soap and water. If irritation persists, seek immediate medical attention.
Inhalation - Remove to fresh air. If not breathing, trained personnel should initiate artificial respirations and immediate medical attention should be obtained.
Ingestion - Do not induce vomiting. Do not give anything by mouth to an unconscious person. Seek medical attention immediately.

IX - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken if Material is Leaked or Spilled:
While using appropriate protective equipment, place spilled material in poly drum, or container required by local disposal company, and store in a safe place till material can be disposed of in accordance with regulations.
Waste Disposal Method:
Dispose of in accordance with local, state, and federal regulations governing your location.
Precautions to be taken during Handling and Storage:
Store in a manner to prevent dusty conditions
Other Precautions:
Avoid prolonged skin contact and dusty conditions.

X - CONTROL MEASURES

Respiratory Protection:
During work with dry product it is recommended to wear a NIOSH approved particulate filter respirator rated N95
Ventilation: Local Exhaust - Use in WELL VENTILATED areas only. Mechanical - As necessary to minimize dusty conditions.
Special - N/A Other - N/A
Eye Protection - Safety glasses or goggles as necessary to prevent eye contact.
Protective Gloves - Impervious. (Nitrile, rubber, or better)
Other Protective Equipment - As needed to minimize contact with skin.

Product Name: **PLANIBOND EBA PART B** Derscription: **Crack filler**

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPLOSION, EXPOSURE OR ACCIDENT CONTACT THE FOLLOWING NUMBERS:

EMERGENCY 24 HOUR NUMBERS: (USA) CHEMTREC 1-800-424-9300 (Canada) CANUTEC 1-613-996-6666
GENERAL INFORMATION NUMBERS: (USA) 1-954-246-8888 (Canada) 1-450-662-1212
CONSUMER STATEMENT:
DANGER : Toxic. Corrosive. Vapor Harmful. Skin, eye and respiratory irritant. Harmful of fatal if swallowed.
WORK AND HYGIENE PRACTICE:
Remove contaminated clothing immediately. Wash hands, after each use and before eating, drinking, or using toiletries. Minimize contact of product on skins.

I - GENERAL INFORMATION

MANUFACTURER:

USA and Puerto Rico	Canada
MAPEI CORPORATION	MAPEI, INC.
1144 East Newport Center Drive	2900 Francis-Hughes Avenue
Deerfield Beach, FL 33442	Laval, QC H7L 3J5
Ph: (954) 246-8888	Ph: (450) 662-1212

MSDS PREPARED BY:
Regulatory Affairs Department - MAPEI North America

REVISION DATE: 05-08-17
For most current MSDS, download document from: www.mapei.com

II - PHYSICAL CHARACTERISTICS

Calculated VOC (See below.)	5 g\L
Boiling Point	N/A
Vapor Pressure (mmHg)	N/A
Vapor Density (AIR=1)	N/A
Specific Gravity (H20=1)	1,68
Melting/Freezing Point (F)	N/A
Evaporation Rate (Butyl Acetate=1)	N/A
Solubility in water	Negligible
pH (paste/liquid)	N/A
Appearance and Odor	Grey paste. Amine odor.

(VOC per CA South Coast Air Quality Management District, Rule 1168)

III - HAZARD ASSESSMENT

Hazardous Components (specific chemical identity; common names):	OSHA (PEL)	ACGIH (TLV-TWA)	Other Limits Recommended	% Percent (Optional)
Resin (cas# 68424-41-9; 2855-13-2; 112-57-2)	N/E	N/E		30-60%
Resin (cas# 111-40-0; 68585-27-3; 80-05-7)	N/E	N/E		1-5%
2,4,6 Trisdimethylaminomethyl phenol (cas# 97-72-2)	N/E	N/E		1- 5%

For California (Proposition 65): This product contains no chemicals reportable under proposition 65.
All ingredients are listed within the US TSCA and Canadian DSL.
(USA) - HMIS (Hazardous Materials Identification System) Rating: Health - 3 Fire - 0 Reactivity - 1 Protection - H
(Canada) - WHMIS (Workplace Hazardous Materials Information System) Classifications: D1B;D2B; E

IV - TRANSPORTATION

By GROUND - USA and Puerto Rico (DOT):
Same as Canada
By GROUND - Canada (TDG):
Corrosive liquid, NOS;
Class 8, UN 1760; PG II
By SEA (IMDG):
Call MAPEI
By AIR (IATA):
Call MAPEI
NOTE: Classifications utilizing the term "LIMITED QUANTITY" at the end of a transportation mode's shipping description allows the product container to be packaged within a sturdy outer container (over pack) in lieu of a UN container for that mode of transportation.

V - FIRE AND EXPLOSION HAZARD DATA

Flash Point - N/E Lower Explosive Limit (%) - N/E Upper Explosive Limit (%) - N/E
Unusual Fire and Explosion Hazards - Some decomposition products may be harmful.
Extinguishing Media:
Product will not burn until all water content has evaporated. Water spray, carbon dioxide, dry chemical or foam.
Special Fire Fighting Procedures:
Wear standard fire fighting gear with self-contained breathing apparatus.

Product Name: **PLANIBOND EBA PART B** Description: **Crack Filler**

VI - REACTIVITY DATA

Stability: Stable Conditions to Avoid: None known.
Incompatibility (Materials to Avoid): Strong oxidizing agents, strong acids, and strong bases.
Hazard Decomposition of By-products: Carbon monoxide, carbon dioxide, oxides of nitrogen, and other unidentified organic compounds.
Polymerization: Will Not Occur Conditions to Avoid: None known.

VII - HEALTH HAZARD DATA AND FIRST AID

Routes of entry during normal usage: Inhalation? YES Skin? YES Ingestion? YES
Health Hazards:
Acute: Inhalation or contact can cause irritation to eyes, skin, nose or throat to sensitive person. If ingested can cause nausea, vomiting, gripping and diarrhea
Chronic: See section III of the MSDS
Carcinogenicity: NTP - **No** IARC - No OSHA – No

Signs and Symptoms of Overexposure:
Nausea; vomiting; nose and throat irritation; eye irritation and skin irritation
Medical Conditions That Can Be Aggravated by Exposure:
Allergies, skin and respiratory disorders. Product sensitivity.

VIII - EMERGENCY AND FIRST AID PROCEDURE

Eyes - Flush with cool water for 15 minutes while holding eyelid open. If irritation persists, seek medical attention immediately.
Skin - Avoid contact with skin. Remove contaminated clothing. Wash affected area thoroughly with soap and water. If irritation persists, seek immediate medical attention.
Inhalation - Remove to fresh air. If not breathing, trained personnel should initiate artificial respirations and immediate medical attention should be obtained.
Ingestion - Do not induce vomiting. Do not give anything by mouth to an unconscious person. Seek medical attention immediately.

IX - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken if Material is Leaked or Spilled:
While using appropriate protective equipment, place spilled material in poly drum, or container required by local disposal company, and store in a safe place till material can be disposed of in accordance with regulations.
Waste Disposal Method:
Dispose of in accordance with local, state, and federal regulations governing your location.
Precautions to be taken during Handling and Storage:
Store in a manner to prevent dusty conditions
Other Precautions:
Avoid prolonged skin contact and dusty conditions.

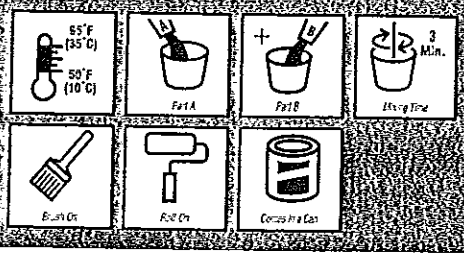
X - CONTROL MEASURES

Respiratory Protection:
During work with dry product it is recommended to wear a NIOSH approved particulate filter respirator rated N95
Ventilation: Local Exhaust - Use in WELL VENTILATED areas only. Mechanical - As necessary to minimize dusty conditions.
Special - N/A Other - N/A
Eye Protection - Safety glasses or goggles as necessary to prevent eye contact.
Protective Gloves - Impervious. (Nitrile, rubber, or better)
Other Protective Equipment - As needed to minimize contact with skin.

MAPEI

Planibond EBA

Epoxy bonding agent and primer



DESCRIPTION

Planibond EBA is a two-component, multipurpose epoxy bonding agent and primer. *Planibond EBA* is nonshrinking, 100%-solids and moisture-insensitive. (Note: This is not a moisture-reduction barrier coating.) It is used primarily as a bonding agent for MAPEI self-leveling materials, screeds and repair mortars.

Planibond EBA also is used as a bonding agent for adhesion of fresh concrete and mortars to cured concrete and epoxy-primed steel; a grout used to install anchors, bolts, dowels, rods, steel bars and faceplates; an epoxy repair mortar (for interior use only) with the addition of select aggregates; a structural crack filler in gravity feed and injection applications; corrosion protection and coating for steel reinforcing bars; and a structural adhesive for properly prepared concrete, masonry, steel and approved plywood surfaces. *Planibond EBA* meets ASTM C881 requirements.

USES

Planibond EBA is a multipurpose product used for a variety of applications, which include:

- Primer and bonding agent for adhesion of fresh concrete, toppings, underlayments and screed mortars to cured concrete and epoxy-primed steel.
- Grout used to install anchors, bolts, dowels, rods, steel bars and faceplates.
- Epoxy repair mortar (for interior use only) with the addition of select aggregates.
- Structural crack filler in gravity feed or injection applications.
- Corrosion protection and coating for steel reinforcing bars.
- Structural adhesive for properly prepared concrete, masonry, metal and wood surfaces.

RECOMMENDED SUBSTRATES

- Concrete, masonry, metal and wood substrates. Concrete and masonry substrates must be at least 28 days old. Hydrostatic pressure conditions and vapor transmission cannot exceed 3 lbs. per 1,000 sq. ft. per 24 hours (1,36 kg per 92,9 m² per 24 hours) using a calcium chloride test (reference ASTM F1869), and retained moisture should be less than 2.5% using a calcium carbide test.
- Do not apply *Planibond EBA* or install MAPEI underlayments, toppings or screed mortars over particleboard, chipboard, hardboard (Masonite), Lauan panels, metal, asbestos, gypsum-based patching materials or any other nondimensionally stable materials.

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

TECHNICAL NOTES

- *Planibond EBA* can only be used above the temperature of 50°F (10°C) and below 95°F (35°C). For temperatures above 85°F (29°C), follow ACI hot-weather application guidelines to ensure a successful installation.
- *Planibond EBA* is a two-component product, with no additional ingredients required. Do not add water or thin with solvents.
- Always apply fresh concrete, toppings, underlayments and screed mortars to *Planibond EBA* while it is tacky. Do not let material harden before application, or *Planibond EBA* will act as a bond-breaker and prevent adhesion to the substrate.

Planibond EBA

INSTRUCTIONS

1. Surface Preparation

1.1 All engineer-approved subfloors must be structurally sound, stable and solid.

1.2 Thoroughly clean surface of any substance that could interfere with the bond of the installation material, including dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, sealers, curing compounds, form release agents, laitance, loose toppings, foreign substances and adhesive residue.

1.3 Mechanically clean and prepare by shotblasting, scarifying, or other engineer-approved methods. Remove all dust, debris and other contaminants prior to application.

1.4 Concrete and masonry substrates must be at least 28 days old. Substrate hydrostatic pressure conditions and vapor transmission must not exceed 3 lbs. per 1,000 sq. ft. per 24 hours (1,36 kg per 92,9 m² per 24 hours). Use a calcium chloride test (reference ASTM F1869) prior to application.

1.5 Use a calcium carbide test to ensure retained moisture of the substrate is less than 2.5%.

1.6 Concrete substrate and ambient room temperature must be a minimum of 50°F (10°C) and not exceed 95°F (35°C) prior to application. Temperatures must be maintained within this range for a minimum of 72 hours after the installation of *Planibond EBA* and finished material.

1.7 For porous concrete subject to "out-gassing," the release of trapped air from concrete, and if a project does not permit the 48-hour waiting time required before priming with Ultraprime L, use *Planibond EBA*. Prime the properly prepared surface at a 20 wet-mil (0,5 mm) thickness. Toppings, underlayments and screed mortars must be placed onto the *Planibond EBA* while it is wet and tacky to ensure a successful installation.

1.8 Out-gassing, as a result of a moisture vapor transmission exceeding 3 lbs. per 1,000 sq. ft. per 24 hours (1,36 kg per 92,9 m² per 24 hours), must first be treated by installing a suitable moisture-reduction barrier. Apply a small test area to ensure compatibility with the moisture-reduction barrier before general installation. Once the barrier is cured, apply a single coat of Ultraprime WE for toppings or underlayments and *Planibond EBA* for concrete, screed mortars or repair mortars. Apply *Planibond EBA* at a 20 wet-mil (0,5 mm) thickness. Toppings, underlayments and screed mortars must be placed onto the *Planibond EBA* while it is tacky to ensure a successful installation.

2. Mixing

2.1 Stir individual components separately before combining.

2.2 Using a low-speed mixer (at about 300 to 1,200 rpm) and a "Jiffy" mixing paddle, mix Part A with Part B together thoroughly for 3 minutes. Stop after about a minute to scrape excess off sides of the mixing container. Mix to a smooth, homogenous consistency. Do not mix at high speeds, which can trap air within the mixed material.

2.3 Only mix as much material as can be applied within the pot life (about 30 minutes). Warm temperatures and/or mixing a large volume of material at a time can greatly reduce the pot life of epoxies.

3. Application

3.1 Make sure the concrete substrate and ambient room temperatures are at least 50°F (10°C) and below 95°F (35°C) prior to application. Temperatures must be maintained within this range for a minimum of 72 hours after the installation of primer and finished material. In cooler conditions, use indirect auxiliary heaters to maintain ambient and substrate temperatures within the required range. For temperatures above 85°F (29°C), follow ACI hot-weather application guidelines to ensure a successful installation.

3.2 **Application as a bonding agent and primer**

3.2.1 Pour mixed primer onto the floor. Do not turn the mixing container upside-down; some unmixed material may remain from the container's bottom, sides and seams.

3.2.2 Apply the primer onto the substrate with a brush, roller, broom, trowel or spray pump, working material into the profiled substrate. Completely cover all areas of substrate that will receive the concrete, underlayment topping, screed mortar or repair mortar.

3.2.3 Apply *Planibond EBA* at a 20 wet-mil (0,5 mm) thickness.

3.2.4 Concrete, toppings, underlayments, screed mortars and repair mortars must be placed onto the *Planibond EBA* while it is tacky to ensure a successful installation.

3.3 **Application as a protective coating for reinforced steel**

3.3.1 Brush or spray-apply two, 10 wet-mil (0,3 mm) coats of *Planibond EBA* onto the reinforcing steel. Allow the first coat to dry to the touch before applying the second coat.

3.4 **Application as an adhesive for anchors, bolts, dowels, rods, reinforcing steel, base plates and as a crack filler**

3.4.1 Apply "neat" for applications up to 1/4" (6 mm) in thickness.

3.4.2 For applications up to 1/2" (12 mm), add a selected dry aggregate (1-1/2 parts by volume of aggregate [70 to 80% silica retained on sieves #30 to #50]).

3.4.3 For base-plate applications, use extended material up to 1-1/2" (38 mm) thick. Pour and work material from one side, allowing it to flow to the other side of the base plate. This will allow for displacement of air and full contact to the bottom side of the base plate.

MAPEI

3.4.4 For anchoring, drill a hole 1/4" (6 mm) larger than the anchor itself (example: 3/4" [19 mm] bar, drill 1" [2,5 cm] hole). This will allow for a 1/8" (3 mm) annular space around the bar. The depth of the hole should be 10 to 15 times larger than the bar diameter. Brush and blow out the hole with oil-free compressed air several times, removing dust and bond-inhibiting materials. Pour enough material into the hole so that it will become flush with the surface once the bar is inserted. Insert the bar slowly into the hole while slowly twisting in one direction.

3.5 **Application as an epoxy repair mortar for concrete substrates (interior use only)**

3.5.1 Prime the area to be repaired with "neat" mixed epoxy.

3.5.2 For mortar, add up to 8 parts by volume of selected dry aggregate to 1 part of mixed neat *Planibond EBA*. While the prime coat is still tacky, apply the epoxy repair mortar up to 2" (5 cm) per lift. Allow material to harden between lifts, apply next lift (primer and mortar) within 24 hours.

4. Cleaning

Clean tools and protective gear with warm to hot water and a citrus-base cleaner. Cured material can only be mechanically removed.

NOTICE

Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith. Any claim shall be deemed waived unless made in writing to us within fifteen (15) days from date it was, or reasonably should have been, discovered.

MAPEI

Headquarters of the Americas

1144 East Newport Center Drive
Deerfield Beach, Florida 33442
Phone: (954) 246-8888
Fax: (954) 246-8800

Customer Service

1-800-42-MAPEI (1-800-426-2734)

Technical Services

1-800-992-6273 (U.S. and Puerto Rico)
1-800-361-9309 (Canada)

Additional Information

Website: www.mapei.com

MAPEI – USA

Ft. Lauderdale, Florida
Fredericksburg, Virginia
Garland, Texas
San Bernardino, California
South River, New Jersey
Tempe, Arizona
West Chicago, Illinois

MAPEI – Canada

Laval, Quebec
Delta, British Columbia
Brampton, Ontario

MAPEI – Argentina

Buenos Aires

MAPEI – Puerto Rico

Dorado

MAPEI – Venezuela

Caracas

For the most current product data, visit www.mapei.com

MAPEI®

TECHNICAL DATA (material and hardening conditions at 73°F [23°C] and 50% relative humidity)

References: Conforms to and exceeds ASTM C881, Type 1 and 2, Grade 2, Class B and C

Shelf life ..... 2 years
Storage ..... Store in cool, dry place. Protect from freezing.
Health and safety ..... Consult the Material Safety Data Sheet (MSDS) for safe-handling instructions.

Pot life
- at 50°F (10°C) ..... 2 hours
- at 73°F (23°C) ..... 50 minutes
- at 86°F (30°C) ..... 20 minutes

Normal working time
- at 50°F (10°C) ..... 5 hours
- at 73°F (23°C) ..... 3 hours
- at 86°F (30°C) ..... 2 hours

Final cure at 68°F (20°C) ..... 15 days

Compressive strength (ASTM D695)
- 7 days ..... 11,360 psi (78,5 MPa)
- 28 days ..... 12,420 psi (85,7 MPa)

Modulus of elasticity (ASTM D695)
- 7 days ..... 352,250 psi (2,4 GPa)
- 28 days ..... 359,750 psi (2,5 GPa)

Flexural strength (ASTM D790) (modulus of rupture)
- 14 days ..... 3,307 psi (22,8 MPa)

Tangent flexural modulus of elasticity (ASTM D790)
- 14 days ..... 261,000 psi (1,8 GPa)

Bond strength (ASTM C882)
- 2 days (moist cure), Type 1 ..... 1,044 psi (7,2 MPa)
- 14 days (moist cure), Type 1 ..... 1,943 psi (13,4 MPa)
- 14 days (moist cure), Type 2 ..... 1,812 psi (12,5 MPa)
- 14 days (dry cure) ..... 2,248 psi (15,5 MPa)

Pull-out strength (rupture of concrete)
- 3 days ..... 450 psi (3,10 MPa)
- 7 days ..... 464 psi (3,2 MPa)
- 14 days ..... 495 psi (3,41 MPa)
- 28 days ..... 550 psi (3,79 MPa)

Tensile strength (ASTM D638)
- 14 days, Type 1 ..... 1.6%
- 14 days, Type 2 ..... 1%

Modulus of elasticity/tension (ASTM D638)
- 14 days, Type 1 ..... 377,000 psi (2,6 GPa)
- 14 days, Type 2 ..... 247,000 psi (1,7 GPa)

Shear strength (ASTM D732) .....
- 14 days ..... 4,220 psi (29,1 MPa)

Water absorption (ASTM D570) (2 hours boiling)
- 7 days, total water absorption 0.4%

Flexural resistance heat deflection temperature (ASTM D648)
14 days – deflection temperature
- Fiber stress loading = 72.5 psi (0,5 MPa) ..... 132°F (56°C)
- Fiber stress loading = 261 psi (1,8 MPa) ..... 125°F (52°C)

PACKAGING

Kits: 2 U.S. gals. (7,57 L); 10 U.S. gals. (37,9 L)

COVERAGE (as a bonding adhesive)

Smooth surface ..... 100 sq. ft. per U.S. gal. (2,45 m² per L)
Rough surface ..... 50 to 75 sq. ft. per U.S. gal. (1,25 to 1,84 m² per L)

Planibond™ EBA

MAPEI

Product Name: ***Ultraplan® M20 Plus***

Product Description: **Quick-Setting, Self-Leveling Concrete Topping and Underlayment**

IN THE EVENT OF A CHEMICAL EMERGENCY INVOLVING A SPILL, LEAK, FIRE, EXPLOSION, EXPOSURE OR ACCIDENT, CONTACT THE FOLLOWING NUMBERS:

EMERGENCY 24 HOUR NUMBERS: (USA) CHEMTREC 1-800-424-9300 (Canada) CANUTEC 1-613-996-6666

CONSUMER STATEMENT:

DANGER - CORROSIVE. SKIN, EYE AND RESPIRATORY IRRITANT. CONTAINS KNOWN OR PROBABLE HUMAN CARCINOGEN. HARMFUL OR FATAL IF SWALLOWED.

WORK AND HYGIENE PRACTICE:

Remove contaminated clothing immediately. Wash hands, after each use and before eating, drinking, or using toiletries. Minimize contact of product on skins.

I - GENERAL INFORMATION

MANUFACTURER:

USA and Puerto Rico	Canada
MAPEI CORPORATION	MAPEI INC.
1144 East Newport Center Drive	2900 Francis-Hughes Avenue
Deerfield Beach, FL 33442	Laval, QC H7L 3J5
Ph: (954) 246-8888	Ph: (450) 662-1212

MSDS PREPARED BY:

Regulatory Affairs Department - MAPEI North America

REVISION DATE (YYYY/MM/DD): 2006/12/13

For most current MSDS, download document from: www.mapei.com

II - PHYSICAL CHARACTERISTICS

Calculated VOC (See below.)	**0 g/L**
Boiling Point	N/A
Vapor Pressure (mmHg)	N/A
Vapor Density (AIR=1)	N/A
Specific Gravity (H20=1)	2,00 - 2,30
Melting/Freezing Point (F)	N/A
Evaporation Rate (Butyl Acetate=1)	N/A
Solubility in water	Soluble
pH (paste/liquid)	11,0 - 13,0
Appearance and Odor	Gray or white powder. General cement odor.

(VOC per CA South Coast Air Quality Management District, Rule 1168)

III - HAZARD ASSESSMENT

Hazardous Components (specific chemical identity; common names):	OSHA (PEL)	ACGIH (TLV-TWA)	Other Limits Recommended	% Percent (Optional)
Silica Sand, Crystalline Quartz (CAS# 14808-60-7)	10mg/m³	0,1mg/m³	N/E	15 - 40
Calcium Aluminate (CAS# 12042-68-1)	15mg/m³	10mg/m³	N/E	15 - 40
Calcium Carbonate (CAS# 1317-65-3)	5mg/m³	10mg/m³	N/E	10 - 30

For California (Proposition 65): This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive toxicity.

All ingredients are listed within or exempted from US TSCA and Canadian DSL.

(USA) - HMIS (Hazardous Materials Identification System) Rating: Health - 3 Fire - 0 Reactivity - 0 Protection - E "*" = chronic effect

(Canada) - WHMIS (Workplace Hazardous Materials Information System) Classifications: E and D2A

IV - TRANSPORTATION

By GROUND - USA and Puerto Rico (DOT):
Not Regulated

By GROUND - Canada (TDG):
Not Regulated

By SEA (IMDG):
Not Regulated

By AIR (IATA):
Not Regulated

V - FIRE AND EXPLOSION HAZARD DATA

Flash Point: N/A Lower Explosive Limit (%) - N/A Upper Explosive Limit (%) - N/A

Unusual Fire and Explosion Hazards - Some decomposition products may be harmful.

Extinguishing Media:

Will not burn except under extreme temperatures. Water spray, carbon dioxide, dry chemical or foam.

Special Fire Fighting Procedures:

Wear standard fire fighting gear with self-contained breathing apparatus.

VI - REACTIVITY DATA

Stability: Stable **Conditions to Avoid:** None known.

Incompatibility (Materials to Avoi Strong oxidizing agents, strong acids, and strong bases.

Hazard Decomposition of By-product Carbon monoxide, carbon dioxide, oxides of nitrogen, and other unidentified organic compounds.

Polymerization: Will Not Occur **Conditions to Avoid:** None known.

VII - HEALTH HAZARD DATA

Routes of entry during normal usage: Inhalation? YES Skin? YES Ingestion? NO

Health Hazards:

Acute: Inhalation or contact can cause irritation to eyes, skin, nose or throat to sensitive people.

Chronic: Repeated (long term) inhalation of dust may result in silicosis.

Carcinogenicity: NTP - YES IARC - NO OSHA - NO *Crystalline Silica - NTP Rating 1*

Signs and Symptoms of Overexposure:

Dry skin, dermatitis, dry cough, irritated eyes from dust or any other potential adverse condition related to the alkaline nature of wet cement.

Medical Conditions That Can Be Aggravated by Exposure:

Allergies, skin and respiratory disorders. Product sensitivity.

VIII - EMERGENCY AND FIRST AID PROCEDURE

Eyes: Flush with cool water for 15 minutes while holding eyelid open. If irritation persists, seek medical attention immediately.

Skin: Avoid contact with skin. Remove contaminated clothing. Wash affected area thoroughly with soap and water. If irritation persists, seek immediate medical attention.

Inhalation: Remove to fresh air if allowable concentrations of any of the hazardous ingredients are exceeded. If not breathing, trained personnel should initiate artificial respirations and immediate medical attention should be obtained.

Ingestion: Do not induce vomiting. Do not give anything by mouth to an unconscious person. Seek medical attention immediately.

IX - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken if Material is Leaked or Spilled:

Wear protective equipment. Contain by diking with inert absorbent materials and put into an approved waste container.

Waste Disposal Method: Dispose in accordance to local environmental regulation.

Precautions to be taken during Handling and Storage:

Store in a manner to prevent dusty conditions.

Other Precautions: Avoid prolonged skins contact.

X - CONTROL MEASURES

Respiratory Protection:

During work with dry product it is recommended to wear a NIOSH/MSHA approved respirator in absence of proper environmental control. Engineering or administrative controls should be implemented to reduce exposure to dust.

Ventilation:	Local Exhaust -	Use in WELL VENTILATED areas only.	Mechanical -	Use only intrinsically safe devices.
	Special -	N/A	Other -	N/A

Eye Protection: Safety glasses or goggles as necessary to prevent eye contact.

Protective Gloves: Impervious. (Nitrile, rubber, or better)

Other Protective Equipment: As needed to minimize contact with skin.

N/A="Not Applicable" N/E="Not Established"

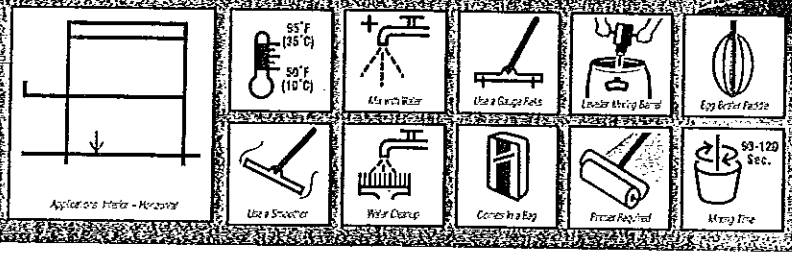
The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of this data or the results to be obtained from the use thereof. MAPEI assumes no responsibility for personal injury or property damage to vendees, users, or third parties caused by the material. All users assume all risks associated with the use of the material.

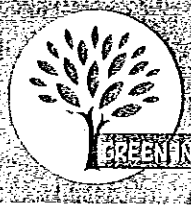
MAPEI

MAPEI HCT

Ultraplan® M20 Plus

Quick-setting, self-leveling concrete topping and underlayment





DESCRIPTION

Ultraplan M20 Plus is an HCT™ (High-Hydrated Cement Technology)-based, quick-setting, self-leveling, self-drying material. It is specially formulated for the resurfacing and construction of interior horizontal surfaces as a light-traffic industrial or commercial wear topping or underlayment for floor coverings.

USES

- *Ultraplan M20 Plus* can be used for fast-track resurfacing and construction of horizontal wear surfaces. This light gray product is designed to accept architectural stains as well as industrial/commercial sealers and coatings (verify compatibility and follow manufacturers' instructions).
- *Ultraplan M20 Plus* can be used for quick-turnaround leveling, smoothing and repairing of interior floors before the installation of floor coverings. Ceramic tile and natural stone can be installed in as little as 3 to 4 hours after application. Floor coverings – carpet, vinyl sheet goods, vinyl tile, vinyl composition tile (VCT), homogenous PVC, rubber, engineered wood plank, and polymer floor coatings and toppings – can be installed 16 to 24 hours after application.
- *Ultraplan M20 Plus* provides a palette for designing unique and artistic floors for retail stores, mall corridors and entrances, showroom floors, restaurant floors, hotel lobbies, loft apartments ... nearly anywhere a unique, creative floor is desired. *Ultraplan M20 Plus* can provide a nearly unlimited range of interesting effects when mixed with integral colorants and such unique materials as marble aggregates and metals. The surface created by *Ultraplan M20 Plus* yields an excellent result when finished by diamond polishing.
- *Ultraplan M20 Plus* is tough enough for industrial warehouse floors and loading docks subject to continual light vehicular and foot traffic (see "Technical Notes" section).

RECOMMENDED SUBSTRATES

- Properly prepared, sound, dimensionally stable, fully cured concrete at least 28 days old and free from hydrostatic pressure. Consult the floor-covering or coating manufacturer's recommendations regarding the maximum allowable Moisture Vapor Emission Rate (MVER) and retained moisture content in substrate. For substrates with an MVER exceeding 5 lbs. per 1,000 sq. ft. (2,27 kg per 92,9 m²) per 24 hours using a calcium chloride test (reference ASTM F1869), install *Planiseal™ MRB* moisture-reduction barrier. (See Technical Data Sheets [TDSs] and installation instructions for *Planiseal MRB*.)

  Note: The maximum allowable MVER is always determined by the complete system installed, including primers, underlayments/toppings, floor coverings and sealers. The wide variety of substrate conditions, floor coverings and adhesives requires careful analysis of the intended final floor use, as well as compliance with each manufacturer's recommendations for MVER, retained moisture content and adhesive selections. Always install several correctly located test areas to ensure compatibility, bond strength and performance of the complete flooring system. (Test areas may need extended conditioning time to ensure desired performance.)

- Engineer-approved plywood subfloors may be resurfaced with *Ultraplan M20 Plus*. Subfloors must be properly prepared, bonded, and free from dirt and dust (see Item 1.7 under "Surface Preparation").
- Ceramic tile, VCT, cement terrazzo and thin layers of old cutback adhesive residue that are well-bonded and dimensionally stable. Surfaces must be properly prepared, bonded, primed, sound, stable, and free from dirt and dust.
- Steel decking that is sound, stable, free of bond-breaking materials and properly primed with *Planibond® EBA* may be surfaced with *Ultraplan M20 Plus*.

  Note: To ensure installation success, install properly located test areas to verify substrate compatibility, bond strength and suitability of the system for its intended use.
- Do not install *Ultraplan M20 Plus* over particleboard, chipboard, oriented strand board (OSB), Masonite, Lauan, metal, asbestos, gypsum-based patching materials or any other nondimensionally stable materials.

Contact MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

TECHNICAL NOTES

- *Ultraplan M20 Plus* is quite fluid once mixed and can be installed easily from featheredge to 2" (5 cm) in a single lift. For rubber-wheel traffic, the minimum thickness is 1/2" to 2" (12 mm to 5 cm).
- *Ultraplan M20 Plus* has a compressive strength greater than 2,800 psi (19,3 MPa) after one day and 4,800 psi (33,1 MPa) after 28 days.
- *Ultraplan M20 Plus*'s cured surface accepts virtually any acid-based, acrylic-based or colloidal-based stains and a wide variety of sealers, as well as epoxy and urethane coatings. (Perform mockup tests to verify optimal time for staining, sealing or coating.) Review the "Recommended Substrates" section on this TDS.
- Due to variances in cements, *Ultraplan M20 Plus* may exhibit slight color change from one manufacturing location to another, and from lot to lot. To minimize this effect, apply *Ultraplan M20 Plus* from the same manufacturing location and in consecutive batch numbers on a single floor when used as a topping.
- Before application of *Ultraplan M20 Plus*, always properly prepare the surface and prime it with the appropriate MAPEI primer. See the "MAPEI Primers" chart on this TDS and the respective current TDSs for the desired primer.
- *Ultraplan M20 Plus* should only be used for interior applications. For exterior applications, use a MAPEI exterior-grade topping.
- *Ultraplan M20 Plus* can only be used between the temperatures of 50°F and 95°F (10°C and 35°C). In cooler conditions, use indirect auxiliary heaters to maintain ambient and substrate temperatures within the required range. Ensure that auxiliary heaters are exhausted externally, particularly if they give off carbon monoxide and other noxious fumes that could contaminate a prepared surface and be a health hazard. Maintain this temperature range for at least 72 hours after applying *Ultraplan M20 Plus*. For temperatures above 85°F (29°C), follow ACI hot-weather application guidelines to ensure a successful installation.
- Provide for expansion and control joints where specified, including the perimeter of the room, columns, supports and equipment pedestals. Do not bridge expansion and control joints. Ensure that such joints are honored completely through the *Ultraplan M20 Plus* and primer. Expansion and control joint cuts in *Ultraplan M20 Plus* should be at least 1/4" (6 mm) wide. Where control or expansion joints do not exist in the substrate, provide for them in the system.
- Do not mix *Ultraplan M20 Plus* with *Ultraplan M20*.

INSTRUCTIONS

1. Surface Preparation

1.1 All substrates must be indoor, structurally sound, stable, solid and dry. Substrates must be free of deflection, having a deflection rating of at least L/360 (L/720 for installations involving natural stone), taking into consideration both live and dead loads. *Ultraplan M20 Plus* may not be used where consistently exposed to water, or where intermittently or permanently high levels of MVER are present. The presence of water or a high MVER will compromise the performance of the flooring system.

1.2 Thoroughly clean the surface of all substances that could interfere with the bond of the installation material or product performance. These include, but are not limited to, dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, sealers, curing compounds, form release agents, laitance, loose toppings, foreign substances and adhesive residue.

1.3 Concrete surfaces must be mechanically profiled and prepared by shotblasting, sandblasting, water-jetting, scarifying, diamond-grinding or other engineered-approved methods (reference ICRI CSP 3 standards for acceptable profile height).

1.4 After cleaning and mechanically profiling the substrate, test for MVER (calcium chloride test reference ASTM F1869). *Ultraplan M20 Plus* is an underlayment for use with other finished floor systems (such as resilient, VCT and ceramic). Always follow manufacturers' recommendations regarding the maximum allowable

moisture content and MVER before installation. See the "Recommended Substrates" section in this TDS as well as the *Planiseal™ MRB* TDS for details regarding MVER conditions and treatments.

1.5 Fill in deep areas, holes and cracks with appropriate concrete restoration materials, especially when installing on a second-story floor or higher where fluid could leak to a floor below. Use an appropriate MAPEI substrate-patching material for deep repairs and fast-track applications.

1.6 Always prime the prepared surface with a MAPEI primer before the application of *Ultraplan® M20 Plus*. Review the "MAPEI Primers" chart on this TDS.

1.6.1 Do not apply primer over standing water.

1.6.2 Apply *Ultraplan M20 Plus* only when the primer is in its recommended state as defined in the primer's TDS.

1.6.3 Some substrates may be more porous than others, which can require specific application of the primer. Refer to the primer's TDS or contact MAPEI's Technical Services Department for application recommendations.

1.6.4 When using *Planiseal MRB* to reduce the MVER of a substrate, ensure that the correct primer has been selected. See the "MAPEI Primers" chart on this TDS or contact MAPEI's Technical Services Department for details.

1.7 *Ultraplan M20 Plus* can be used over subfloors of engineer-approved plywood or oriented strand board (OSB) in accordance with the Tile Council of America's F185-05 specification. Subfloors must be properly prepared, bonded, and free from dirt and dust. When applying MAPEI underlayments to plywood flooring, mechanically fasten *Mapelath™* or diamond mesh on top of the primed surface (meeting the requirements of ASTM C847) before application of *Ultraplan M20 Plus*. Refer to the current *Mapelath* TDS for further installation instructions.

1.8 For *Ultraplan M20 Plus* to be installed over properly prepared ceramic tile, VCT, cement or epoxy terrazzo, or small amounts of old cutback adhesive residue, the surface must be properly prepared, bonded, free of dirt and dust, and primed. Prime with the appropriate primer; refer to the "MAPEI Primers" chart of this TDS.

1.9 When priming with *Planibond® EBA*, *Ultraplan M20 Plus* must be placed into the *Planibond EBA* while it is tacky to ensure a successful installation. See the current TDS for *Planibond EBA*.

2. Mixing

2.1 General mixing

Into a clean mixing container (typically a pail measuring at least 5 U.S. gals. [18.9 L]), pour the required amount of cool, clean potable water. If available water is not cool, chill to 70°F (21°C). Add *Ultraplan M20 Plus* powder while slowly stirring. Mix water and *Ultraplan M20 Plus* powder at a mixing ratio of 5.5 to 5.8 U.S. qts. (5,20 to 5,49 L) of water per 50-lb. (22,7-kg) bag of *Ultraplan M20 Plus*.

Upon combining all of the water and the single bag of *Ultraplan M20 Plus*, begin mixing material together with a high-speed drill (at about 800 rpm) to a homogenous, lump-free consistency. This typically takes from 90 to 120 seconds.

Properly mixed *Ultraplan M20 Plus* should not exhibit bleed or signs of water marks from the smoother on the finished surface. The mixing ratio must remain consistent. For warm-weather mixing and application, follow ACI guidelines. Do not overwater material. For best results, use the *MAPEI Self-Leveling Tool Kit*.

2.2 Barrel mixing

Using the appropriate mixing ratio above, mix using a high-speed mixer (at about 1,200 rpm) with an "egg-beater" mixing paddle. Typically, this mixing procedure involves two bags of *Ultraplan M20 Plus* with the correct water ratio referenced above per bag. Mix to a homogenous, lump-free consistency for about 90 to 120 seconds. Do not overmix. Overmixing or moving the mixer up and down during the mixing process could cause air entrapment, which could shorten the pot life or cause pinholing during application and curing.

2.3 Pump mixing

Ultraplan M20 Plus can be mechanically mixed, using the appropriate mixing ratio above, with a continuous mixer and pump (with at least 140 ft. [42,7 m] of hose) or a batch mixer and pump (with at least 110 ft. [33,5 m] of hose). Adhere to the pump manufacturer's specifications. Mixer and pump must be in good working condition, and periodic cleaning of pumping equipment is required per the manufacturer's instructions. Pressure-test the rotor and stator pump before mixing. Use a mesh screen "sock" at the end of the hose to catch any foreign material that could enter the hopper of the mixer. To ensure a suitable mix and flow, test mixed material from the pump hose's end in a small test area before general application.

Note: Cool-weather conditions may require longer mixing or additional hose length to ensure the best product performance.

3. Application

3.1 Before installation, close all doors, windows and ventilation. Tape gaps and cracks under doors and around windows to prevent drafts. Adjust ventilation system to prevent air movement across surface. Protect areas from direct sunlight.

3.2 Make sure concrete substrate and ambient room temperatures are between 50°F and 95°F (10°C and 35°C) before application. In large applications, allow for indirect air circulation to dissipate humidity created by leveler application. Temperatures must be maintained within this range for at least 72 hours after the installation of *Ultraplan M20 Plus*. In cooler conditions, use indirect auxiliary heaters to maintain ambient and substrate temperatures within the required range. For temperatures above 85°F (29°C), follow ACI hot-weather application guidelines to ensure a successful installation. Review the seventh point in the "Technical Notes" section of this TDS.

3.3 For the best results, work as a team to provide a continuous flow of wet material, which will help to prevent trapping air or creating a cold joint.

3.4 Set the width of the pour at a distance that is ideal for maintaining a wet edge throughout placement, and in consideration of expansion joints. Quickly pour or pump *Ultraplan M20 Plus* onto the properly prepared and primed surface in a ribbon pattern. If a wet edge cannot be maintained, reduce the width of the pour.

3.5 *Ultraplan M20 Plus* has an approximate working time of 15 minutes at 73°F (23°C), and is recommended for application at depths of 1/4" to 2" (6 mm to 5 cm). *Ultraplan M20 Plus* can be applied in small areas from featheredge (or at least 1/2" [12 mm] for vehicular rubber-wheeled traffic) to 2" (5 cm) in a single application. Apply enough material to adequately cover high spots.

3.6 Shortly after placing the *Ultraplan® M20 Plus*, spread the material with a MAPEI Gauge Rake to assist in gauging out the *Ultraplan M20 Plus* to the desired depth. After achieving the desired depth, smooth the surface with a MAPEI Smoother to obtain an even surface.

3.7 For extended applications, pre-place 1/4" to 3/8" (6 to 10 mm) clean, nonreactive aggregate over the primed surface at no more than half of the total pour depth. Pour *Ultraplan M20 Plus* over placed aggregate, and rake aggressively to ensure full contact and bond with substrate. Immediately pour 1/4" (6 mm) of *Ultraplan M20 Plus* over the raked aggregate to provide a smooth, level surface. Alternately, aggregate (up to 30% by weight) can be added directly to *Ultraplan M20 Plus* during mixing.

Note: Use only clean, stable aggregates. Do not use limestone or other potentially reactive aggregates for extension.

3.8 Protect the surface from contaminants until the final flooring installation is complete. Sealers and coatings will protect the surface, serving as a wear surface protecting the *Ultraplan M20 Plus* from contaminants and optimizing surface integrity.

3.9 *Ultraplan M20 Plus* quickly hardens, within 2 to 3 hours and is ready to accept installation of ceramic tile and natural stone in as little as 3 to 4 hours (moisture-sensitive stone may require more curing time). Floor coverings – such as carpet, vinyl sheet goods, vinyl tile, VCT, homogenous PVC, rubber and engineered wood plank – can typically be installed 16 to 24 hours after application. Protect the surface from contaminants until the final flooring installation is complete. All the above statements are subject to real-time job-site temperatures and humidity conditions.

4. Curing

4.1 *Ultraplan M20 Plus* is self-curing; do not use a damp-curing method, or curing or sealing compounds.

4.2 Protect *Ultraplan M20 Plus* from excessive heat and draft conditions during curing; turning off all forced ventilation and radiant-heating systems. Protect the installation for up to 24 hours after completion.

4.3 Avoid walking on the installed surface for at least 2 to 3 hours after installation, depending upon temperature and humidity conditions.

4.4 Protect *Ultraplan M20 Plus* from traffic, dirt and dust from other trades until the final floor sealer or coating has been installed and completely cured. When used for repairing a concrete surface, *Ultraplan M20 Plus* should not be left with an exposed surface. Cover with a final wear surface.

4.5 Do not expose *Ultraplan M20 Plus* to rolling dynamic loads, such as fork lifts or scissor lifts, for at least 48 hours after installation.

4.6 *Ultraplan M20 Plus* can be stained, sealed or coated 24 hours after application. Follow the stain, sealer or coating manufacturer's recommendations. Test all surface treatments on a small sample area, before application, to ensure the desired results. Verify that the moisture content meets the floor-covering and coating manufacturers' specifications.

5. Cleaning

Wash hands and tools with water promptly before material hardens. Cured material must be mechanically removed.

TECHNICAL DATA (based on 73°F [23°C] and 50% relative humidity)

***Ultraplan M20 Plus* (before mixing)**

Physical state	Powder
Color	Light gray
Shelf life	6 months in original bag, in a dry, heated and covered area
Flammability	
Flame spread	0
Fuel contribution	0
Smoke development	0
Health and safety	Consult the Material Safety Data Sheet (MSDS) for safe-handling instructions.

***Ultraplan M20 Plus* (mixed)**

Mixing ratio	Water to *Ultraplan M20 Plus* (powder) = 5.5 to 5.8 U.S. qts. per 50 lbs. (5,20 to 5,49 L per 22,7 kg)
Density	128 lbs. per cu. ft. (2,06 kg per L)
pH	11
Application temperature range	50°F to 95°F (10°C to 35°C)
Working time	About 15 minutes
Final set	2 to 3 hours
Time required before installation of tile and stone	4 to 6 hours, depending on temperature and humidity
Time required before installation of floor covering or coating	16 to 24 hours, depending on temperature and humidity
Compressive strength – ASTM C109 (CAN/CSA-A5)	
1 day	> 2,800 psi (19,3 MPa)
7 days	> 4,000 psi (27,6 MPa)
28 days	> 4,800 psi (33,1 MPa)
Flexural strength – ASTM C348 (CAN/CSA-A23.2-8C)	
1 day	> 715 psi (4,93 MPa)
7 days	> 1,145 psi (7,90 MPa)
28 days	> 1,280 psi (8,83 MPa)
Pullout strength (rupture of concrete) (CAN/CSA-A23.2-6B)	
7 days	> 360 psi (2,48 MPa)
28 days	> 440 psi (3,03 MPa)
Abrasion resistance – ASTM D4060 / Taber H22-500 g, 200 cycles	
After 28 days	0,50 grams of loss
Volume change – ASTM C157	
Dry-cured	-0.05% (28 days)

PACKAGING
Bag: 50 lbs. (22,7 kg)

APPROXIMATE COVERAGES* per thickness (per 50 lbs. [22,7 kg])

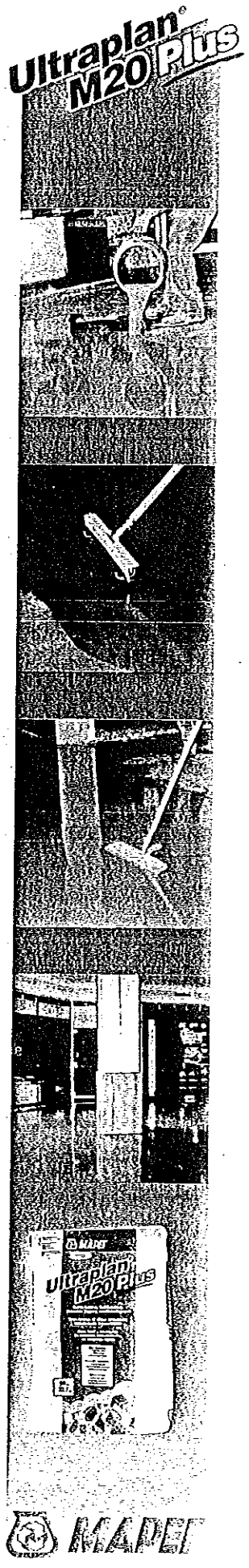
1/8" (3 mm)	48 sq. ft. (4,46 m²)
1/4" (6 mm)	24 sq. ft. (2,23 m²)
1/2" (12 mm)	12 sq. ft. (1,11 m²)

** Coverages shown are for estimating purposes only. Actual job-site coverage may vary according to substrate conditions, surface profile, type of equipment, thickness applied and application methods used.*

MAPEI Primers

Product	Description	Application	Recommended Substrates							
			Absorbent Concrete	Nonabsorbent Concrete	Wood	Ceramic	VCT	Terrazzo	Steel	*Planiseal™ MRB*
Primer L™	Advanced-technology, acrylic latex primer for concrete	For porous and prepared concrete substrates	✓							
Primer WE™	Water-based epoxy primer	For nonporous and prepared substrates		✓	✓	✓	✓			✓
Planibond® EBA	Epoxy primer and bonding agent	Superior performance on a variety of prepared substrates	✓	✓		✓	✓	✓	✓	
Mapeprime™ 1K	New-technology, one-part, water-based epoxy primer	Maximum versatility with superior performance on various prepared substrates		✓	✓	✓	✓			

While the primers listed are suitable on the substrates indicated, many variables impact final performance. Review the specific primers' Technical Data Sheets for specific instructions. On large projects, consult with a MAPEI technical consultant to ensure that the best primer is selected for your application. For all projects where the leveler is used as a final wear surface (decorative topping), use Primer L or apply Planibond EBA with the sand broadcast method.



Ultraplan® M20 Plus

NOTICE

Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith. ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.

MAPEI

Headquarters of the Americas

1144 East Newport Center Drive
Deerfield Beach, Florida 33442
Phone: 1-888-US-MAPEI (1-888-876-2734)
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Customer Service

1-800-42-MAPEI (1-800-426-2734)

Technical Services

1-800-992-6273 (U.S. and Puerto Rico)
1-800-361-9309 (Canada)

Additional Information

Website: www.mapei.com

MAPEI – USA

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Buenos Aires

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Dorado

MAPEI – Venezuela

Caracas, Ref. J-30312350-3

For the most current product and warranty data, visit www.mapei.com

MAPEI®

PR5037 M2PD_BO 8/vp

Printed in the USA

CEMENT & CONCRETE PRODUCTS™

F1: Epoxies

SAFETY DATA SHEET
(Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30305

Emergency Telephone Number
(770) 216-9580
Information Telephone Number
(770) 216-9580

SDS F1A
Revision: May-15

NOTE: TWO SDS ARE REQUIRED FOR THESE PRODUCTS

QUIKRETE® Product Name	Item #(s)
QUIKRETE® Garage Floor Coating – Gray 2-Part Epoxy Kit	#0703-57- Part A (Activator)
QUIKRETE® Garage Floor Coating – Tan 2-Part Epoxy Kit	#0703-58 - Part A (Activator)

Product Use: Chemical coatings for concrete

SECTION II - HAZARD IDENTIFICATION

Hazard Statements

Pictograms

GHS Label elements, including precautionary statements

Signal word Danger

Hazard statement(s)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H 319	Causes serious eye irritation
H351	Suspected of causing cancer

Precautionary statement(s)

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated Clothing. Rinse skin with water/shower,
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS3: Health = 1; Fire = 0; Reactivity = 0, PPE = G

Hazards not otherwise classified (HNOC) or not covered by GHS – None

SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Chemical Name	Wt.%	CAS	EINECS
Aliphatic polyamine	35 - 45	Trade Secret	
Water	35 - 45	7732-18-5	215-185-5
Titanium dioxide	5 - 10	13463-67-7	236-675-5
Sand and Quartz	4 - 6	14464-46-1 14808-60-7	
Ethyleneglycol monopropylether	1.5 – 3.5	2807-30-9	220-548-6
Ceramic microspheres	0.5 – 1.5	66402-68-4	
Alkylamino alcohol	0.35 – 0.55	Trade Secret	
Polyether phosphate	0.75 – 1.5	Trade Secret	
Siloxanes	0.10 – 0.30	Trade Secret	
Paraffinic petroleum distillates	0.25 – 0.75	Trade Secret	
Mixture of salts	0.80 – 1.20	Trade secret	
Pigment	As needed	Various	

Exact concentrations have been withheld as a Trade Secret.

SECTION IV – FIRST AID MEASURES

Precautions: First aid providers should avoid direct contact with this chemical. Wear protective equipment as necessary.

Eye contact: Flush immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.

Skin contact: REMOVE FROM SKIN IMMEDIATELY. Take off all contaminated clothing immediately. Remove adhering matter immediately. Use waterless hand cleaner. Then wash with lots of water and soap.

After inhalation: Remove the victim into fresh air. Symptoms include irritation of the respiratory tract of asthmatic reaction.

After ingestion: Do not induce vomiting without medical advice.

Medical Attention: Consult a physician if any of these events occur.

General: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Indication of immediate medical attention and special treatment needed:
Immediately seek medical advice or attention if symptoms are significant or persist.

SECTION V - FIRE FIGHTING MEASURES

Flammable properties: The material can burn if heated. Flashpoint is 190^{O} C (375^{O}F).

Suitable extinguishing media: Water fog or fine spray. Foam. Dry chemical. Carbon dioxide (CO2). Alcohol resistant foams are preferred for large fires. Use water spray to cool fire-exposed containers.

Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire. Use caution when using water, contamination of product will generate carbon dioxide gas.

Fire and explosion hazards: Cool containers / tanks with water spray. In the event of fire and/or explosion do not breathe fumes. Heating/burning can release hazardous gases: carbon oxides (CO, CO2), nitrogen oxides (NOx). Polymeric MDI decomposes rapidly above 204^{O} C.

Special protective equipment: Wear protective clothing. In case of repairable dust and/or fumes, use self-contained breathing apparatus.

SECTION VI – ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as diatomaceous earth, sawdust, vermiculite, or any appropriate readily available material and sweep or shovel absorbed material into closed containers for disposal. After all visible traces, including ignitable vapors, have been removed thoroughly wash the contaminated area. Do not flush to sewer. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal.

Wear the appropriate personal protective equipment designated in Section 8, remove the leaking container to a containment area and place into an appropriate container to prevent any further spill.

LARGE SPILL: Construct temporary dikes of dirt or sand to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as diatomaceous earth, sawdust, vermiculite, or any appropriate readily available material and sweep or shovel adsorbed material into closed containers for disposal. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal.

Wear the appropriate personal protective equipment designated in Section 8, close or cap leaking valves and/or block or plug hole in leaking container. Remove the leaking containers to a containment area and place into an appropriate container to prevent any further spill.

Contain material as described above and call the local fire, police, or appropriate emergency response provider for immediate emergency assistance.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of material into sources of water.

GENERAL PROCEDURES: Absorb spill with an emergency spill kit, diatomaceous earth, saw dust or equivalent inert material. Shovel up and dispose of at an appropriate waste disposal facility following applicable laws and regulations.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

GENERAL PROCEDURES: Store product in original containers. Store container in a secure cool, dry, well-ventilated area.

Precautions for safe handling
Avoid contact with skin and eyes. Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Avoid contact of liquid with eyes and prolonged skin exposure. Avoid breathing in vapors, mists, and aerosols. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.
Recommended storage temperature : 50 to 95^{O} F

INCOMPATIBLE MATERIALS: Will react with amines, acids and strong oxidizing agents..

COMMENTS: If bulging of containers occurs, transfer to a well-ventilated area and open carefully to relieve pressure then reseal.

SECTION VIII – EXPOSURE CONTROL MEASURES / PERSONAL PROTECTION

PEL: Not determined.

TLV: Not determined.

Engineering measures: Ensure adequate ventilation, especially in confined areas.

Personal protection equipment: Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.

Eye protection: Tightly fitting safety goggles or face-shield as appropriate.

Hand protection: Solvent-resistant gloves.

Skin and body protection: Solvent-resistant apron and boots. Protective suit. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment with filter classification: N-95 or if oil/liquid aerosols are present P-95 (42 CFR 84). In USA use a NIOSH/MSHA approved respirator.

COMMENTS: Always practice "good personal hygiene" during and after use of this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. DO NOT eat, drink, or smoke in work areas that contain hazardous chemicals.

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

These data do not represent technical or sales specifications.

APPEARANCE/PHYSICAL STATE
Liquid with various pigmented colors

Flashpoint & Method
>100^{O} C; SETA Flash Test CC

ODOR
Ammonia odor

VAPOR PRESSURE
Heavier than air

DENSITY
9.45 to 9.60 lb/gal at 25^{O}C (74^{O} F)

VISCOSITY
2000 to 5000 cps at 25^{O}C (74^{O} F) Brookfield

VOLATILE ORGANIC CONTENT
<30.0 G/L (Calculated)

SECTION X – STABILITY AND REACTIVITY

CHEMICAL STABILITY
Stable under recommended storage conditions.

INCOMPATIBILITY WITH OTHER MATERIALS
Avoid contact with acids, and strong oxidizers.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition.

HAZARDOUS POLYMERIZATION
Will not occur.

Reactivity: Will react with strong acids and caustics.

SECTION XI – TOXICOLOGICAL INFORMATION

Toxicity note

Skin Effects: Possible sensitizer to the skin.

Carcinogenicity
IARC: Group 1 carcinogen
NTP: Known carcinogen
OSHA: Not listed by OSHA.

GENERAL COMMENTS: This product contains substances considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

COMMENTS: The chemical, physical, and toxicological properties have not been thoroughly investigated or tested to the best of our knowledge.

SECTION XII – ECOLOGICAL INFORMATION

No environmental data has been established or is available for this product.

SECTION XIII – DISPOSAL CONSIDERATIONS

Provisions relating to waste: EPA - Resource Conservation and Recovery Act (RCRA) Hazardous and Solid Waste Management Regulations must be followed.

Disposal information: Dispose of in compliance with all applicable regulations. Can be incinerated by an approved facility that is in compliance with the local regulations. Empty remaining contents. Do not reuse empty containers. This product (in its fresh unused state) is not listed by generic name or trademark name in the U.S. EPA's RCRA regulations and does not possess any of the four identifying characteristics of hazardous waste (ignitability, corrosivity, reactivity or toxicity).

SECTION XIV – TRANSPORT INFORMATION

	DOT (U.S.)	TDG (Canada)
UN-Number	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated
Transport Hazard Class(es)	Not Regulated	Not Regulated
Packing Group (if applicable)	Not Regulated	Not Regulated

SECTION XV – OTHER REGULATORY INFORMATION

United States Federal Regulations

Skin Effects: Possible sensitizer to the skin.
Carcinogenicity
Possible cancer causing components titanium dioxide and crystalline silica.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)
FIRE: No **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** No
TSCA (TOXIC SUBSTANCE CONTROL ACT)
TSCA STATUS: All ingredients in this mixture are listed with the TSCA Chemical Substance Inventory or are exempt.

California: WARNING: This product contains chemicals crystalline silica (respirable) known to the State of California to cause cancer and birth defects or other reproductive harm.

COMMENTS: The chemical, physical, and toxicological properties have not been thoroughly investigated or tested to the best of our knowledge.

SECTION XVI – OTHER INFORMATION

Last Updated: May 27, 2015

MANUFACTURER DISCLAIMER: This SDS to the best of our knowledge conforms to the requirements of OSHA 29 CFR 1910.1200, 91/155/EEC and summarizes the health and safety hazard information and general guidance on how to safety handle the material at the date of issue. Each user must review the SDS in the context of how the product will be handled and used in the workplace. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. Responsibility for the product sold is subject to our standard terms and conditions, a copy if which is available upon request. This company warrants only that its products meet the specifications stated in the sales contract. Typical properties, where stated, are to be considered as representative of current production and should not be treated as specifications. While all the information presented in this document is believed to be reliable and to represent the best available data on these products, NO GUARANTEE, WARRANTY, OR REPRESENTATION IS MADE, INTENDED, OR IMPLIED AS TO THE CORRECTNESS, OR SUFFICIENCY OF ANY INFORMATION, OR AS TO THE MERCHANTABILITY OR SUITABILITY OR FITNESS OF ANY CHEMICAL COMPOUNDS OR OTHER PRODUCTS FOR ANY PARTICULAR USE OR PURPOSE, OR THAT ANY CHEMICAL COMPOUNDS OR OTHER PRODUCTS OR THE USE THEREOF ARE NOT SUBJECT TO A CLAIM BY A THIRD PARTY FOR INFRINGEMENT OF ANY PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT. Some of the information presented and conclusions drawn herein are from

sources other than direct test data on the product itself. Liability by this company for all claims, whether arising out of breach of warranty, negligence, strict liability, or otherwise, is limited to the purchase price of the material. Products may be toxic and require special precautions in handling. For all products listed, the user should obtain detailed information on toxicity, together with the proper shipping, handling and storage procedures, and comply with all applicable safety and environmental standards. Toxicity and risk characteristics of chemical compounds and other products may differ when used with other materials or in a manufacturing or other process. Those risk characteristics should be determined by the user and made known to handlers, processors, and end users.

End of SDS

CEMENT & CONCRETE PRODUCTS™

F1: Epoxies

SAFETY DATA SHEET
(Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30305

Emergency Telephone Number
(770) 216-9580
Information Telephone Number
(770) 216-9580

SDS F1B
Revision: May-15

NOTE: TWO SDS ARE REQUIRED FOR THESE PRODUCTS

QUIKRETE® Product Name	Item #(s)
QUIKRETE® Garage Floor Coating – Gray 2-Part Epoxy Kit	#0703-57- Part B (Resin)
QUIKRETE® Garage Floor Coating – Tan 2-Part Epoxy Kit	#0703-58 - Part B (Resin)

Product Use: Chemical coatings for concrete

SECTION II - HAZARD IDENTIFICATION

Hazard Statements

Pictograms

GHS Label elements, including precautionary statements

Signal word Warning

Hazard statement(s)

H315 Causes skin irritation.
H317 May cause an allergic skin reaction.

H 319 Causes serious eye irritation
H411 Toxic to aquatic life with long lasting effects

Precautionary statement(s)
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated Clothing. Rinse skin with water/shower,
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS3: Health = 1; Fire = 0; Reactivity = 0, PPE = G

Hazards not otherwise classified (HNOC) or not covered by GHS - None

SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Chemical Name	Wt.%	CAS	EINECS
Bisphenol A based epoxy resin	70 - 80	25085-99-8	500-033-5
Bisphenol F polymer	10 - 15	28064-14-4	
Ethyleneglycol monopropylether	3 - 7	2807-30-9	220-548-6
Oxirane derivatives	4 - 8	68609-97-2	271-846-8

Exact concentrations have been withheld as a Trade Secret.

SECTION IV – FIRST AID MEASURES

Precautions: First aid providers should avoid direct contact with this chemical. Wear protective equipment as necessary.

Eye contact: Flush immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.

Skin contact: REMOVE FROM SKIN IMMEDIATELY. Take off all contaminated clothing immediately. Remove adhering matter immediately. Use waterless hand cleaner. Then wash with lots of water and soap.

After inhalation: Remove the victim into fresh air. Symptoms include irritation of the respiratory tract of asthmatic reaction.

After ingestion: Do not induce vomiting without medical advice.

Medical Attention: Consult a physician if any of these events occur.

General: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Indication of immediate medical attention and special treatment needed:
Immediately seek medical advice or attention if symptoms are significant or persist.

SECTION V - FIRE FIGHTING MEASURES

Flammable properties: The material can burn if heated. Flashpoint is 190^{O} C (375^{O}F).

Suitable extinguishing media: Water fog or fine spray. Foam. Dry chemical. Carbon dioxide (CO2). Alcohol resistant foams are preferred for large fires. Use water spray to cool fire-exposed containers.

Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire. Use caution when using water, contamination of product will generate carbon dioxide gas.

Fire and explosion hazards: Cool containers / tanks with water spray. In the event of fire and/or explosion do not breathe fumes. Heating/burning can release hazardous gases: carbon oxides (CO, CO2), nitrogen oxides (NOx). Polymeric MDI decomposes rapidly above 204^{O} C.

Special protective equipment: Wear protective clothing. In case of repairable dust and/or fumes, use self-contained breathing apparatus.

SECTION VI – ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Dike area to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as diatomaceous earth, sawdust, vermiculite, or any appropriate readily available material and sweep or shovel absorbed material into closed containers for disposal. After all visible traces, including ignitable vapors, have been removed thoroughly wash the contaminated area. Do not flush to sewer. If area of spill is

porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal.

Wear the appropriate personal protective equipment designated in Section 8, remove the leaking container to a containment area and place into an appropriate container to prevent any further spill.

LARGE SPILL: Construct temporary dikes of dirt or sand to contain spill. Take precautions as necessary to prevent contamination of ground and surface waters. Recover spilled material on absorbent, such as diatomaceous earth, sawdust, vermiculite, or any appropriate readily available material and sweep or shovel adsorbed material into closed containers for disposal. If area of spill is porous, remove as much contaminated earth and gravel, etc. as necessary and place in closed containers for disposal.

Wear the appropriate personal protective equipment designated in Section 8, close or cap leaking valves and/or block or plug hole in leaking container. Remove the leaking containers to a containment area and place into an appropriate container to prevent any further spill.

Contain material as described above and call the local fire, police, or appropriate emergency response provider for immediate emergency assistance.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Construct temporary dikes of dirt, sand, or any appropriate readily available material to prevent spreading of material into sources of water.

GENERAL PROCEDURES: Absorb spill with an emergency spill kit, diatomaceous earth, saw dust or equivalent inert material. Shovel up and dispose of at an appropriate waste disposal facility following applicable laws and regulations.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

GENERAL PROCEDURES: Store product in original containers. Store container in a secure cool, dry, well-ventilated area.

Precautions for safe handling
Avoid contact with skin and eyes. Provide adequate ventilation for storage, handling and use, especially for enclosed or low spaces. Avoid contact of liquid with eyes and prolonged skin exposure. Avoid breathing in vapors, mists, and aerosols. Do not allow product to contact open flame or electrical heating elements because dangerous decomposition products may form.

Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature : 50 to 95^{O} F

INCOMPATIBLE MATERIALS: Will react with amines, acids and strong oxidizing agents..

COMMENTS: If bulging of containers occurs, transfer to a well-ventilated area and open carefully to relieve pressure then reseal.

SECTION VIII – EXPOSURE CONTROL MEASURES / PERSONAL PROTECTION

PEL: Not determined.

TLV: Not determined.

Engineering measures: Ensure adequate ventilation, especially in confined areas.

Personal protection equipment: Avoid contact with skin, eyes and clothing. Handle in accordance with good industrial hygiene and safety practice.

Eye protection: Tightly fitting safety goggles or face-shield as appropriate.

Hand protection: Solvent-resistant gloves.

Skin and body protection: Solvent-resistant apron and boots. Protective suit. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment with filter classification: N-95 or if oil/liquid aerosols are present P-95 (42 CFR 84). In USA use a NIOSH/MSHA approved respirator.

COMMENTS: Always practice "good personal hygiene" during and after use of this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics. DO NOT eat, drink, or smoke in work areas that contain hazardous chemicals.

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

These data do not represent technical or sales specifications.

APPEARANCE/PHYSICAL STATE
Liquid.

ODOR
Light musty to no odor

VAPOR PRESSURE
Heavier than air

DENSITY
9.61 lb/gal at 25^{O}C (74^{O} F)

VISCOSITY
2000 to 5000 cps at 25^{O}C (74^{O} F) Brookfield

VOLATILE ORGANIC CONTENT
<17.0 G/L (Calculated)

SECTION X – STABILITY AND REACTIVITY

CHEMICAL STABILITY
Stable under recommended storage conditions.

INCOMPATIBILITY WITH OTHER MATERIALS
Avoid contact with acids, water, alcohols, amines, ammonia, bases, moist air, and strong oxidizers. Avoid contact with metals such as aluminum, brass, copper, galvanized metals, tin, zinc. Avoid contact with moist organic absorbents. Reaction with water will generate carbon dioxide and heat. Generation of gas can cause pressure buildup in closed systems. Avoid unintended contact with polyols. The reaction of polyols and isocyanates generate heat. Diisocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by stirring or if the other material mixes with the diisocyanate. Diisocyanates are not soluble in water and are denser than water and sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition.

HAZARDOUS POLYMERIZATION
Will not occur.

Reactivity: Will react with strong acids and caustics.

SECTION XI – TOXICOLOGICAL INFORMATION

Toxicity note

Skin Effects: Possible sensitizer to the skin.

Carcinogenicity
IARC: Not Listed by IARC.
NTP: Not listed by NTP.
OSHA: Not listed by OSHA.

GENERAL COMMENTS: This product does not contain substances considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

COMMENTS: The chemical, physical, and toxicological properties have not been thoroughly investigated or tested to the best of our knowledge.

SECTION XII – ECOLOGICAL INFORMATION

Toxic to aquatic organisms, may cause long-term effects on the aquatic environment.

Toxicity to fish static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 5,000 mg/l - 96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic
Immobilization EC50 - Daphnia magna (Water flea) - 7.2 mg/l - 48 h
(OECD Test Guideline 202)
Toxicity to algae Growth inhibition IC50 - Pseudokirchneriella subcapitata (aglae) - 843.75 mg/l -72 h (OECD Test Guideline 201)

SECTION XIII – DISPOSAL CONSIDERATIONS

Provisions relating to waste: EPA - Resource Conservation and Recovery Act (RCRA) Hazardous and Solid Waste Management Regulations must be followed.

Disposal information: Dispose of in compliance with all applicable regulations. Can be incinerated by an approved facility that is in compliance with the local regulations. Empty remaining contents. Do not reuse empty containers. This product (in its fresh unused state) is not listed by generic name or trademark name in the U.S. EPA's RCRA regulations and does not possess any of the four identifying characteristics of hazardous waste (ignitability, corrosivity, reactivity or toxicity).

SECTION XIV – TRANSPORT INFORMATION

	DOT (U.S.)	TDG (Canada)
UN-Number	Not Regulated	Not Regulated
UN proper shipping name	Not Regulated	Not Regulated
Transport Hazard Class(es)	Not Regulated	Not Regulated
Packing Group (if applicable)	Not Regulated	Not Regulated

SECTION XV – OTHER REGULATORY INFORMATION

United States Federal Regulations

Skin Effects: Possible sensitizer to the skin.
Carcinogenicity
IARC: Not Listed by IARC.
NTP: Not listed by NTP.
OSHA: Not listed by OSHA.

GENERAL COMMENTS: This product does not contain substances considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)
FIRE: No **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** No
TSCA (TOXIC SUBSTANCE CONTROL ACT)
TSCA STATUS: All ingredients in this mixture are listed with the TSCA Chemical Substance Inventory.
California: WARNING: This product does not contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

COMMENTS: The chemical, physical, and toxicological properties have not been thoroughly investigated or tested to the best of our knowledge.

SECTION XVI – OTHER INFORMATION

Last Updated: May 27, 2015

MANUFACTURER DISCLAIMER: This SDS to the best of our knowledge conforms to the requirements of OSHA 29 CFR 1910.1200, 91/155/EEC and summarizes the health and safety hazard information and general guidance on how to safety handle the material at the date of issue. Each user must review the SDS in the context of how the product will be handled and used in the workplace. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company. Responsibility for the product sold is subject to our standard terms and conditions, a copy if which is available upon request. This

company warrants only that its products meet the specifications stated in the sales contract. Typical properties, where stated, are to be considered as representative of current production and should not be treated as specifications. While all the information presented in this document is believed to be reliable and to represent the best available data on these products, NO GUARANTEE, WARRANTY, OR REPRESENTATION IS MADE, INTENDED, OR IMPLIED AS TO THE CORRECTNESS, OR SUFFICIENCY OF ANY INFORMATION, OR AS TO THE MERCHANTABILITY OR SUITABILITY OR FITNESS OF ANY CHEMICAL COMPOUNDS OR OTHER PRODUCTS FOR ANY PARTICULAR USE OR PURPOSE, OR THAT ANY CHEMICAL COMPOUNDS OR OTHER PRODUCTS OR THE USE THEREOF ARE NOT SUBJECT TO A CLAIM BY A THIRD PARTY FOR INFRINGEMENT OF ANY PATENT OR OTHER INTELLECTUAL PROPERTY RIGHT. Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. Liability by this company for all claims, whether arising out of breach of warranty, negligence, strict liability, or otherwise, is limited to the purchase price of the material. Products may be toxic and require special precautions in handling. For all products listed, the user should obtain detailed information on toxicity, together with the proper shipping, handling and storage procedures, and comply with all applicable safety and environmental standards. Toxicity and risk characteristics of chemical compounds and other products may differ when used with other materials or in a manufacturing or other process. Those risk characteristics should be determined by the user and made known to handlers, processors, and end users.

End of SDS

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product:	**DECRA-SEAL™ S/B**	**Part Number:**	3565000
Manufacturer:	**W. R. Meadows®, Inc.**	**Address:**	300 Industrial Drive Hampshire, Illinois 60140
Telephone:	(847) 214-2100	In case of emergency, dial (800) 424-9300 (CHEMTREC)	
Revision Date:	9/9/2014		
Product Use:	Acrylic Cure/Seal for Decorative Concrete		

SECTION 2: HAZARDS IDENTIFICATION/EXPOSURE LIMITS

HMIS	
|Health|	|1|
|Flammability|	|2|
|Reactivity|	|0|
|Personal Protection|	| |

HAZARD STATEMENTS

Warning!

Flammable liquid and vapor.

Harmful if inhaled.

Causes skin/eye/respiratory irritation.

Prolonged/repeated exposure may cause organ damage.

May be fatal if ingested and enters airways.

PRECAUTIONARY STATEMENTS

Keep containers closed when not in use. Avoid ignition sources.

Avoid breathing vapors and direct contact.

Store in well-ventilated location.

Wear appropriate Personal Protective Equipment.

Use only outdoors or in well-ventilated areas.

SECTION 3: HAZARDS COMPONENTS

Chemical Name:	CAS Number	% by Weight	SARA 313	Vapor Pressure (mm Hg@20°C)	LEL (@25°C)
1. Light Aromatic Naphtha	64742-95-6	45-50	No	<10 @ 25°C	0.9
2. Xylene	1330-20-7	10-15	Yes	6.6	1.1
3. 1,2,4-Trimethylbenzene	95-63-6	10-15	Yes	N/E	0.9
4. Ethylene Glycol Monomethyl Ether Acetate	108-65-6	1-5	Yes	3.7	1.5

Under the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1966 (SARA) and 40 CFR Part 372, chemicals listed on the 313 List (40 CFR Part 373.65) are identified under the heading "SARA 313." *N/E: Not Established*

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: If irritation or redness develops, move victim from exposure source and into fresh air. Flush eyes with water for fifteen (15) minutes, If symptoms persist, seek medical attention.

SKIN CONTACT: Wash affected areas with mild soap and water. Remove contaminated shoes/clothing. If symptoms persist, seek medical attention.

INHALATION: If respiratory symptoms develop, move victim from exposure source and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel.

INGESTION: Dilute with liquid unless the victim is unconscious or very drowsy. Do not induce vomiting. If vomiting spontaneously occurs, prevent lung aspiration. Seek immediate medical attention.

SECTION 5: FIRE AND EXPLOSIVES HAZARDS

FLASHPOINT: 105 degrees F (Estimate)

EXTINGUISHING MEDIA: Water fog, foam, dry chemical, or carbon dioxide.

CHEMICAL/COMBUSTION HAZARDS: Carbon monoxide, carbon dioxide, and incomplete combustion products.

PRECAUTIONS/PERSONAL PROTECTIVE EQUIPMENT: Avoid smoke inhalation. Personal protective equipment should include helmet, face shield, bunker coat, gloves, rubber boots, and a positive pressure NIOSH-approved self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: Avoid direct contact. Dike and contain spilled material. Remove source of spill if safe to do so. Evacuate all non-essential personnel from immediate area. Remove/extinguish ignition sources. A vapor-suppressing foam may be used to reduce vapor generation. Absorb with non-combustible absorbent and place in sealed containers for disposal. Control run-off and prevent from entering waterways, sewers, etc.... Use non-sparking tools to collect spilled material as well as contaminated absorbent.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING PROCEDURES: Avoid direct contact. Use adequate grounding when decanting.

SAFE STORAGE: Keep containers closed when not in use. Keep away from ignition sources.

SAFETY DATA SHEET

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

	OSHA				ACGIH			
Chemical Name:	**PEL**	**PEL/CEILING**	**PEL/STEL**	**SKIN**	**TWA**	**TLV/CEILING**	**TLV/STEL**	**SKIN**
1. Light Aromatic Naphtha	N/E	N/E	N/E	N/E	N/E	N/E	N/E	No
2. Xylene	100 ppm	N/E	N/E	No	100 ppm	N/E	150 ppm	No
3. 1,2,4-Trimethylbenzene	25 ppm	N/E	N/E	No	25 ppm	N/E	N/E	No
4. Cumene	50 ppm	N/E	N/E	YES	50 ppm	N/E	N/E	Yes
5. Ethylene Glycol Monomethyl Ether Acetate	N/E	N/E	N/E	N/E	N/E	N/E	N/E	Yes

N/E: Not Established

ENGINEERING CONTROLS: Use with adequate ventilation. Use explosion-proof equipment.
PERSONAL PROTECTIVE EQUIPMENT: Safety glasses, chemical-resistant gloves.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 322 degrees F
VAPOR DENSITY: >1 (Air=1)
% VOLATILE BY VOLUME: N/E
EVAPORATION RATE: <1 (Ether=1)
pH LEVEL: N/A
% VOLATILE BY WEIGHT: 75
WEIGHT PER GALLON: 7.70
PRODUCT APPEARANCE: Clear Liquid
VOC CONTENT: 690 g/L

SECTION 10: STABILITY/REACTIVITY

STABILITY: Stable.
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS AND MATERIALS TO AVOID: Static discharge, heat, sparks, open flame, and strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide/dioxide, incomplete combustion products.

SECTION 11: TOXICOLOGICAL INFORMATION

EYE CONTACT: Direct contact may cause mild to moderate irritation. Product vapors may also cause irritation.
SKIN CONTACT: Direct contact may cause mild skin irritation. Prolonged/repeated contact may result in irritation/dermatitis.
INHALATION: Exposure may produce irritation to the nose, throat, respiratory tract, and other mucous membranes. Exposure to excessive vapor concentrations may cause signs of transient central nervous system depression (headache, drowsiness, loss of coordination and fatigue). Repeated/prolonged occupational overexposures may result in permanent damage and can be potentially fatal.
INGESTION: This product is anticipated to be slightly toxic. If ingested and lung aspiration occurs, serious lung damage may result. Ingestion of excessive quantities may result in symptoms of central nervous system depression.
SIGNS AND SYMPTOMS: Symptoms of eye irritation include tearing, reddening, and swelling. Symptoms of skin irritation include reddening, swelling, rash, and redness. Symptoms of gastrointestinal irritation include abdominal pain, vomiting and diarrhea. Symptoms of respiratory irritation include runny nose, sore throat, coughing, chest discomfort, shortness of breath, reduced lung function, and symptoms of central nervous system depression.
AGGRAVATED MEDICAL CONDITIONS: Pre-existing skin, eye, and respiratory disorders may be aggravated by exposure to this product.
OTHER HEALTH EFFECTS: Based on the presence of component 4, chronic overexposure may cause damage to red blood cells and kidneys. Component 5 has been shown to have reversible liver and kidney effects on laboratory animals. Component 5 has also been shown to cause harm to the fetus in laboratory animal studies. The relevance to humans is uncertain.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: N/E
DEGRADABILITY: N/E
BIOACCUMULATIVE POTENTIAL: N/E
SOIL MOBILITY: N/E
OTHER ADVERSE EFFECTS: None recognized.

SECTION 13: WASTE DISPOSAL INFORMATION

WASTE DISPOSAL INFORMATION: Product is considered a hazardous waste for disposal purposes. Utilize an appropriate disposal facility.

SECTION 14: TRANSPORTATION INFORMATION

HAZARDOUS/NON-HAZARDOUS MATERIAL: Combustible Liquid. Not regulated by domestic ground transportation.
UN NUMBER: None.
HAZARD CLASS: None.
PACKING GROUP: N/A
UN PROPER SHIPPING NAME: None.
ENVIRONMENTAL HAZARDS: Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.
BULK TRANSPORTATION INFORMATION: Not applicable. Product not shipped in bulk configuration.
SPECIAL PRECAUTIONS: Keep containers closed. Avoid ignition sources.

SECTION 15: REGULATORY INFORMATION

OTHER REGULATORY CONSIDERATIONS: None recognized.

SECTION 16: OTHER INFORMATION

PREPARATION DATE: 9/9/2014
PREPARED BY: Dave Carey

SET-XP® *High Strength Anchoring Adhesive for Cracked and Uncracked Concrete*

SAFETY DATA SHEET

1. Identification

Product Identification

Product Identifier:	**SET-XP** (SET-XP10, SET-XP22, SET-XP56, SET-XP650, SET-XP)
Recommended Use:	High Strength Anchoring Adhesive for Cracked and Uncracked Concrete
Use Restrictions:	None Known.

Company Identification

Company:	Simpson Strong-Tie Company Inc.
Address:	5956 W. Las Positas Blvd. Pleasanton, CA 94588
Phone:	1-800-999-5099
Website:	www.strongtie.com
Emergency:	1-800-535-5053 (US/Canada) / 1-352-323-3500 (International)

For most current SDS, please visit our website at **www.strongtie.com/sds**

2. Hazard Identification

General Information

SET-XP Anchoring Adhesive is a two part system. The two parts of this product have been assessed according to GHS and are classified below. The final hardened material is considered nonhazardous. Some hazards apply upon grinding or cutting through hardened product.

Resin (white side) GHS Classification

Physical Hazards:	Not Classified.	
Health Hazards:	Skin Corrosion/Irritation	Category 2
	Serious Eye Damage/Irritation	Category 2A
	Sensitization, Skin	Category 1
	Germ Cell Mutagenicity	Category 2
Environmental Hazards:	Chronic Aquatic Environmental Hazard	Category 2

Signal Word: **WARNING!**

Hazard Statements: Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Suspected of causing genetic defects. Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Avoid breathing mist or vapor. Wash thoroughly after handling. Avoid release to the environment.

Response: If exposed or concerned: Call a poison center/doctor. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Collect Spillage.

Storage: Store locked up. Store in a well-ventilated place. Store between 45-90°F (7-32°C).

Disposal: Dispose of contents/container in accordance with local/regional/national regulations.

Hardener (green side) GHS Classification

Physical Hazards:	Not Classified.	
Health Hazards:	Skin Corrosion/Irritation	Category 1
	Serious Eye Damage/Irritation	Category 1
	Sensitization, Skin	Category 1

	Germ Cell Mutagenicity	Category 2
Environmental Hazards:	Acute Aquatic Environmental Hazard	Category 3
	Chronic Aquatic Environmental Hazard	Category 3

Signal Word: DANGER!

Hazard Statements: Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of causing genetic defects. Harmful to the aquatic environment with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection. Avoid release to the environment.

Response: If exposed or concerned: Get medical advice/attention. If swallowed: Rinse mouth. Do not induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor.

Storage: Store in a well-ventilated place. Keep container tightly closed. Store between 45-90°F (7-32°C).

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazards Not Otherwise Classified (HNOC)

The above hazards are for the uncured Resin component of SET-XP. Upon combination with the Hardener component of SET-XP an innocuous solid is formed which does not present any immediate hazards. Upon grinding or cutting the cured product the following hazards may apply.

Health Hazards:	Carcinogenicity	Category 1A
	STOT, Repeated Exposure	Category 2 (Lung)

Hazard Statements: May cause cancer. May cause damage to organs (Lung) through prolonged or repeated exposure.

Precautionary Statements: Do not breathe dust.

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

Resin (white side)

Chemical Name	CAS Number	Weight %
Bisphenol A/Epichlorohydrin	25068-38-6	40-60
Phenol, polymer with formaldehyde, glycidyl ether	28064-14-4	40-60
Butyl Glycidyl Ether	2426-08-6	1-10
Titanium Dioxide	13463-67-7	1-10

Hardener (black side)

Chemical Name	CAS Number	Weight %
Silica, crystalline quartz	14808-60-7	20-30
Polyamido Amine	68953-36-6	10-20
2,4,6-Tris(dimethylaminomethyl)phenol	90-72-2	1-10
Dimethyl silicone polymer with silica	67762-90-7	1-10
Phenol	108-95-2	1-10
Benzene-1,3-Dimethaneamine	1477-55-0	1-10
3,6,9-triazaundecamethylenediamine	112-57-2	1-5

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact: Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If redness, burning, blurred vision, or swelling persists, **consult a physician.**

Skin Contact: Remove contaminated clothing and product, immediately wash affected area with soap and water. Do not apply greases or ointments. Chemical burns must be treated by a **physician.**

Ingestion: Rinse mouth immediately. Give large amounts of milk or water, if person is conscious. Only induce vomiting at the instruction of medical personnel. **Consult a physician.**

Inhalation: Remove patient to fresh air. Oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms

Irritant effects. Symptoms include itching, burning, redness and tearing. Burning pain and severe corrosive skin damage. Causes severe eye damage. May cause temporary blindness and severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause allergic skin reaction. Prolonged exposure may cause chronic effects.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Extinguish with foam, carbon dioxide, dry powder, or water fog.

Additional Information: None known.

Hazards during Fire-Fighting: Hazardous decomposition products may occur when materials polymerize at temperatures above500°F (260°C). Irritating and toxic gases/fumes may be released during a fire. Water run-off can cause environmental damage.

Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Keep unnecessary personnel away. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Local authorities should be advised if significant spillages cannot be contained.

Clean-Up Methods

Small spills: Wipe up with absorbent material (e.g. cloth, fleece).). Place in leak-proof containers. Seal tightly for proper disposal. Clean surface thoroughly to remove residual contamination.

Large spills: Stop the flow of material, if this is without risk. Dike far ahead of spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment.

7. Handling and Storage

Handling

Mechanical ventilation or local exhaust ventilation is recommended. Keep away from open flames, hot surfaces and sources of ignition. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Avoid contact with eyes, skin, and clothing. Pregnant women should not work with this product if there is risk of exposure. Observe good industrial hygiene practices.

Storage

Store in a closed container away from incompatible materials. Keep in original container. Store in a dry place out of direct sunlight. Keep out of the reach of children. Store between 45-90°F (7-32°C). Keep away from heat and sources of ignition.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

Protective Measure:	Wear appropriate personal protective equipment.
Eye Protection:	Wear chemical splash goggles or safety glasses with side shield.
Hand Protection:	Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Skin and Body Protection:	Wear long sleeve shirt/long pants and other clothing as required to minimize contact.
Respirator Protection:	The use of a respirator is not required during normal use of this product. If grinding or cutting cured product the use of an approved respirator is recommended.
General Hygiene:	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Engineering Controls

When using indoors good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Ready access to running water is required. Provide eyewash station.

Exposure Limits

Component *Skin Designation	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
Quartz (14808-60-7)	0.3 mg/m³(total dust) 0.1 mg/m³ (respirable)	0.025 mg/m³ (respirable)	0.05 mg/m³ (respirable)
Phenol* (CAS 108-95-2)	19 mg/m³ 5 ppm	5 ppm	60 mg/m³ (Ceiling) 15.6 ppm (Ceiling)
m-Phenylenebis(methylamine)* (CAS 1477-55-0)	N/E	0.1 mg/m³ (Ceiling)	0.1 mg/m³ (Ceiling)
N-Butyl Glycidyl Ether (2426-08-6)	270 mg/m³ 50 ppm	3 ppm	30 mg/m³ (Ceiling) 5.6 ppm (Ceiling)
Titanium Dioxide (13463-67-7)	5 mg/m³(respirable) 15 mg/m³(total dust)	10 mg/m³	N/E

Additional Information

After Cure:	Product forms an innocuous solid. Processing after cure (grinding or cutting) may produce dust containing compounds that present an inhalation hazard.

9. Physical and Chemical Properties

Property	Resin	Hardener
Physical State:	Liquid, Paste	Liquid, Paste
Color:	White	Dark Green
Odor:	Sweet	Ammonia
pH:	6.9	10.3
Flammability limit – lower %:	No data	No data
Flammability limit – upper %:	No data	No data
Vapor Pressure:	Non-volatile	No data
Vapor Density:	No data	No data
Solubility:	Insoluble in water	Slightly soluble in water
Freezing/Melting Point:	No data	No data
Boiling Point:	> 500 °F (>260 °C)	No data
Flash Point:	250 °F (121 °C) Open Cup	262 °F (128 °C) Closed Cup
Evaporation Rate:	No data	No data
Decomposition Temperature:	No data	No data
Specific Gravity:	1.21 at 72°F (22°C)	1.59 at 72°F (22°C)
VOC (after cure):	3 g/L	3 g/L
Kow:	No data	No data
Viscosity:	No data	No data

10. Stability and Reactivity

Resin (white side)

Reactivity: This product is stable and non-reactive under normal conditions.
Chemical Stability: Stable under normal storage conditions.
Condition to Avoid: High heat and open flame.
Substances to Avoid: Oxidizing agents, acids, organic bases, and amines
Hazardous Reactions: Hazardous polymerization does not occur.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, and other organic compounds.

Hardener (green side)

Reactivity: This product is stable and non-reactive under normal conditions.
Chemical Stability: Stable under normal storage conditions.
Condition to Avoid: High heat and open flame.
Substances to Avoid: Strong oxidizing agents. Peroxides. Phenols. Acids.
Hazardous Reactions: Hazardous polymerization does not occur.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, and other organic compounds.

11. Toxicological Information

Likely Routes of Exposure

Ingestion: May be harmful if swallowed. Ingestion may cause irritation to the gastrointestinal tract.
Inhalation: May cause respiratory irritation
Skin contact: Causes skin irritation. Causes severe skin burns May cause an allergic skin reaction.
Eye contact: Causes serious eye irritation. Causes severe eye damage.

Information on Toxicological Effects

Acute toxicity: Occupational exposure to the substance or mixture may cause adverse effects.

Product		Species	Test Result
SET-XP Resin (CAS mixture)			
	Acute, *Dermal,* LC50	Rabbit	>2000 mg/kg
	Acute, *Oral,* LD50	Rat	>5000 mg/kg
SET-XP Hardener (CAS mixture)			
	Acute, *Dermal,* LD50	Rabbit	>2000 mg/kg
	Acute, *Oral,* LD50	Rat	>5000 mg/kg

Skin corrosion/irritation: Causes severe skin burns.
Eye damage/eye irritation: Causes severe eye damage.
Respiratory sensitization: No data available.
Skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity: Contains a component that is suspected of causing genetic defects.
Carcinogenicity: May cause cancer. Quartz and Titanium Dioxide are considered carcinogens only in their inhalable form. Exposure to respirable Quartz and Titanium Dioxide is likely only when grinding or cutting cured product, ensure good work practice and use of personal protective equipment as needed to control exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Quartz (14808-60-7)	1 Carcinogenic to humans.
Titanium Dioxide (13463-67-7)	2B Possibly Carcinogenic to humans.
Phenol (108-95-2)	3 Not classifiable as to carcinogenicity in humans.

NTP Report on Carcinogens

Quartz (14808-60-7)	Known to be Human Carcinogen

Reproductive toxicity: The available data does not indicate that any ingredients of this product are reproductive toxins.
Aspiration hazard: Not expected to be an aspiration hazard.
Specific target organ toxicity:
Single exposure No data available.
Repeated exposure May cause damage to organs (lung) through prolonged or repeated exposure.

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

Information given is based on data on the components and the ecotoxicology of similar products. Resin is classified as toxic to aquatic life with long lasting effects. Hardener is classified as harmful to aquatic life with long lasting effects. Avoid release to the environment.

Supporting Data

Component	Species	Test Result
SET-XP Resin (CAS mixture)		
Aquatic Acute, Algae, EC50	Algae	>1000 mg/l, 72 hours
Aquatic Acute, Crustacea, EC50	Daphnia Magna	324.87 mg/l, 48 hours
Aquatic Acute, Fish, LC50	Fish	707.11 mg/l, 96 hours
Phenol (108-95-2)		
Aquatic, Crustacea, EC50	Daphnia	4.7-6.4 mg/l, 48 hours
Aquatic, Fish, LC50	Rainbow trout	7.5-14 mg/l, 96 hours

Persistence and degradability: This product is not expected to be readily biodegradable.

Bioaccumulative potential: No data available for this product.

Partition coefficient n-octanol / water (log Kow)

Butyl glycidyl ether (2426-08-6)	0.63
Phenol (108-95-2)	1.46

Mobility in soil: This product is non-volatile.

Further Information

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.

13. Disposal Consideration

Waste Disposal of Substance: Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

Disposal of Cured Product: Grind or chip off surface. Solid material does not require special disposal.

14. Transportation Information

Resin (white side)

UN number: UN3082

UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-A-Epichlorohydrin), 9, III, Marine Pollutant

Precautions: Marine Pollutant

Required Labels: 9

ERG Code (IATA): 9L

EmS (IMDG): F-A, S-F

Hardener (black side)

UN number: UN2735

UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (Benzene-1,3-Dimethaneamine), 8, II

Precautions: Corrosive

Required Labels: 8

ERG Code (IATA): 8L

EmS (IMDG): F-A, S-B

Additional Information

Check limited quantity regulations prior to shipping, SET-XP cartridges may qualify for LQ shipping exemptions.

Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:
This substance/mixture is not intended to be transported in bulk

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4) :
Phenol (108-95-2) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories:	Immediate	Delayed	Fire	Pressure	Reactivity
Resin	Yes	Yes	No	No	No
Hardener	Yes	Yes	No	No	No

SARA 302 Extremely hazardous substance: No
SARA 311/312 Hazardous chemical: Yes
SARA 313 (TRI reporting):

Chemical Name	CAS Number	% by weight
Phenol	108-95-2	1-10

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Phenol (108-95-2)

US State Right-To-Know Lists

Chemical	Massachusetts RTK	New Jersey Work and Community RTK Act	Pennsylvania Worker and Community RTK Law	Rhode Island RTK
Butyl glycidyl ether (CAS 2426-08-6)	Listed		Listed	
Titanium dioxide (CAS 1317-80-2)	Listed		Listed	
m-Phenylenebis(methylamine) (CAS 1477-55-0)	Listed		Listed	
Phenol (CAS 108-95-2)	Listed	Listed	Listed	Listed
Quartz (CAS14808-60-7)	Listed		Listed	

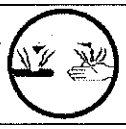
US. California Proposition 65: WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects, or reproductive harm.

Component	Regulation	% In Blend (approx.)	Remark
Titanium dioxide (CAS 13463-67-7)	ACGIH	1-10	Carcinogenic
Quartz (14808-60-7)	ACGIH	20-30	Carcinogenic
Carbon Black (1333-86-4)	ACGIH	< 0.1	Carcinogenic

Canada

This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

WHMIS Classification

	
Class E: Corrosive	**Class D-2A:** Material Causing other toxic effects

International

International Inventories

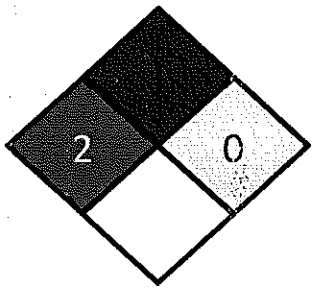
Country or Region	Inventory	On Inventory? (Yes/No)
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

16. Other Information

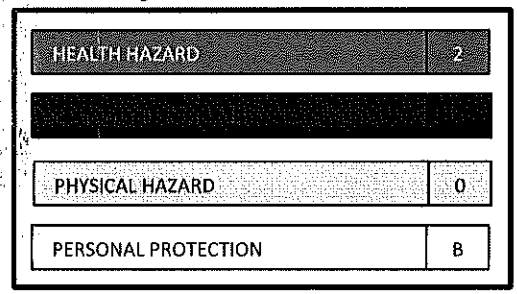
Date Prepared or Revised: December 2014
Supersedes: September 2014
Contact Simpson Strong-Tie Environmental Health and Safety at EHS@strongtie.com

Additional Resin (white side) Classifications

NFPA Ratings

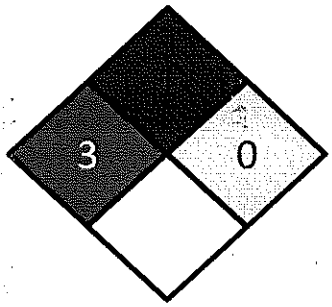


HMIS Rating

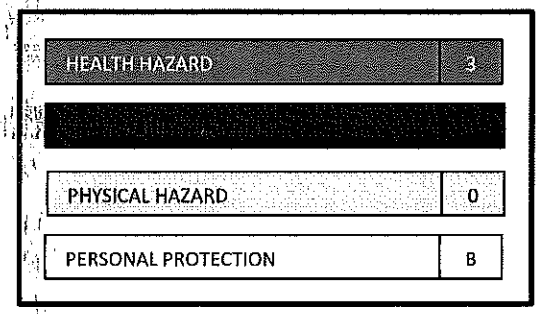


Additional Hardener (green side) Classifications

NFPA Ratings



HMIS Rating



Abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists
CAS No.: Chemical Abstract Service Registry Number
CERCLA: Comprehensive Environmental Response, Compensation and Liability Act (U.S. EPA)

CPR:	Controlled Product Regulations (Canada)
DOT:	Department of Transportation (U.S.)
EPA:	Environmental Protection Agency (U.S.)
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals
HEPA:	High-Efficiency Particulate Air
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods code
LPP:	Limité Permisible Ponderado (Chile)
NIOSH:	National Institute of Occupational Safety and Health (U.S.)
NFPA:	National Fire Protection Association (US)
NTP:	National Toxicology Program (US)
OSHA:	Occupational Safety and Health Administration (U.S.)
PEL:	Permissible Exposure Limit
SARA:	Superfund Amendments and Reauthorization Act (U.S. EPA)
SDS:	Safety Data Sheet
STEL:	Short Term Exposure Limit (15 minute Time Weighted Average)
STOT:	Specific Target Organ Toxicity (GHS Classification)
TLV:	Threshold Limit Value
TSCA:	Toxic Substances Control Act (U.S.)
TWA:	Time Weighted Average (exposure for 8-hour workday)
U.S.:	United States
VOC:	Volatile Organic Compounds
WHMIS:	Canadian Workplace Hazardous Materials Information System

Disclaimer

This Safety Data Sheet (SDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this SDS. This SDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

Internal

FOR INTERNAL USE ONLY

SET-XP Resin:
XCOM3B – 50% Cartridge

SET-XP Hardener:
XCOM3B – 50% Cartridge
XCORR – 50% Cartridge

SET® *Anchoring Adhesive*
SAFETY DATA SHEET

1. Identification

Product Identification

Product Identifier:	**SET (SET22, SET56, SETPAC10, SETPAC-EZ, SET1.7KTA)**
Recommended Use:	High Strength Anchoring Adhesive – Epoxy Resin
Use Restrictions:	None Known.

Company Identification

Company:	Simpson Strong-Tie Company Inc.
Address:	5956 W. Las Positas Blvd. Pleasanton, CA 94588
Phone:	1-800-999-5099
Website:	www.strongtie.com
Emergency:	1-800-535-5053 (US/Canada) 1-352-323-3500 (International)

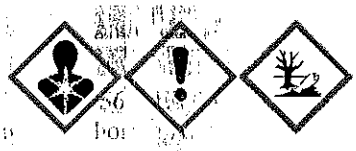
For most current SDS, please visit our website at **www.strongtie.com/sds**

2. Hazard Identification

General Information

SET Anchoring Adhesive is a two part system. The two parts of this product have been assessed according to GHS and are classified below. The final hardened material is considered nonhazardous. Some hazards apply upon grinding or cutting through hardened product.

Resin (white side) GHS Classification



Physical Hazards:	Not Classified.	
Health Hazards:	Skin Corrosion/Irritation	Category 2
	Serious Eye Damage/Irritation	Category 2A
	Sensitization, Skin	Category 1
	Germ Cell Mutagenicity	Category 2
Environmental Hazards:	Chronic Aquatic Environmental Hazard	Category 2

Signal Word: **WARNING!**

Hazard Statements: Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Suspected of causing genetic defects. Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Avoid breathing mist or vapor. Wash thoroughly after handling. Avoid release to the environment.

Response: If exposed or concerned: Call a poison center/doctor. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before re-use. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Collect Spillage.

Storage: Store locked up. Store in a well-ventilated place. Store between 45-90°F (7-32°C).

Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.

Hardener (black side) GHS Classification

Physical Hazards:	Not Classified.	
Health Hazards:	Acute Toxicity, Dermal	Category 4
	Skin Corrosion/Irritation	Category 1
	Serious Eye Damage/Irritation	Category 1
	Sensitization, Skin	Category 1
	Reproductive Toxicity (fertility)	Category 2
Environmental Hazards:	Acute Aquatic Environmental Hazard	Category 1
	Chronic Aquatic Environmental Hazard	Category 2

Signal Word: **DANGER!**

Hazard Statements: Harmful in contact with skin. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Suspected of damaging fertility. May cause damage to organs(nasal cavity) through prolonged or repeated exposure. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Precautionary Statements:

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Avoid release to the environment.

Response: If exposed or concerned: Call a poison center/doctor. If swallowed: Rinse mouth. Do NOT induce vomiting. If inhaled: Remove person to fresh air and keep comfortable for breathing. If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Take off contaminated clothing and wash before reuse. Collect Spillage.

Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Store between 45-90°F (7-32°C).

Disposal: Dispose of contents/container in accordance with local/regional/national regulations.

Hazards Not Otherwise Classified (HNOC)

The above hazards are for the uncured Resin component of SET. Upon combination with the Hardener component of SET an innocuous solid is formed which does not present any immediate hazards. Upon grinding or cutting the cured product the following hazards may apply.

Health Hazards:	Carcinogenicity	Category 1A
Hazard Statements:	May cause cancer.	
Precautionary Statements:	Do not breathe dust.	

3. Composition Information

General Information

This product is a mixture. Hazardous ingredients for each component are listed below. May include other nonhazardous ingredients. May include other trace ingredients, see Section 15.

Resin (white side)

Chemical Name	CAS Number	Weight %
Bisphenol A/Epichlorohydrin	25068-38-6	40-60
Phenol, polymer with formaldehyde, glycidyl ether	28064-14-4	40-60
Butyl Glycidyl Ether	2426-08-6	1-10
Titanium Dioxide	13463-67-7	1-10

Hardener (black side)

Chemical Name	CAS Number	Weight %
Limestone	1317-65-3	30-50
Benzyl Alcohol	100-51-6	10-20
2-Piperazin-1-ylethylamine	140-31-8	5-10
Bisphenol A	80-05-7	5-10
Furfuryl Alcohol	98-00-0	1-5
Nonylphenol	84852-15-3	1-5
Triethylenetetramine	112-24-3	1-5
Benzyldimethylamine	103-83-3	1-5
Crystalline Silica, Quartz	14808-60-7	< 1

4. First-Aid Measures

General Information

Provide general supportive measures and treat symptomatically. Symptoms may be delayed. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. If exposed or concerned: Get medical advice/attention. Wash contaminated clothing before reuse.

Routes of Exposure

Eye Contact: Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. Remove contact lenses if present and easy to do. If redness, burning, blurred vision, or swelling persists, **consult a physician.**

Skin Contact: Remove contaminated clothing and product, immediately wash affected area with soap and water. Chemical burns must be treated by a **physician.**

Ingestion: Rinse mouth immediately. Give large amounts of milk or water, if person is conscious. Only induce vomiting at the instruction of medical personnel. **Consult a physician.**

Inhalation: Remove patient to fresh air. Give oxygen or artificial respiration if needed. If patient continues to experience difficulty breathing, **consult a physician.**

Most Important Symptoms

Irritant effects. Sensitization. Symptoms include itching, burning, redness and tearing. Corrosive effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause temporary blindness and severe eye damage. May cause allergic skin reaction.

5. Fire-Fighting Measures

Suitable Extinguishing Media: Extinguish with foam, carbon dioxide, dry powder, or water fog.

Additional Information: None known.

Hazards during Fire-Fighting: Hazardous decomposition products may occur when materials polymerize at temperatures above 500°F (260°C). Irritating and toxic gases/fumes may be released during a fire. Water run-off can cause environmental damage. Do not allow run-off from fire-fighting to enter drains or water courses.

Fire-Fighting Procedures: Use standard fire-fighting procedures and consider the hazards of other involved materials. In case of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn. Move containers from fire area if you can do so without risk. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

6. Accidental Release Measures

Personal Precautions

Keep unnecessary personnel away. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained.

Clean-Up Methods

Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Place in leak-proof containers. Seal tightly for proper disposal. Clean surface thoroughly to remove residual contamination.

Large spills: Stop the flow of material, if this is without risk. Dike far ahead of spill. Use a non-combustible material like vermiculite, sand or earth to soak up the product. Place in leak-proof containers. Seal tightly for proper disposal. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas.

Environmental Precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so.

7. Handling and Storage

Handling

Mechanical ventilation or local exhaust ventilation is recommended. Keep away from open flames, hot surfaces and sources of ignition. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Avoid contact with eyes, skin, and clothing. Pregnant women should not work with this product if there is risk of exposure. Observe good industrial hygiene practices.

Storage

Store in a closed container away from incompatible materials. Keep in original container. Keep container tightly closed. Store in a dry place out of direct sunlight. Keep out of the reach of children. Store between 45-90°F (7-32°C). Keep away from heat and sources of ignition. Store in a well-ventilated place. Store locked up.

8. Exposure Controls / Personal Protection

Personal Protective Equipment

Protective Measure: Wear appropriate personal protective equipment.
Eye Protection: Wear chemical splash goggles or safety glasses with side shield.
Hand Protection: Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
Skin and Body Protection: Wear long sleeve shirt/long pants and other clothing as required to minimize contact.
Respirator Protection: The use of a respirator is not required during normal use of this product. If grinding or cutting cured product the use of an approved respirator is recommended.
General Hygiene: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

Engineering Controls

When using indoors good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Ready access to running water is required. Provide eyewash station.

Exposure Limits

Component *Skin Designation	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
Triethylenetetramine * (CAS 112-24-3)	N/E	N/E	6 mg/m^3 1 ppm
Quartz** (CAS 14808-60-7)	0.3 mg/m^3(total dust) 0.1 mg/m^3 (respirable)	0.025 mg/m^3 (respirable)	0.05 mg/m^3 (respirable)
Limestone (CAS 1317-65-3)	5 mg/m^3(Respirable) 15 mg/m^3 (Total dust)	N/E	5 mg/m^3(Respirable) 10 mg/m^3 (Total dust)

Component *Skin Designation	OSHA (PEL)	ACGIH (TLV)	NIOSH Pocket Guide
Benzyl Alcohol (CAS 100-51-6)	N/E	N/E	44.2 mg/m^3 10 ppm
Furfuryl alcohol * (CAS 98-00-0)	N/E	15 ppm (STEL) 10 ppm (TWA)	40 mg/m^3 10 ppm
N-Butyl Glycidyl Ether (2426-08-6)	270 mg/m^3 50 ppm	3 ppm	30 mg/m^3 (Ceiling) 5.6 ppm (Ceiling)
Titanium Dioxide (13463-67-7)	5 mg/m^3(respirable) 15 mg/m^3(total dust)	10 mg/m^3	N/E

Additional Information

After Cure: Product forms an innocuous solid. Processing after cure (grinding or cutting) may produce dust containing compounds that present an inhalation hazard.

9. Physical and Chemical Properties

Property	Resin	Hardener
Physical State:	Liquid, Paste	Liquid, Paste
Color:	White	Black
Odor:	Sweet	Ammonia
pH:	6.9	10.6
Flammability limit – lower %:	No data	No data
Flammability limit – upper %:	No data	No data
Vapor Pressure:	Non-volatile	No data
Vapor Density:	No data	No data
Solubility:	Insoluble in water	Slightly soluble in water
Freezing/Melting Point:	No data	No data
Boiling Point:	> 500 °F (>260 °C)	No data
Flash Point:	250 °F (121 °C) Open Cup	198 °F (92.2 °C) Open Cup
Evaporation Rate:	No data	No data
Decomposition Temperature:	No data	No data
Specific Gravity:	1.21 at 72°F (22°C)	1.23 at 72°F (22°C)
VOC (after cure):	3 g/L	3 g/L
Kow:	No data	No data
Viscosity:	No data	No data

10. Stability and Reactivity

Resin (white side)

Reactivity: This product is stable and non-reactive under normal conditions.
Chemical Stability: Stable under normal storage conditions.
Condition to Avoid: High heat and open flame.
Substances to Avoid: Oxidizing agents, acids, organic bases, and amines.
Hazardous Reactions: Hazardous polymerization does not occur.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, and other organic compounds.

Hardener (black side)

Reactivity: This product is stable and non-reactive under normal conditions.
Chemical Stability: Stable under normal storage conditions.
Condition to Avoid: High heat and open flame.
Substances to Avoid: Strong oxidizing agents. Strong acids.
Hazardous Reactions: Hazardous polymerization does not occur.
Decomposition Products: Carbon dioxide, carbon monoxide, oxides of nitrogen, and other organic compounds.

11. Toxicological Information

Likely Routes of Exposure

Ingestion: Ingestion may cause irritation to the gastrointestinal tract.

Inhalation: This material is a viscous liquid to semi-solid which does not easily form vapors. Inhalation of processing dust may irritate the respiratory tract.

Skin contact: Harmful in contact with skin. Causes severe skin burns. Causes skin irritation. May cause an allergic skin reaction.

Eye contact: Causes serious eye irritation. Causes eye burns.

Information on Toxicological Effects

Acute toxicity: Occupational exposure to the substance or mixture may cause adverse effects.

Product	Species	Test Result
SET Resin (CAS mixture)		
Acute, *Dermal,* LC50	Rabbit	>2000 mg/kg
Acute, *Oral,* LD50	Rat	>5000 mg/kg
SET Hardener (CAS mixture)		
Acute, *Oral,* LD50	Rat	>5000 mg/kg

Skin corrosion/irritation: Causes skin irritation. Causes severe skin burns.

Eye damage/eye irritation: Causes serious eye irritation/ damage.

Respiratory sensitization: No data available.

Skin sensitization: May cause an allergic skin reaction.

Germ cell mutagenicity: Contains a component that is suspected of causing genetic defects.

Carcinogenicity: May cause cancer. Both the resin and hardener components of this product contain components that are listed carcinogens. Quartz and Titanium Dioxide are considered carcinogens only in their inhalable form. Due to the nature of this product inhalation is highly unlikely. Exposure to respirable Quartz and Titanium Dioxide is likely only when grinding or cutting cured product, ensure good work practice and use of personal protective equipment as needed to control exposure.

IARC Monographs. Overall Evaluation of Carcinogenicity

Quartz (14808-60-7)	1 Carcinogenic to humans.
Titanium Dioxide (13463-67-7)	2B Possibly Carcinogenic to humans.

NTP Report on Carcinogens

Quartz (14808-60-7)	Known to be Human Carcinogen

Reproductive toxicity: Suspected of damaging fertility.

Aspiration hazard: No data available.

Specific target organ toxicity:

Single exposure No data available.

Repeated exposure May cause damage to organs (nasal cavity) through prolonged or repeated exposure.

Further Information

Toxicological, ecotoxicological, physical, and chemical properties may not have been fully investigated. Hazard data above is estimated based on best available information. Some workers with pre-existing medical conditions such as: asthma, allergies, or impaired pulmonary and/or liver functions, or who may be particularly susceptible to this material, may be affected by exposure to this material.

12. Ecological Information

General Information

Information given is based on data on the components and the ecotoxicology of similar products. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects. Avoid release to the environment.

Supporting Data

Component	Species	Test Result
SET Resin (CAS mixture)		
Aquatic Acute, Algae, EC50	Algae	>1000 mg/l, 72 hours
Aquatic Acute, Crustacea, EC50	Daphnia Magna	324.87 mg/l, 48 hours
Aquatic Acute, Fish, LC50	Fish	707.11 mg/l, 96 hours

Component	Species	Test Result
2-Piperazin-1-ylethylamine (140-31-8)		
Aquatic, Fish, LC50	Fathead Minnow	1950-2460 mg/l, 96 hours
Benzyl alcohol (CAS 100-51-6)		
Aquatic, Fish, LC50	Bluegill	10 mg/l, 96 hours
Nonylphenol (CAS 84852-15-3)		
Aquatic, Crustacea, EC50	Clam	0.0379 mg/l, 48 hours
Aquatic, Fish, LC50	Winter Flounder	0.017 mg/l, 96 hours
Bisphenol A (CAS 80-05-7)		
Aquatic, Crustacea, EC50	Daphnia	9.2-11.4 mg/l, 48 hours
Aquatic, Fish, LC50	Fathead Minnow	3.6-5.4 mg/l, 96 hours
Furfuryl Alcohol (98-00-0)		
Aquatic, Fish, LC50	Fathead Minnow	32 mg/l, 96 hours
benzyldimethylamine (CAS 103-83-3)		
Aquatic, Fish, LC50	Fathead Minnow	35.8-39.9 mg/l, 96 hours

Persistence and degradability: This product is not expected to be readily biodegradable.

Bioaccumulative potential: No data available for this product.

Partition coefficient n-octanol / water (log Kow)

Butyl glycidyl ether (2426-08-6)	0.63
Benzyl alcohol (CAS 100-51-6)	1.1
Bisphenol A (CAS 80-05-7)	3.32
Nonylphenol (CAS 84852-15-3)	5.71

Mobility in soil: This product is non-volatile.

Further Information

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.

13. Disposal Consideration

Waste Disposal of Substance: Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Container Disposal: Empty containers or liners may retain some product residues; follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transportation Information

Resin (white side)

UN number: UN3082

UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Bisphenol-A-Epichlorohydrin), 9, III, Marine Pollutant

Precautions: Marine Pollutant

Required Labels: 9

ERG Code (IATA): 9L

EmS (IMDG): F-A, S-F

Hardener (black side)

UN number: UN2735

UN proper shipping name: AMINES, LIQUID, CORROSIVE, N.O.S. (Aminoethylpiperazine, Nonylphenol), 8, III, Marine Pollutant

Precautions: Marine Pollutant

Required Labels: 8

ERG Code (IATA): 8L

EmS (IMDG): F-A, S-B

Additional Information

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

This substance/mixture is not intended to be transported in bulk

This information does not cover all specific regulatory or operational requirements of this product. The classifications for transportation may vary by container volume or different regional or national regulations.

15. Regulatory Information

United States

Federal Regulations: This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D): Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050): Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4):
Bisphenol A (CAS 80-05-7) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard Categories:	Immediate	Delayed	Fire	Pressure	Reactivity
Resin	Yes	Yes	No	No	No
Hardener	Yes	Yes	No	No	No

SARA 302 Extremely hazardous substance: No
SARA 311/312 Hazardous chemical: Yes
SARA 313 (TRI reporting):

Chemical Name	CAS Number	% by weight
Bisphenol A	80-05-7	5-10

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Bisphenol A (CAS 80-05-7)

US. California Proposition 65: WARNING: This product contains a chemical known to the State of California to cause cancer, birth defects, or reproductive harm.

Component	Regulation	% In Blend (approx.)	Remark
Quartz (14808-60-7)	ACGIH	< 1	Carcinogenic
Carbon Black (1333-86-4)	ACGIH	< 0.1	Carcinogenic
Titanium dioxide (CAS 13463-67-7)	ACGIH	1-10	Carcinogenic

US State Right-To-Know Lists

Chemical	Massachusetts RTK	New Jersey Work and Community RTK Act	Pennsylvania Worker and Community RTK Law	Rhode Island RTK
2-Piperazin-1-ylethylamine (CAS 140-31-8)	Listed		Listed	
Benzyl Alcohol (100-51-6)	Listed		Listed	
Bisphenol A (CAS 80-05-7)	Listed	Listed	Listed	Listed
Furfuryl alcohol (CAS 98-00-0)	Listed		Listed	
Limestone (CAS 1317-65-3)	Listed		Listed	
Nonylphenol (CAS 25154-52-3)	Listed		Listed	

Quartz (14808-60-7)	Listed		Listed	
Triethylenetetramine (CAS 112-24-3)	Listed		Listed	
Butyl glycidyl ether (CAS 2426-08-6)	Listed		Listed	
Titanium dioxide (CAS 1317-80-2)	Listed		Listed	

Canada

This product has been classified according to the hazard criteria of the CPR and the SDS contains all of the information required by the CPR.

WHMIS Classification

	
Class E: Corrosive	**Class D-2A:** Material Causing other toxic effects

International

International Inventories

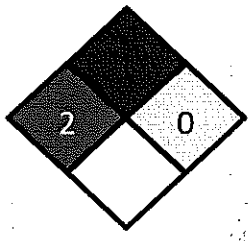
Country or Region	Inventory	On Inventory? (Yes/No)
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

16. Other Information

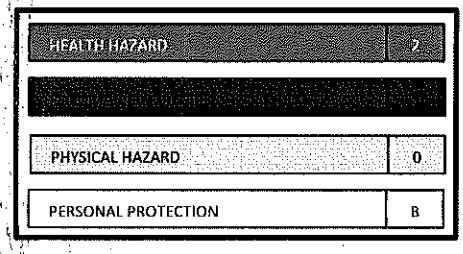
Date Prepared or Revised: September 2014
Supersedes: August 2012

Additional Resin (white side) Classifications

NFPA Ratings

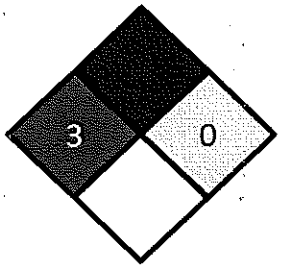


HMIS Rating



Additional Hardener (black side) Classifications

NFPA Ratings



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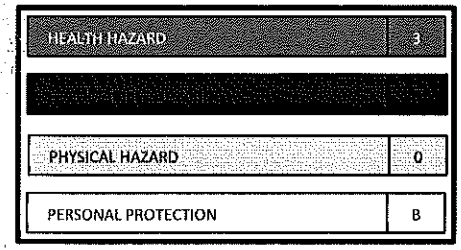

Abbreviations

ACGIH:	American Conference of Governmental Industrial Hygienists
CAS No.:	Chemical Abstract Service Registry Number
CERCLA:	Comprehensive Environmental Response, Compensation and Liability Act (U.S. EPA)
CPR:	Controlled Product Regulations (Canada)
DOT:	Department of Transportation (U.S.)
EPA:	Environmental Protection Agency (U.S.)
GHS:	Globally Harmonized System of Classification and Labeling of Chemicals
HEPA:	High-Efficiency Particulate Air
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods code
LPP:	Limité Permisible Ponderado (Chile)
NIOSH:	National Institute of Occupational Safety and Health (U.S.)
NFPA:	National Fire Protection Association (US)
NTP:	National Toxicology Program (US)
OSHA:	Occupational Safety and Health Administration (U.S.)
PEL:	Permissible Exposure Limit
SARA:	Superfund Amendments and Reauthorization Act (U.S. EPA)
SDS:	Safety Data Sheet
STEL:	Short Term Exposure Limit (15 minute Time Weighted Average)
STOT:	Specific Target Organ Toxicity (GHS Classification)
TLV:	Threshold Limit Value
TSCA:	Toxic Substances Control Act (U.S.)
TWA:	Time Weighted Average (exposure for 8-hour workday)
U.S.:	United States
VOC:	Volatile Organic Compounds
WHMIS:	Canadian Workplace Hazardous Materials Information System

Disclaimer

This Safety Data Sheet (SDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this SDS. This SDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.

Internal

FOR INTERNAL USE ONLY

SET Resin:
XCOM3B – 50% Cartridge

SET Hardener:
XCOM3A – 50% Cartridge
XCORR – 50% Cartridge

System Information

Maverick 4 to 1 WB Epoxy ***Water Based Clear Epoxy Coating***

Description:

A high gloss premium quality 2 part water base epoxy coating that provides epoxy toughness, chemical resistance and durability with the convenience of a water base system and long pot life.

Recommended Surfaces:

For interior use only unless protected by another product with a UV inhibitor such as our aliphatic urethane. Uses include industrial floors in factories, restaurant kitchens, schools, hospitals, food processing, garage floors, dairies and warehouses.

- **Interior Concrete Floors**
- **Industrial Floors**
- **Garages**
- **Showrooms**
- **Warehouses**
- **Kitchens**
- **Restaurants**

Advantages

- **Easy water clean-up**
- **Long pot life**
- **Fast drying**
- **Epoxy toughness**
- **Excellent chemical and solvent resistance**

Finish:

High Gloss

Package:

Mix thoroughly 4 Parts "A" with 1 Part "B".
Part "A" or Part "B" will not dry or cure if used alone.

Colors:

Clear

Inspection:

Surface must be structurally sound, dry and free of oil, grease, curing agents, dirt, dust or other foreign material that may prevent proper adhesion. Surface must be porous and profiled.

Coverage:

250-350 sq. ft. per gallon.

Clean-up:

Uncured material can be removed with soap and water. Cured material can only be removed mechanically.

Surface Preparation:

Prepare surface by sanding, grinding, water and or sandblasting or bead blasting to achieve a clean, porous and uniform surface that will allow product to soak in and bond permanently. Muriatic Acid (blended 1:4 with water) may be used to etch concrete and will require baking soda or soda ash to neutralize. (Please use caution when working with acid. Read and follow all warnings and instructions on label). Clean surface entirely with TSP and rinse completely with water several times. Remove mildew or algae using 50/50 blend of household bleach and water. (Do not allow bleach to come into contact with acid). Read bleach instructions and warnings carefully before using. Rinse thoroughly. The surface must be porous enough to allow the product to soak in. Surface should feel like 30 grit sand paper.

Mildew:

DO NOT PAINT OVER MILDEW. Mildew is a fungus, brown, black, grey or even white in color, and will rapidly grow through any coating applied over it. A solution of 50% household bleach and 50% water will kill the mildew. See precautions on bleach label for handling before using.

Mixing:

In a clean and dry bucket thoroughly mix four parts A and one part B together. Combine using an agitator, jiffy mixer or stir stick. Mix for at least 2 minutes or until completely combined. Only prepare the amount you can use in 1.5 hours or less.

Adding Water:

Blend up to one half-gallon of water with 1 gallon of Part A only. Once gently mixed, add 1 quart of Part B and mix thoroughly. DO NOT mix Part A with Part B *before* adding water.

Application:

Use a 1/4 inch nap mohair or shed-free roller for the main area. Begin by cutting in the edges and trim with a brush. The center may be done like you would normally paint a surface, being sure to overlap and back roll each area carefully. For best results apply at least 2 thin coats at 250 sq. ft. per gallon. (Allow first coat to dry before applying second coat).

Anti-Skid Additive:

8 oz to 16 oz of anti-skid additive may be added per gallon. (See anti-skid specifications for more details).

Drying Time:

1) **At normal conditions (77^{O} Farenheit & 50% Humidity) to touch in less than 1 hour.**
2) **You may re-coat in approximately 8 hours.**
3) **Should not be applied to surfaces having temperatures below 55^{O}F.**
4) **Light foot traffic in 8 hours, normal foot traffic in 24 hours, vehicle traffic in 96 hours.**

Clear Gloss Enamel Properties

Pot Life, hr	1.5	Mixed Viscosity	82-90 Krebs Units
Gloss, 60° spec, 1 day	>90	Tack Free Time, ^{6}hr	2+
Gloss, 60° spec, 4 day	>90	Hard Dry Time, ^{6}hr	8+
Mix Ratio	4:1		

Technical Information

A & B Mixed

Type: Two component water base epoxy
Diluent: Water
Solids Content: 46-48% by weight
43-45% by volume
Viscosity: 80-90 KREBS units
Flash Point: >150^{0}F
Maximum V.O.C.: 100 grams per liter

This product contains chemicals known to the State of California to cause cancer, birth defects and reproductive harm. The maximum V.O.C. of this product does not exceed 100 grams/liter. WARNING! If you scrape, sand or remove old paint, you may release lead dust. LEAD IS TOXIC. Contact the National Lead Information Hotline at 1-800-424-LEAD or log on to www.epa.gov/lead.

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product: VOCOMP®-20 **Part Number: 3420000**

Manufacturer: W. R. Meadows®, Inc. **Address:** 300 Industrial Drive, Hampshire, Illinois 60140

Telephone: (847) 214-2100 In case of emergency, dial (800) 424-9300 (CHEMTREC)

Revision Date: 9/9/2014

Product Use: Concrete Curing/Sealing Compound

SECTION 2: HAZARDS IDENTIFICATION/EXPOSURE LIMITS

HMIS	
|Health|	|1|
|Flammability|	|0|
|Reactivity|	|0|
|Personal Protection|	| |

HAZARD STATEMENTS

WARNING!

Causes skin irritation.

PRECAUTIONARY STATEMENTS

Avoid direct contact.

SECTION 3: HAZARDS COMPONENTS

Chemical Name:	CAS Number	% by Weight	SARA 313	Vapor Pressure (mm Hg@20°C)	LEL (@25°C)
1. Propylene Glycol Phenyl Ether	770-35-4	1-5	No	< 1	0.8

Under the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1966 (SARA) and 40 CFR Part 372, chemicals listed on the 313 List (40 CFR Part 373.65) are identified under the heading "SARA 313."

SECTION 4: EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Flush eyes with water for fifteen (15) minutes. If symptoms persist, seek medical attention.

SKIN CONTACT: Wash affected areas with mild soap and water. Remove contaminated shoes/clothing. If symptoms persist, seek medical attention.

INHALATION: Not expected to be an exposure route as supplied. If respiratory symptoms develop, seek medical attention.

INGESTION: Dilute with liquid unless the victim is unconscious or very drowsy. Do not induce vomiting. If vomiting spontaneously occurs, prevent lung aspiration. Seek immediate medical attention.

SECTION 5: FIRE AND EXPLOSIVES HAZARDS

FLASHPOINT: Product will not flash due to water content.

EXTINGUISHING MEDIA: Water fog, foam, dry chemical.

CHEMICAL/COMBUSTION HAZARDS: Carbon monoxide, carbon dioxide, and incomplete combustion products.

PRECAUTIONS/PERSONAL PROTECTIVE EQUIPMENT: Use appropriate personal protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES: Avoid direct contact. Dike and contain spilled material. Remove source of spill if safe to do so. Apply absorbent and place clean-up material in sealed/marked containers for proper disposal. Clean-up materials will be classified as non-hazardous waste.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING PROCEDURES: Avoid direct contact.

SAFE STORAGE: Prevent product from freezing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

	OSHA				ACGIH			
Chemical Name:	PEL	PEL/CEILING	PEL/STEL	SKIN	TWA	TLV/CEILING	TLV/STEL	SKIN
1. Propylene Glycol Phenyl Ether	N/E	N/E	N/E	No	N/E	N/E	N/E	N/E

N/E: Not Established

ENGINEERING CONTROLS: None required under normal use conditions.

PERSONAL PROTECTIVE EQUIPMENT: Safety glasses, chemical-resistant gloves.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 212 degrees F **VAPOR DENSITY:** N/A **% VOLATILE BY VOLUME:** N/E

EVAPORATION RATE: <1 (Ether=1) **pH LEVEL:** 9.4 **% VOLATILE BY WEIGHT:** 80

WEIGHT PER GALLON: 8.46 **PRODUCT APPEARANCE:** Opaque Liquid **VOC CONTENT:** 20 g/L

SECTION 10: STABILITY/REACTIVITY

STABILITY: Stable. **HAZARDOUS POLYMERIZATION:** Will not occur.

CONDITIONS AND MATERIALS TO AVOID: None recognized.

HAZARDOUS DECOMPOSITION PRODUCTS: None recognized.

SAFETY DATA SHEET

SECTION 11: TOXICOLOGICAL INFORMATION

EYE CONTACT: Direct contact may cause mild to moderate irritation.
SKIN CONTACT: Direct contact may cause slight skin irritation. Prolonged/repeated contact may result in irritation.
INHALATION: Not anticipated to be an exposure route.
INGESTION: Not anticipated to be an exposure route.
SIGNS AND SYMPTOMS: Symptoms of eye irritation include tearing, reddening, and swelling. Symptoms of skin irritation include redness and swelling. Gastrointestinal irritation symptoms include nausea, vomiting, and abdominal discomfort. Symptoms of respiratory irritation include runny nose, sore throat, coughing, chest discomfort, shortness of breath, and reduced lung function.
AGGRAVATED MEDICAL CONDITIONS: Pre-existing skin, eye, and respiratory disorders may be aggravated by exposure to this product.
OTHER HEALTH EFFECTS: None recognized.

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY: N/E **DEGRADABILITY:** N/E **BIOACCUMULATIVE POTENTIAL:** N/E
SOIL MOBILITY: N/E **OTHER ADVERSE EFFECTS:** None Recognized

SECTION 13: WASTE DISPOSAL INFORMATION

WASTE DISPOSAL INFORMATION: Solidified product can be landfill disposed. No free liquids.

SECTION 14: TRANSPORTATION INFORMATION

HAZARDOUS/NON-HAZARDOUS MATERIAL: Not regulated by DOT.
UN NUMBER: None. **HAZARD CLASS:** N/A **PACKING GROUP:** N/A
UN PROPER SHIPPING NAME: N/A
ENVIRONMENTAL HAZARDS: None recognized.
BULK TRANSPORTATION INFORMATION: None.
SPECIAL PRECAUTIONS: Prevent product from freezing.

SECTION 15: REGULATORY INFORMATION

OTHER REGULATORY CONSIDERATIONS: None recognized.

SECTION 16: OTHER INFORMATION

PREPARATION DATE: 9/9/2014
PREPARED BY: Dave Carey

SAFETY DATA SHEET

Issuing Date 04-Jan-2017 **Revision Date** 17-Aug-2018 **Revision Number** 3

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name **Clorox® Performance Bleach1**

Other means of identification

Synonyms None

EPA Pesticide registration number 5813-114

Recommended use of the chemical and restrictions on use

Recommended Use Bleach
Uses advised against No information available

Details of the supplier of the safety data sheet

Supplier The Clorox Company

Supplier Address 1221 Broadway
Oakland
CA
94612
US

Telephone 1-510-271-7000

Emergency telephone number

Emergency Telephone Number For Medical Emergencies call: 1-800-446-1014. Transportation Emergencies, call Chemtrec: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

This product is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1

GHS Label elements, including precautionary statements

Emergency Overview

Signal word **Danger**

Hazard Statements
Causes serious eye damage
Causes skin irritation

Appearance Clear Yellow **Physical state** Liquid **Odor** Bleach

Precautionary Statements - Prevention
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
Immediately call a POISON CENTER or doctor/physician
Specific treatment (see supplemental first aid instructions on this label)

Eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician

Skin
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician

Ingestion
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Hazards not otherwise classified (HNOC)
Not applicable

Unknown Toxicity
No information available

Other information
No information available

Interactions with Other Chemicals
No information available.

Interactions with Other Chemicals
May react with bleach-containing products or other household cleaners to produce hazardous gases.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight-%	Trade Secret
Sodium hypochlorite	7681-52-9	5-10	*

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. FIRST AID MEASURES

First aid measures

General Advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Seek immediate medical attention/advice. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin contact Wash with soap and water. Get medical attention if symptoms occur. Take off contaminated clothing and wash before reuse.

Inhalation Remove to fresh air. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately. If not breathing, give artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get medical attention immediately if symptoms occur.

Ingestion Do NOT induce vomiting. Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

Self-protection of the first aider Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Most Important Symptoms and Effects Burning.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Unsuitable extinguishing media
CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products
Carbon oxides.

Explosion Data

Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge No.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with eyes. Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from moisture. Store locked up. Keep out of the reach of children. Store away from other materials.

Incompatible products None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hypochlorite 7681-52-9	None	None	None

Appropriate engineering controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection Wear protective gloves and protective clothing. Long sleeved clothing. Chemical resistant apron. Impervious gloves.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Take off contaminated clothing and wash before reuse. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. For environmental protection, remove and wash all contaminated protective equipment before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state	Liquid		
Appearance	Clear Yellow	**Odor**	Bleach
Color	Light yellow	**Odor Threshold**	No information available

Property	**Values**	**Remarks Method**
pH	12.1	None known
Melting / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		
Upper flammability limit	No data available	
Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Specific Gravity	1.1	None known
Water Solubility	Soluble in water	None known
Solubility in other solvents	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Explosive properties	No data available	
Oxidizing properties	No data available	

Other Information

Softening Point	No data available
VOC Content (%)	No data available
Particle Size	No data available
Particle Size Distribution	No data available

10. STABILITY AND REACTIVITY

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Hazardous Polymerization
Hazardous polymerization does not occur.

Conditions to avoid
Exposure to air or moisture over prolonged periods.

Incompatible materials
Strong acids Strong bases Acids Bases Oxidizing agent Strong oxidizing agents

Hazardous Decomposition Products
Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information .

Inhalation May cause irritation of respiratory tract. May cause pulmonary edema.

Eye contact Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage.

Skin contact Irritating to skin.

Ingestion Ingestion causes burns of the upper digestive and respiratory tracts. Ingestion may cause irritation to mucous membranes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	Inhalation LC50
Sodium hypochlorite 7681-52-9	= 8.91 g/kg (Rat)	>10000 mg/kg (Rabbit)	>2 mg/L

Information on toxicological effects

Symptoms Erythema (skin redness). Burning. May cause blindness. Coughing and/ or wheezing.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Mutagenic Effects No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	ACGIH	IARC	NTP	OSHA
Sodium hypochlorite 7681-52-9 (5-10)	-	Group 3	-	-

IARC (International Agency for Research on Cancer)
Group 3 - Not Classifiable as to Carcinogenicity in Humans

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Chronic Toxicity Carcinogenic potential is unknown.

Target Organ Effects Respiratory system. Eyes. Skin. Gastrointestinal tract (GI).

Aspiration Hazard No information available.

Numerical measures of toxicity Product Information
The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)
53,480.00 mg/kg
ATEmix (inhalation-dust/mist)
58.30 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity
The environmental impact of this product has not been fully investigated.

Persistence and Degradability
No information available.

Bioaccumulation
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Disposal methods Dispose of in accordance with federal, state and local regulations.

Contaminated Packaging Do not reuse empty containers. Dispose of in accordance with federal, state and local regulations.

Chemical Name	California Hazardous Waste
Sodium hypochlorite 7681-52-9	Toxic

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not restricted for road or rail

ICAO Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception

IATA Not restricted, as per Special Provision A197, Environmentally Hazardous Substance exception

IMDG Not restricted, as per IMDG Code 2.10.2.7, Marine Pollutant exception

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hypochlorite 7681-52-9	100 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Sodium hypochlorite 7681-52-9	100 lb	-	RQ 100 lb final RQRQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Rhode Island	Illinois
Sodium hypochlorite 7681-52-9	X	X	X	X	
Sodium hydroxide 1310-73-2	X	X	X	X	

EPA Statement

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

EPA Pesticide label
DANGER: CORROSIVE. Causes irreversible eye damage and skin burns. Harmful if swallowed. Do not get in eyes, on skin, or on clothing. Wear protective eyewear and rubber gloves when handling this product. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the restroom. Avoid breathing vapors and use only in a well-ventilated area.

International Regulations

Canada
WHMIS Hazard Class
Not determined

16. OTHER INFORMATION

NFPA	**Health Hazards**	3	**Flammability**	0	**Instability** 0	**Physical and Chemical Hazards**	-
HMIS	**Health Hazards**	3	**Flammability**	0	**Physical Hazard** 0	**Personal Protection**	X

Prepared By
Product Stewardship
23 British American Blvd.
Latham, NY 12110
1-800-572-6501

Issuing Date 04-Jan-2017
Revision Date 17-Aug-2018
Revision Note No information available

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet

TECHNICAL DATA SHEET

Top-Poly 246

SOLVENT CHEMICAL RESISTANT POLYURETHANE

PRODUCT DESCRIPTION:

Top-Poly 246 Chemical Resistant Polyurethane Coating is a high solids, high build chemical resistant two-component, gloss finish, aliphatic polyurethane coating. Top-Poly*246* provides strong chemical resistance and non-yellowing for use on exterior and interior pre-primed concrete surfaces. Typical surfaces for use of this product are aircraft hangars, automotive repair shops, service stations, show rooms, factory floors, garage floors, and many other commercial high traffic surfaces. Top-Poly *246* mixes at 2 Parts A to 1 Part B by volume. Top-Poly *246* is available in clear, white, 24 standard colors and also can be custom tinted.

Bond strength of this coating over previously installed coatings must be tested.

ADVANTAGES:

- *Excellent UV Resistance*
- *Gloss Finish*
- *Resists Yellowing*
- *Abrasion Resistant*
- *Excellent Durability*
- *24 Standard Colors*
- *Excellent Chemical Resistance*
- *V.O.C. Compliant* 420g/L*
- *Custom Tints Available*

*Check your local V.O.C. (Volatile Organic Content) Regulations before use.

USES:

- *Aircraft Hangars*
- *Auto Repair Shops*
- *Service Stations*
- *Show Rooms*
- *Factory Floors*
- *Commercial Floors*

PHYSICAL PROPERTIES:

Vehicle	*Polyurethane / Aliphatic Isocyanate*
Mixing Ratio	*2 -Parts A Resin to 1 Part B Curative*
Colors	*White, Clear and 24 Standard Colors (Custom tints available).*
Thinner / Reducer	*Top-Poly 246 Reducer* *Thin up to one pint per gallon after mixing Part A and Part B. Colder surfaces require more thinning than warmer surfaces.*
Application	*Brush and Roll.* *Use Solvent Resistant Brush and/or 3/16" – 5/16" High Quality Solvent Resistant Mohair Rollercover and/or Porcupine Roller (to reduce application generated entrained air)*
Recommended Primers	*Max-Bond 155 Waterborne Epoxy Coating or VC255 High Solids Epoxy 255 Coating*
Number of Coats	*1 coat over pre-primed or pre-coated surface.*
Solids – Clear Solids – Pigmented	*Weight 57.0% +/- 2* *Volume 53.6% +/- 2* *Weight 71.7% +/- 2* *Volume 62.3% +/- 2*
Volatile Organic Solvent	*Clear 415 grams/liter* *Pigmented 370 grams/liter*
Flash Point, T.T.C.	*105°F*
Theoretical Coverage (Sq. feet per gallon)	*Clear Pigmented* *1 mil (25 microns) 859 1000* *5 mils(125 microns) 172 200*
Minimum Application	*Pigmented: 2.65 DFT (4.01 WFT)* *Clear: 2.18 DFT (4.01 WFT)*

Abrasion Resistance Taber CS-17 wheel, 1000 cycles, 1000gm	*35 mg loss*
Hardness(Konig)	*105*
Impact Resistance (ASTM D-2794)	*160 inch pounds reverse and direct*
Flexibility	*Passes 1/8" conical mandrel*
Pot Life (Hours@77 deg F.)	*1 ½ - 2 ½ hours*
Cure Time (77° F& 50% Rel. Humidity.)	*To Touch: 4 – 6 hours* *To Re-coat: 10 – 12 hours* *Light Traffic: 30 - 48 hours* *Heavy Foot Traffic: 3 Days* *Full Cure: 7 Days* *Dry times will vary depending on conditions at the time of application.*
Recoat Time (77° F& 50% Rel. Humidity.)	*From 16 to 24 hours* *For application after 24 hours sand screen before recoat.*
Gloss @ 60 °	*90-93 (Gloss)*
Packaging	*1.5 gallon kits: 1 gallon Part A* *1/2 gallon Part B* *15 gallon kits: 2- 5 gallon pails Part A* *1- 5 gallon pail Part B*
Shelf Life	1 year when stored in unopened containers at an ambient temperature of 77° F. at 30% relative humidity. DO NOT ALLOW TO FREEZE.

1458 North 26th Avenue, Phoenix, Arizona 85009 Tel 602-484-7300 Fax 602-484-7313 Toll Free 1-888-485-7300

TECHNICAL DATA SHEET

Top-Poly 246

SOLVENT CHEMICAL RESISTANT POLYURETHANE

COATING LIMITATIONS:
Vapors from this coating may be offensive. Do not apply in or around occupied buildings until building management and everyone occupying the structure is notified.

As with all performance coatings, the cured film may become slippery when wet or exposed to oily conditions. Non skid additives can be added to aid in slip resistance.

This product is resistant to tire pick up, but surfaces may discolor due to tire plasticizer migration.

Do not apply in damp or wet weather or in air temperatures below 50oF or over 90oF and or extremely high humidity conditions.

Do not apply over unsound surfaces.

For specific chemical resistant properties that are not listed in Technical Data Sheet test before application.

If the coating is applied where food items are stored, remove all food items until the coating has fully cured and vapors have dissipated.

This product is not intended for spray application.

SURFACE PREPARATION:
Surfaces should be clean and free from contamination by dirt, oils, waxes, chalking, bacteria, cleaning, curing, etching agents, neutralizing agents, and peeling coatings. Existing coatings must be sanded or sand-screened using an 80 grit pad.

APPLICATION:
Bond strength of this coating over existing coatings should be determined by pre-testing. This coating must be applied over previously primed substrates. Always mix with new or uncontaminated mixing paddles. Mix this product well before use. To reduce bubbling of the coating avoid excessive agitation of the liquids. Premix both components before mixing together. Mix ratio is 2 parts A to 1 part B. Apply with notched squeegee, brush or roller to a maximum application thickness of 10 wet mils per coat. The first coat should be completely tack free before recoating. The second coat should be applied between 16 and 24 hours after the first coat (under normal curing conditions). If the coating is allowed to cure longer than 24 hours, sand to a uniform dullness. The floor should show no gloss or high spots. Do not apply coating unless substrate temperature is 50^{o} F and rising or 95 ^{o}F and falling. To lessen bubbling of the coating avoid excessive agitation of the liquids with the roller or applicator. It is recommended that this coating system not be exposed to water or moisture during mixing, application and cure. Contamination with moisture can cause premature curing, whitening and bubbles in the film. This coating is not designed in applications where the coated surface is immersed in water for extended lengths of time. Clean up tools with Xylene or VC 246 Reducer. Mixed Top-Poly *246* can be thinned 1 pint per gallon (approx. 10%) with Veron Coatings Top-Poly *246* Reducer. (Observe local and federal government regulations regarding V.O.C. (Volatile Organic Contents).
DISPOSE OF ALL WASTE IN ACCORDANCE WITH LOCAL STATE AND FEDERAL GOVERNMENT REGULATIONS.

KEEP OUT OF THE REACH OF CHILDREN.
THIS MATERIAL IS COMBUSTIBLE. KEEP AWAY FROM FLAMES. Do not take internally. Immediately wash hands or any part of your body, which comes into, contact with this product. Wear appropriate protective equipment. Avoid breathing vapor, mist or fumes. Use appropriate respirator for solvent systems and use only in well-ventilated areas. Do not use in tank or pit without proper protection. Use product in accordance with this product data sheet, any variance voids all warranties and liabilities. READ MATERIAL SAFETY DATA SHEET BEFORE USE OF THIS PRODUCT.

IMPORTANT NOTICE TO PURCHASER:
This system is designed for the experienced contractor and applicator. The information contained in this document is furnished without warranty, representation, inducement or license of any kind, except that it is accurate to the best of Veron Coating Systems, Inc. knowledge obtained from sources believed by Veron Coating Systems, Inc. to be accurate. Veron Coating Systems, Inc. does not assume any legal responsibility for use or reliance upon the information contained in this document. Qualified professionals must perform all product testing and applications. Before using any chemical product, read its Material Safety Data Sheet.

WARRANTY
This product is warranted to be free of defect to the original purchaser. Any unused product proven to be defective must be returned to the seller for replacement. Any warranty of this product is limited to the replacement of any purchased product that has been paid for in full and been shown to be defective. The seller or manufacturers only obligation shall be to replace such quantity of the product proven to be defective. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct, incidental or consequential, arising out of the use of or misuse of this product. Before using this product the applicator shall determine the suitability of this product for the intended use and the applicator assumes all liability whatsoever in connection therewith.

1458 North 26th Avenue, Phoenix, Arizona 85009 Tel 602-484-7300 Fax 602-484-7313 Toll Free 1-888-485-7300

TECHNICAL DATA SHEET

Top-Poly 246

SOLVENT CHEMICAL RESISTANT POLYURETHANE

Inorganic Acids	Rating	Solvents	Rating
10% Hydrochloric Acid	E	Methyl Ethyl Ketone	G
37% Hydrochloric Acid	E	Xylene	E
10% Nitric Acid	G	Toluene	G
50% Nitric Acid	G*	Isopropanol	G
10% Phosphoric Acid	E	Ethanol	G
50% Phosphoric Acid	G*	Ethyl Acetate	G
10% Sulfuric Acid	E	Trichloroethylene	G
50% Sulfuric Acid	F	Mineral Spirits	E
98% Sulfuric Acid	NR	Naphtha	E
Organic Acids	**Rating**	**Food And Beverages**	**Rating**
10% Acetic Acid	G	Water	E
25% Acetic Acid	F*	Coffee	E
50% Acetic Acid	NR	Milk	E
Glacial Acetic Acid	NR	Mustard	G
85% Lactic Acid	G	Vinegar	E
50% Citric Acid	F	Vegetable Oils	E
		Beer	E
Fuels, Lubricants, Hydraulic Fluids	**Rating**	Wine	G
Gasoline	E	Whiskey	G
Transmission Fluid	E	Cola	E
Brake Fluid	E		
Skydrol	F	**Miscellaneous**	**Rating**
Jet Fuel A-1	E	Blood	E
Motor Oil	E	Urine	E

* Stains

Tests were conducted on samples cured 7 days at room temperature. This chart should be used to determine the effect of the chemicals illustrated all chemicals not listed should be evaluated separately. Samples were tested on a pigmented film applied over Max-Bond 155 Waterborne Epoxy Primer. A ratings key is as follows:

RATINGS
E = Excellent
G = Good
F = Fair
NR = Not Recommended

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TECHNICAL DATA SHEET

Top-Poly 246

SOLVENT CHEMICAL RESISTANT POLYURETHANE

PROBLEMS	CAUSES
Orange Peel Finish	Coating applied too heavy. Coating applied over hot surface or cured in too hot conditions. Coating applied over incompatible existing surface. Recoating too soon.
Wrinkling of Film	Product applied too heavy. Coating applied over uncured film. Surface hot when coating is applied. Recoating too soon. Coating applied over incompatible existing coating.
Slow Cure or Poor Cure	Surface temperatures too cold. Poor mixing of the A & B components. Improper mixing ratios. Poor ventilation during application and cure. Coating applied too thick. Use of excessive reducer. Poor choice of reducer. Excessive use of “Cabosil” or fumed silica type of thickening agent.
Poor Gloss, Dull Finish	Solvents trapped in film due to inadequate ventilation during application and cure. Poor choice of reducer. Excessive use of non-skid additive. Excessive use of “Cabosil” or fumed silica type of thickening agent.
Whitening on or in the Cured Film	Film applied when surface still had moisture in it. Coating is exposed to water before completely cured.
Roller Marks in the Finish	High surface and ambient temperatures when applying. Use of fast solvent reducer when temperatures are too high. Humidity too high during application. Extra catalyst added to product. Product applied too thin.
Bubbles in the finish (1mm – 6mm)	Coating applied too soon over primer or undercoat. Extra catalyst added to product. Product applied too heavy. Temperature too high (over 90^{o}F.) during application. Incorrect choice of rollercover.
Bubbles in the Finish (greater than 6mm)	Humidity too high during application. Extra catalyst added to product. Product applied too heavy.
Coating Curing Fast	Use of fast solvent reducer when temperatures are too high. High surface and ambient temperatures when applying. Poor mixing of the A & B components, too much catalyst in mix.
Fisheyes; Crawling	Improper substrate cleaning. Surface contamination from oil, grease, silicone, sweat, or mold release agents, etc.
Pealing between Coats	Past critical recoat time when applied. Contamination between coats. Recoating too late. Improper mixing ratios, extra catalyst added to product.

DISPOSAL: DISPOSE OF ALL WASTE IN ACCORDANCE WITH LOCAL STATE AND FEDERAL GOVERNMENT REGULATIONS. Empty containers may contain coating residue, including flammable liquids or explosive vapors. Do not cut, puncture or weld on or near container. All label warnings must be observed until the container has been commercially cleaned or reconditioned.

THE WORLD’S MOST DEDICATED MANUFACTURER OF DECORATIVE FLOOR COATINGS
ACRYLICS – ACRYLIC URETHANES – POLYURETHANES – EPOXIES – MODIFIED CEMENT SYSTEMS

1458 North 26th Avenue, Phoenix, Arizona 85009 Tel 602-484-7300 Fax 602-484-7313 Toll Free 1-888-485-7300

SAFETY DATA SHEET

1. Identification

Material name: EUCOREPAIR V100 - 46 LB BAG
Material: 161V 46

Recommended use and restriction on use

Recommended use: Cement, Portland, chemicals
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:	EH&S Department
Telephone:	216-531-9222
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Skin sensitizer	Category 1
Carcinogenicity	Category 1A
Specific Target Organ Toxicity - Repeated Exposure	Category 1[1.]

Target Organs

1. Lung

Unknown toxicity - Health

Acute toxicity, oral	41.75 %
Acute toxicity, dermal	96.09 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	49.65 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3
Chronic hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	89.12 %
Chronic hazards to the aquatic environment	89.12 %

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement:
Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
May cause cancer.
Causes damage to organs through prolonged or repeated exposure.
Harmful to aquatic life with long lasting effects.

Precautionary Statements

Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/ protective clothing/ eye protection/ face protection. Use personal protective equipment as required.

Response: IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing. Specific treatment (see supplemental first aid instructions on this label). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. IF exposed or concerned: Get medical advice/attention.

Storage: Store locked up.

Disposal: Dispose of contents/ container to an approved facility in accordance with local, regional, national and international regulations.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	20 - <50%
Portland cement	65997-15-1	10 - <20%
Calcium sulfate	7778-18-9	1 - <5%
Calcium hydroxide	1305-62-0	1 - <2.5%
Magnesium Hydroxide	1309-42-8	1 - <5%
Titanium dioxide	13463-67-7	0.1 - <1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

Inhalation: Move to fresh air.

Skin Contact: Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Personal Protection for First-aid Responders: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Most important symptoms/effects, acute and delayed

Symptoms: Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire-fighters

Special fire-fighting procedures:	No data available.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
Accidental release measures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Methods and material for containment and cleaning up:	Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Environmental Precautions:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so. Avoid release to the environment.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation):	Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.
Safe handling advice:	Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust.Wash hands thoroughly after handling. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not get in eyes. Avoid contact with skin. Avoid contact with eyes, skin, and clothing.
Contact avoidance measures:	No data available.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace.

Storage

Safe storage conditions: Store locked up.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.05 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016)
	OSHA_ACT	0.025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	PEL	0.05 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values, as amended (02 2020)
Portland cement - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values, as amended (2011)
Portland cement - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Portland cement - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Portland cement	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Calcium sulfate - Total	REL	10 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
Calcium sulfate - Respirable.	REL	5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards, as amended (2010)
Calcium sulfate - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
Calcium sulfate - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000), as amended (1989)
Calcium sulfate - Inhalable fraction.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values, as amended (2008)
Calcium sulfate - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Calcium sulfate - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Calcium sulfate - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Calcium sulfate - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Calcium sulfate - Respirable	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as

fraction.			amended (09 2016)
Calcium sulfate - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Calcium hydroxide	TWA	5 mg/m3	US. ACGIH Threshold Limit Values, as amended (2011)
Calcium hydroxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Calcium hydroxide - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Calcium hydroxide - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Calcium hydroxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (09 2016)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Titanium dioxide - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Titanium dioxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Titanium dioxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Titanium dioxide - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Titanium dioxide - Respirable finescale particles	TWA	2.5 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2022)
Titanium dioxide - Respirable nanoscale particles	TWA	0.2 mg/m3	US. ACGIH Threshold Limit Values, as amended (01 2022)

Chemical name	**Type**	**Exposure Limit Values**	**Source**
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
	TWA	0.05 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (04 2022)

Portland cement - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Portland cement - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Portland cement - Respirable.	TWA	1 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2017)
Portland cement - Respirable fraction.	TWA	1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (08 2017)
Calcium Carbonate (Limestone) - Total dust.	STEL	20 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Calcium Carbonate (Limestone) - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Calcium Carbonate (Limestone) - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Calcium sulfate	TWA	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Calcium sulfate - Inhalable	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Calcium sulfate - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Calcium sulfate - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (03 2020)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Titanium dioxide	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)

Chemical name	**Type**	**Exposure Limit Values**	**Source**
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
	TWA	0.05 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and

			safety), as amended (04 2022)
Portland cement - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Portland cement - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Portland cement - Respirable.	TWA	1 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2017)
Portland cement - Respirable fraction.	TWA	1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (08 2017)
Calcium Carbonate (Limestone) - Total dust.	STEL	20 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)

Calcium Carbonate (Limestone) - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Calcium Carbonate (Limestone) - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Calcium sulfate	TWA	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009)
Calcium sulfate - Inhalable	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Calcium sulfate - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Calcium sulfate - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (03 2020)
Calcium hydroxide	TWA	5 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Calcium hydroxide	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Calcium hydroxide	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Magnesite - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Magnesite - Respirable fraction.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Magnesite - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2020)
Magnesite - Respirable particles.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Magnesite - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2020)
Magnesite - Inhalable particles.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Magnesite - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Glycol ether - Inhalable fraction and vapor.	TWA	10 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Amorphous silica - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2020)
Amorphous silica - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Amorphous silica - Respirable particles.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Amorphous silica - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor -

			Regulation respecting occupational health and safety), as amended (03 2020)
Amorphous silica - Respirable fraction.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Amorphous silica - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (06 2020)
Amorphous silica - Inhalable particles.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs: Table of Exposure Limits for Chemical Biological Substances (Workers Compensation Board); as amended (07 2007)
Titanium dioxide	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)

Appropriate Engineering Controls Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.

Individual protection measures, such as personal protective equipment

Eye/face protection: Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection

Hand Protection: Additional Information: Use suitable protective gloves if risk of skin contact.

Skin and Body Protection: Wear suitable protective clothing. Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state:	solid
Form:	Powder
Color:	Gray
Odor:	Odorless
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	2.85
Solubility(ies)	
Solubility in water:	Miscible with water.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: May be harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.

Eye contact: Causes serious eye damage.

Ingestion: May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 2,057.75 mg/kg

Dermal
Product: ATEmix: 3,789.8 mg/kg

Inhalation
Product: ATEmix: 36.91 mg/l

Repeated dose toxicity
Product: No data available.

Specified substance(s):
Calcium sulfate — NOAEL (Rat(Male), Oral, 52 - 104 Weeks): 256 mg/kg Oral Experimental result, Supporting study
NOAEL (Rat(female), Oral, 52 - 104 Weeks): 284 mg/kg Oral Experimental result, Supporting study
NOAEL (Rat(Male), Oral, 13 Weeks): 886 mg/kg Oral Experimental result, Supporting study
LOAEL (Rat(Male), Oral, 35 - 45 d): 237 mg/kg Oral Experimental result, Key study
NOAEL (Rat(Male), Oral, 35 - 45 d): 79 mg/kg Oral Experimental result, Key study

Skin Corrosion/Irritation
Product: No data available.

Specified substance(s):

Calcium sulfate	in vivo (Rabbit): Not irritant , 72 h
Calcium hydroxide	in vivo (Rabbit): Irritating , 24 - 72 h
Titanium dioxide	in vivo (Rabbit): Not irritant , 24 h

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Calcium sulfate	Rabbit, 72 h: Not irritant
Titanium dioxide	Rabbit, 24 - 72 h: Not irritant

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Crystalline Silica (Quartz)/ Silica Sand	Overall evaluation: Carcinogenic to humans.
Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Crystalline (Quartz)/ Silica Sand	Silica	Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended:

Crystalline Silica (Quartz)/ Silica Sand	Cancer

Germ Cell Mutagenicity

In vitro

Product: No data available.

In vivo

Product: No data available.

Reproductive toxicity

Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Target Organs
Specific Target Organ Toxicity - Repeated Exposure: Lung

Aspiration Hazard
Product: No data available.

Other effects: Constituents of this product may include crystalline silica which, if in inhalable form, may cause silicosis, a form of progressive pulmonary fibrosis. Inhalable crystalline silica is listed by IARC as a group I carcinogen (lung) based on sufficient evidence in occupationally exposed humans and sufficient evidence in animals. Crystalline silica is also listed by the NTP as a known human carcinogen. Constituents may also contain asbestiform or non-asbestiform tremolite or other silicates as impurities, and above de minimis exposure to these impurities in inhalable form may be carcinogenic or cause other serious lung problems.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):

Calcium sulfate	LC 50 (Pimephales promelas, 96 h): > 1,970 mg/l Experimental result, Weight of Evidence study
Magnesium Hydroxide	LC 50 (Fathead Minnow, 96 h): 306.79 mg/l LC 50 (Pimephales promelas, 96 h): 306.79 mg/l Experimental result, Key study
Titanium dioxide	LC 50 (Pimephales promelas, 96 h): 8.2 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study

Aquatic Invertebrates
Product: No data available.

Specified substance(s):

Calcium sulfate	EC 50 (Daphnia magna, 48 h): 1,970 mg/l
Magnesium Hydroxide	LC 50 (Daphnia magna, 48 h): 284.76 mg/l experimental result Experimental

	result, Key study
Titanium dioxide	LC 50 (Daphnia magna, 48 h): > 100 mg/l experimental result Experimental result, Weight of Evidence study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Titanium dioxide: NOAEL (Daphnia magna): 100 mg/l experimental result Experimental result, Supporting study

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

Mobility in soil: No data available.

Other adverse effects: Toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects.

13. Disposal considerations

Disposal methods: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

Further Information:

The above shipping description may not be accurate for all container sizes and all modes of transportation. Please refer to Bill of Lading.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Proposed Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

Chemical Identity	
Sodium nitrite	12 201803 2021

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended

Chemical Identity	OSHA hazard(s)
Crystalline Silica (Quartz)/ Silica Sand	kidney effects lung effects immune system effects Cancer

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Sodium nitrite	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard
Skin Corrosion or Irritation
Serious eye damage or eye irritation
Respiratory or Skin Sensitization

Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

Not Regulated.

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

Not Regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

WARNING
Cancer and Reproductive Harm - www.P65Warnings.ca.gov

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

VOC:

Regulatory VOC (less water and exempt solvent)	:	7 g/l
VOC Method 310	:	0.24 %

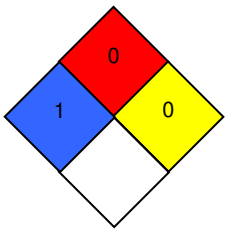
Inventory Status:

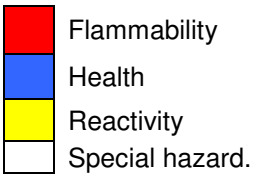
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EC Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Australia AICS:	All components in this product are listed on or exempt from the Inventory.
Ontario Inventory:	One or more components in this

	product are not listed on or exempt from the Inventory.
Mexico INSQ:	One or more components in this product are not listed on or exempt from the Inventory.
Taiwan Chemical Substance Inventory:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

NFPA Hazard ID





Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe; RNP - Rating not possible

Revision Date:	01/18/2024
Version #:	4.0
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

Safety Data Sheet

SC Multipurpose Grout

Version 1

SECTION 1 – PRODUCT AND COMPANY IDENTIFICATION

1.1 Trade Name (as labeled):	SC Multipurpose Grout
Synonyms:	N/A
CAS No:	Mixture
1.2 Product Use:	Multi-purpose grout
1.3 Company Name:	**SpecChem**
Company Address:	1511 Baltimore Ave; Suite 600
Company Address Cont:	Kansas City, MO 64108
Business Phone:	(816) 968-5600
Website:	www.specchemllc.com
1.4 Emergency Telephone Number:	**VelocityEHS** 1-(800)255-3924 (North America) +1-813-248-0585 (International) 1-300-954-583 (Australia) 0-800-591-6042 (Brazil) 400-120-0751 (China) 000-800-100-4086 (India) 800-099-0731 (Mexico)
Date of Last Revision:	October 1, 2020
Date of Current Revision:	October 14, 2021

SECTION 2 – HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: This product is a gray powder with minimal odor.
Health Hazards: May cause skin and respiratory irritation and burns to the eyes. Contact with skin may cause an allergic reaction. Repeated exposure may cause damage to the lungs. Contains components that are defined as human carcinogens.
Flammability Hazards: This product is not considered flammable.
Reactivity Hazards: None.
Environmental Hazards: The environmental effects of this product have not been investigated, however release may cause long term adverse environmental effects.

US DOT Symbols Not Regulated

EU and GHS Symbols

Signal Word Danger

2.1 EU Labeling and Classification:
This product meets the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives.
EU HAZARD CLASSIFICATION OF INGREDIENTS PER DIRECTIVE 1272/2008/EC:
Index Number:
266-043-4 is not listed in Annex I
CAS 26499-65-0 is not listed in ESIS
215-279-6 is not listed in Annex I
CAS 93763-70-3 is not listed in ESIS

215-138-9 is not listed in Annex I
215-168-2 is not listed in Annex I
202-049-5 index number is 601-052-00-2
Substances not listed either individually or in group entries must be self classified.

Components Contributing to Classification: Portland Cement, Plaster of Paris, Limestone, Perlite, Calcium Oxide, Diiron Trioxide, Naphthalene

2.2 Label Elements:

GHS Hazard Classifications:
Carcinogenicity Category 2
STOT – SE Category 3 (Respiratory System)
Skin Irritation Category 2
Skin Sensitization Category 1
Eye Damage Category 1

Hazard Statements:
H351 Suspected of causing cancer
H335 May cause respiratory irritation
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H318 Causes serious eye damage

Precautionary Statements:
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breath dust/fume/gas/mist/vapours/spray.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/eye protection/face protection..

Response Statements:
P308+P313 IF exposed or concerned: Get medical advice/attention.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/Doctor if you feel unwell.
P302+P352 IF ON SKIN: Wash with plenty of water.
P333+P312 If skin irritation or rash occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

	P310 Immediately call a POISON CENTER/Doctor
Storage Statements:	P403+P233 Store in a well-ventilated place. Keep container tightly closed. P405 Store locked up.
Disposal Statements:	P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Health Hazards or Risks From Exposure:

Symptoms of Overexposure by Route of Exposure:

The most significant routes of overexposure for this product are by contact with skin or eyes. The symptoms of overexposure are described in the following paragraphs.

Acute:

Inhalation: May cause respiratory irritation.
Skin Contact: May cause irritation to skin.
Eye Contact: Contact with the eyes may cause burns or irritation.
Ingestion: May cause gastrointestinal irritation, nausea, and vomiting.

Chronic: Repeated exposure may cause skin dryness or cracking.

Target Organs:

Acute: Eyes, Skin, Respiratory
Chronic: Lung, Skin

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Ingredients	WT%	CAS No.	EINECS No.	Hazard Classification
Portland Cement	< 50%	65997-15-1	266-043-4	STOT SE3, Skin Irrit. 2, Eye Dam. 1, Skin Sens. 1
Crystalline Silica (Quartz)/ Silica Sand	< 50%	14808-60-7	238-878-4	Carc. 2, STOT RE2
Limestone	10-15%	1317-65-3	215-279-6	Skin Irrit. 3, Eye Irrit. 2B
Fly Ash	< 15%	681131-74-8	N/A	N/A
Napthalene	< 0.4%	91-20-3	202-049-5	Acute Tox. 4, Carc. 2, Aquatic Acute 1, Aquatic Chro 1
Balance of other ingredients are non-hazardous or less than 1% in concentration (or 0.1% for carcinogens, reproductive toxins, or respiratory sensitizers).				

Note: All WHMIS required information is included in appropriate sections based on the ANSI Z400.1-2010 format. This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR, EU Directives and the Japanese Industrial Standard JIS Z 7250:2000

SECTION 4 – FIRST AID MEASURES

4.1 Description of First Aid Measures:

Eye Contact: If product enters the eyes, flush with plenty of water or eye wash solution for several minutes. Remove contacts if present and easy to

do. Seek medical attention if irritation persists.

Skin Contact: Wash skin thoroughly with soap and water after handling. Seek medical attention if irritation develops and persists.

Inhalation: If breathing becomes difficult, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention.

Ingestion: If product is swallowed, call physician or poison center immediately. If professional advice is not available, do not induce vomiting. Never induce vomiting or give dilutents (milk or water) to someone who is unconscious, having convulsions, or who cannot swallow. Seek medical advice. Take a copy of the label and/or SDS with the victim to the health professional.

Medical Conditions Generally Aggravated By Exposure: Pre-existing skin, respiratory system or eye problems may be aggravated by prolonged contact.

4.2 Symptoms and Effects Both Acute and Delayed: Exposure to skin and respiratory may cause irritation. Contact with the eyes may cause burns. Contact with skin may cause an allergic reaction. Repeated exposure may cause damage to the lungs.

4.3 Recommendations to Physicians: Treat symptoms and eliminate overexposure.

SECTION 5 – FIRE FIGHTING MEASURES

5.1 Fire Extinguishing Materials:

Use the following fire extinguishing materials:

Water Spray: Yes
Foam: Yes
Halon: Yes
Carbon Dioxide: Yes
Dry Chemical: Yes
Other: Any “C” Class

5.2 Unusual Fire and Explosion Hazards:

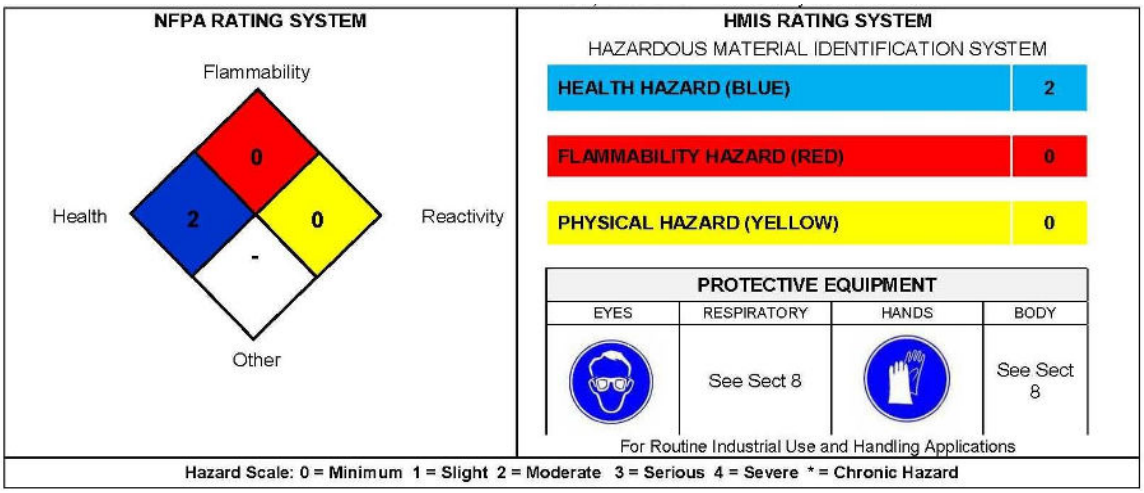
Irritating and toxic fumes may be produced at high temperatures. Use of water may result if the formation of a toxic aqueous solution. Do not allow run-off from fire fighting to enter drains or water courses.

Explosive Sensitivity to Mechanical Impact:	No
Explosive Sensitivity to Static Discharge:	No

5.3 Special Fire-Fighting Procedures:

- Incipient fire responders should wear eye protection.
- Structural firefighters must wear Self-Contained Breathing Apparatus (SCBA) and full protective equipment.
- Isolate materials not yet involved in the fire and protect personnel.
- Move containers from fire area if this can be done without risk; otherwise, cool with carefully applied water spray.

- If possible, prevent run-off water from entering storm drains, bodies of water, or other environmentally sensitive areas.



SECTION 6 – ACCIDENTAL RELEASE MEASURES (STEPS FOR SPILLS)

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:
Use cautious judgment when cleaning up spill. Wear suitable protective clothing, gloves, and eye/face protection.

6.2 Environmental Precautions:
If liquid was introduced, construct a dike to prevent spreading. Keep out of sewers, storm drains, surface waters, and soils.

6.3 Spill and Leak Response:

Small Spills:

- Collect material via broom or mop. Place in tightly sealed containers for proper disposal.
- Approach spill areas with caution.
- If liquid was introduced, create a dike or trench to contain material.
- Soak up with absorbent material such as clay, sand or other suitable non-reactive material.

Large Spills:

- Place in leak-proof containers. Seal tightly for proper disposal.
- Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations and those of Canada and its Provinces, those of Australia, Japan and EU Member States (see Section 13, Disposal Considerations).

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for Safe Handling:
To prevent eye contact under the foreseeable conditions of use, wear appropriate safety eyewear. When handling, do not eat, drink, or smoke. Wash thoroughly after handling.

7.2 Storage and Handling Practices:
Keep away from incompatible materials. Keep container closed when not in use and store in well ventilated area.

7.3 Specific Uses:
Multi-purpose grout.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Exposure Parameters:

Ingredients	CAS No.	OSHA PEL	NIOSH PEL	ACGIH TWA
Portland Cement	65997-15-1	TWA 5 mg/m3 (resp) TWA 15 mg/m3 (total)	TWA 5 mg/m3 (resp) TWA 10 mg/m3 (total)	10 mg/m3 (total)
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	TWA 0.1 mg/m3 (resp) TWA 0.3 mg/m3 (total)	Ca TWA 0.05 mg/m3	0.025 mg/m3
Naphthalene	91-20-3	TWA 10 ppm (50 mg/m3)	TWA 10 ppm (50 mg/m3)	Not Listed
Fly Ash	681131-74-8	TWA 5 mg/m3	TWA 5mg/m3	Not Listed

8.2 Exposure Controls:

Ventilation and Engineering Controls: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided above.

The following information on appropriate Personal Protective Equipment is provided to assist employers in complying with OSHA regulations found in 29 CFR Subpart I (beginning at 1910.132), or standards of EU member states (including EN 149 for respiratory PPE, and EN 166 for face/eye protection), and those of Japan. Please reference applicable regulations and standards for relevant details.

Respiratory Protection: Maintain airborne contaminant concentrations below guidelines listed above. Use only respiratory protection authorized in the U.S. Federal OSHA Respiratory Protection Standard (29 CFR 1910.134), equivalent U.S. State standards, Canadian CSA Standard Z94.4-93, the European Standard EN149, or EU member states.

Eye Protection: Safety glasses or goggles are required. If necessary, refer to U.S. OSHA 29 CFR 1910.133, Canadian Standards, and the European Standard EN166, Australian Standards, or relevant Japanese Standards.

Hand Protection: Chemical resistant gloves are required to prevent skin contact. If necessary, refer to U.S. OSHA 29 CFR 1910.138, the European

Body Protection:	Standard DIN EN 374, the appropriate Standards of Canada, Australian Standards, or relevant Japanese Standards. Use body protect appropriate to task being performed. If necessary, refer to appropriate Standards of Canada, or appropriate standards of the EU, Australian Standards, or relevant Japanese Standards. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA 29 CFR 1910.136.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical and Chemical Properties:
ppearance (Physical State and Color): Gray powder
Odor: Minimal
Odor Threshold: No data available
pH: No data available
Melting/Freezing Point: No data available
Boiling Point: No data available
Flash Point: No data available
Evaporation Rate: No data available
Flammability (Solid; Gas): No data available
Upper/Lower Flammability or Explosion Limits: No data available
Vapor Pressure (mm Hg @ 20°C (68° F): No data available
Vapor Density: No data available
Relative Density: No data available
Specific Gravity: 2.6 - 3.2
Solubility in Water: Miscible
Weight per Gallon: No data available
Partition Coefficient (n-octanol/water): No data available
Auto-Ignition Temperature: No data available
Decomposition Temperature: No data available
Viscosity: No data available
9.2 Other Information: No data available

SECTION 10 – STABILITY AND REACTIVITY

10.1 Reactivity:	This product is not reactive.
10.2 Stability:	Stable under conditions of normal storage and use.
10.3 Possibility of Hazardous Reactions:	Will not occur.
10.4 Conditions to Avoid:	No data available.

10.5 Incompatible Substances: Hydrogen fluoride.
10.6 Hazardous Decomposition Products: No data available.

SECTION 11 – TOXICOLOGY INFORMATION

11.1 Information on Toxicological Effects:

Toxicity Data:

Naphthalene	91-20-3	LD50 Oral – Rat	490 mg/kg
Crystalline Silica (Quartz/ Silica Sand	14808-60-7		

Suspected Cancer Agent: Naphthalene (CAS 91-20-3) and Crystalline Silica (Quartz)/Silica Sand is found on one or more of the following lists: FEDERAL OSHA Z LIST, NTP, IARC, or CAL/OSHA and therefore is considered to be a cancer-causing agent by these agencies.

Irritancy: Skin, eye, and respiratory irritant.

Sensitization to the Product: This product is expected to cause skin sensitization.

Germ Cell Mutagenicity: This product does not contain ingredients that are suspected to be a germ cell mutagenic.

Reproductive Toxicity: This product is not expected to be a human reproductive toxicant.

Toxicity

SECTION 12 – ECOLOGICAL INFORMATION

12.1 Toxicity: No data available
12.2 Persistence and Degradability: No specific data available on this product.
12.3 Bioaccumulative Potential: No specific data available on this product.
12.4 Mobility in Soil: No specific data available on this product.
12.5 Results of PBT and vPvB Assessment: No specific data available on this product.
12.6 Other Adverse Effects: No data available
12.7 Water Endangerment Class: At present, there are no ecotoxicological assessments for this product.

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods: Waste disposal must be in accordance with appropriate U.S. Federal, State, and local regulations, those of Australia, EU Member States and Japan.

13.2 EU Waste Code: Not determined

SECTION 14 - TRANSPORTATION INFORMATION

14.1 U.S. Department of Transportation (DOT) Shipping Regulations:
This product is classified (per 49 CFR 172.101) by the U.S. Department of Transportation, as follows.

UN Identification Number:	Not applicable
Proper Shipping Name:	Not regulated
Hazard Class Number and Description:	Not applicable
Packing Group:	Not applicable
DOT Label(s) Required:	Not applicable
North American Emergency Response Guidebook Number:	Not applicable
14.2 Environmental Hazards:	
Marine Pollutant:	The components of this product are not designated by the Department of Transportation to be Marine Pollutants (49 CFR 172.101, Appendix B).
14.3 Special Precaution for User:	None
14.4 International Air Transport Association Shipping Information (IATA):	Not regulated.
14.5 International Maritime Organization Shipping Information (IMO):	
UN Identification Number:	Not applicable
Proper Shipping Name:	Not regulated
Hazard Class Number and Description:	Not applicable
Packing Group:	Not applicable
EMS-No:	Not applicable

SECTION 15 – REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations Specific for the Substance or Mixture:

United States Regulations:

U.S. SARA Reporting Requirements:

The components of this product are not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA 311/312:

Acute Health: Yes; Chronic Health: Yes; Fire: No; Reactivity; No

U.S. CERCLA Reportable Quantity:

None

U.S. TSCA Inventory Status:

The components of this product are listed on the TSCA Inventory or are exempted from listing.

Other U.S. Federal Regulations:

None known

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65):

This product does contain “Silica, crystalline”, which is on the Proposition 65 Lists.

15.2 Canadian Regulations:

Canadian DSL/NDSL Inventory Status:

Components are DSL Listed, NDSL Listed and/or are exempt from listing

Other Canadian Regulations:

Not applicable

Canadian Environmental Protection Act (CEPA) Priorities Substances Lists:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

SC Multipurpose Grout

Version 1

Canadian WHMIS Classification and Symbols:
This product is Class E, Corrosive, and D2B, Materials causing other toxic effects, per WHMIS Controlled Product Regulations

15.3 European Economic Community Information:
This product meets the definition of a hazardous substance or preparation as defined by the European Union Council Directives 67/548/EEC, 1999/45/EC, 1272/2008/EC and subsequent Directives. See Section 2 for Details.

Chemical Safety Assessment:
No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

15.4 Australian Information for Product:
Components of this product are listed on the International Chemical Inventory list.

15.5 Japanese Information for Product:
Japanese Minister of International Trade and Industry (MITI) Status: The components of this product are not listed as Class I specified Chemical Substances, Class II Specified Chemical Substances, or Designated Chemical Substances by the Japanese MITI.

15.6 International Chemical Inventories:
Listing of the components on individual country Chemical Inventories is as follows:
Australian Inventory of Chemical Substances (AICS): Listed
Korean Existing Chemicals List (ECL): Listed
Japanese Existing National Inventory of Chemical Substances (ENCS): Listed
Philippines Inventory if Chemicals and Chemical Substances (PICCS): Listed
U.S. TSCA: Listed

SECTION 16 – OTHER INFORMATION

Prepared By: Chris Eigbrett (MSDS to GHS Compliance)
Date of Printing: October 1, 2020

The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of the need that information is current, applicable and suited to the circumstances of use. This safety sheet cannot cover all possible situations which the user may experience during processing. Each aspect of your operation should be examined to determine if, or where, additional precautions may be necessary. All health and safety information contained in this bulletin should be provided to your employees or customers. SpecChem assumes no responsibility for injury to vendee or third party person proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, SpecChem assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Compliance with all applicable federal, state, and local laws and local regulations remains the responsibility of the user.

END OF SDS SHEET

Safety Data Sheet

According to OSHA Communication Standard, 29 CFR 1910.1200

Rapid Set WunderFixx

SECTION 1: Identification

Product identifier

Product name: Rapid Set WunderFixx

Product code: 703010050, 703011900, 703020002, 703020009, 703040050, 703990002, 703990009

Recommended use of the product and restriction on use

Relevant identified uses: Commercial use for cement applications

Uses advised against: Not determined or not applicable.

Reasons why uses advised against: Not determined or not applicable.

Manufacturer or supplier details

Manufacturer:

United States

CTS Cement Manufacturing Corporation
12442 Knott St.
Garden Grove, CA 92841
800-929-3030
info@ctscement.com

Emergency telephone number:

United States

INFOTRAC 1-800-535-5053

International

INFOTRAC 1-352-323-3500

SECTION 2: Hazard(s) identification

GHS classification:

Skin irritation, category 2
Serious eye damage, category 1
Specific target organ toxicity - single exposure, category 3, respiratory irritation
Skin Sensitivity, category 1
Carcinogenicity, category 1A

Label elements

Hazard Pictograms:

Signal word: Danger

Safety Data Sheet
According to OSHA Communication Standard, 29 CFR 1910.1200

Rapid Set WunderFixx

Hazard statements:

H315 Causes skin irritation.
H317 May case an allergic skin reaction.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H350 May cause cancer (inhalation).

Precautionary statements:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260 Do not breathe dust.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing should not be allowed out of the workplace

P280 Wear protective gloves, protective clothing, eye protection, face protection.

P308+P313 If exposed or concerned: Get medical advice/attention.

P302+P352 IF ON SKIN: Wash with plenty of soap and water. P332+P313 If skin irritation occurs: Get medical advice/attention

P362 Take off contaminated clothing and wash it before reuse.

P305+P351+P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P312 Call a poison center or doctor if you feel unwell.

P405 Store locked up.

P403+P233 Store in a well ventilated place. Keep container tightly closed.

P501 Dispose of contents/container in accordance with local, regional, national and international regulations.

Hazards not otherwise classified: None.

SECTION 3: Composition/information on ingredients

Identification	Name	Weight %
CAS number: 65997-15-1	Portland cement	10-30
CAS number: 12004-14-7	Aluminum calcium oxide sulfate	10-30
CAS number: 10034-77-2	Dicalcium silicate	10-30
CAS number: 1317-65-3	Calcium carbonate	10-30
CAS number: 7778-18-9	Calcium sulfate	1-10

CAS number: 1344-28-1	Aluminum oxide	1-10
CAS number: 546-93-0	Magnesium carbonate	1-10
CAS number: 14808-60-7	Total Silica, crystalline quartz	0-1

Additional Information:

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of the OSHA Hazard Communication Standard (29 CFR §1910.1200).
*Cement is primarily comprised of calcium compounds with oxides of aluminum, iron, sulfur, and silica. Trace amounts of naturally occurring, potentially harmful chemicals might be detected during chemical analysis. Trace constituents may include, but are not limited to, magnesium, potassium, sodium oxides, and hexavalent chromium.

SECTION 4: First aid measures

Description of first aid measures

General notes:

If exposed or concerned: Call a poison center or doctor.

After inhalation:

If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell. If exposed or concerned: Call a poison center or doctor.

After skin contact:

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice or attention. Take off contaminated clothing and wash it before reuse.

After eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.

After swallowing:

If swallowed, DO NOT induce vomiting unless told to do so by a physician or poison control center. Rinse mouth with water. Never give anything by mouth to an unconscious person. If exposed or concerned: Call a poison center or doctor.

Most important symptoms and effects, both acute and delayed

Acute symptoms and effects:

SKIN CONTACT: Exposure may cause irritation. Symptoms include redness, itching, burning and inflammation. Exposure to wet material may cause severe skin burns and irreversible tissue damage.

EYE CONTACT: Exposure may cause serious eye damage. Symptoms include irritation, redness, pain, inflammation, itching, burning, tearing, corneal damage and loss of vision.

INHALATION: Inhalation of dust may irritate the nose, throat and respiratory tract. Symptoms include cough, sore throat, shortness of breath and inflammation of the mucous membranes lining the respiratory tract.

INGESTION: Ingestion is an improbable route of exposure. Ingestion of wet material would cause corrosive burns to mouth, esophagus and stomach. Symptoms include pain, tissue damage, nausea and vomiting.

Delayed symptoms and effects:

Effects are dependent on exposure (dose, concentration, contact time).

Exposure to respirable silica may cause cancer and damage to organs. Prolonged and/or repeated exposure to silica-containing dust may cause lung damage and a lung disease called silicosis. Silicosis is a progressive and disabling lung disease that causes pulmonary fibrosis, chronic obstructive pulmonary disorder (COPD) and lung cancer. Silicosis lowers the immune system and makes an individual more susceptible to tuberculosis. Silicosis may also cause renal disease and scleroderma – a disease affecting skin, blood vessels, joints and skeletal muscles. Symptoms of silicosis may include (but are not limited to) shortness of breath, difficulty breathing with or without exertion; coughing; diminished work capacity; diminished chest expansion; reduction of lung volume; right heart enlargement and/or failure. Not all individuals with silicosis will exhibit symptoms of the disease. However, silicosis can be progressive, and symptoms can appear at any time, even years after exposures have ceased.

Immediate medical attention and special treatment

Specific treatment:

In case of eye contact, seek prompt medical attention while rinsing is continued. Exposure to wet material requires prompt medical treatment.

Notes for the doctor:

Treat symptomatically

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media:

Use appropriate fire suppression agents for adjacent combustible materials or sources of ignition.

Unsuitable extinguishing media:

Not determined or not applicable.

Specific hazards during fire-fighting:

Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment for firefighters:

Use typical firefighting equipment, self-contained breathing apparatus, special tightly sealed suit.

Special precautions:

Carbon monoxide and carbon dioxide may form upon combustion Heating causes a rise in pressure, risk of bursting and combustion.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Ensure adequate ventilation. Ensure air handling systems are operational. Wear protective eyewear, gloves, and clothing.

Environmental precautions:

Should not be released into the environment. Prevent from reaching drains, sewer or waterway.

Methods and material for containment and cleaning up:

Wear protective gloves, protective clothing, eye protection, face protection. Sweep or scoop up solid material while minimizing dust generation. Dispose of contents / container in accordance with local regulations.

Reference to other sections:

Not determined or not applicable.

SECTION 7: Handling and storage

Precautions for safe handling:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust, mist, vapors, or spray. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area.

Do not eat, drink, smoke or use personal products when handling chemical substances. Conditions for safe storage, including any incompatibilities:

Keep container tightly sealed. Keep container dry. Store locked up. Store in a cool, well-ventilated area.

SECTION 8: Exposure controls/personal protection

Only those substances with limit values have been included below.

Occupational Exposure limit values:

Country (Legal Basis)	Substance	Identifier	Permissible concentration
ACGIH	Portland cement	65997-15-1	ACGIH TLV TWA 1 mg/m³
	Calcium carbonate (limestone)	1317-65-3	ACGIH TLV TWA 10 mg/m³ (total dust)
	Calcium sulfate	7778-18-9	ACGIH TLV-TWA 10 mg/m
	Aluminum oxide (includes metals and insoluble compounds)	13463-67-7	ACGIH TLV-TWA 1 mg/m³
	Silica, crystalline quartz (respirable)	14808-60-7	ACGIH TLV TWA 0.025 mg/m³ (Respirable fraction)
	Total silica, crystalline quartz	14808-60-7	ACGIH TLV TWA 0.025000 mg/m³
OSHA	Portland cement	65997-15-1	OSHA 8 hr TWA PEL: 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction)
	Calcium carbonate (limestone)	1317-65-3	OSHA 8 hr TWA PEL: 10 mg/m³ (total dust), 5 mg/m³ (respirable fraction)
	Calcium sulfate	7778-18-9	OSHA 8 hr TWA PEL: 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction)
	Aluminum oxide (as alpha-Alumina)	1344-28-1	OSHA 8 hr TWA PEL: 10 mg/m³ (total dust), 5 mg/m³ (respirable fraction)
	Magnesium carbonate	546-93-0	OSHA 8 hr TWA PEL: 15 mg/m³ (total dust), 5 mg/m³ (respirable fraction)
	Silica, crystalline quartz (Respirable)	14808-60-7	OSHA 8-hour TWA PEL: 0.025 mg/m³ (Respirable fraction, action level)
	Silica, crystalline quartz (Respirable)	14808-60-7	OSHA 8-hour TWA PEL: 0.05 mg/m³ (Respirable fraction, exposure limit level)

	Total Silica, crystalline quartz	14808-60-7	TWA 30.000000 mg/m^3 / %SiO2+2 USA. OSHA
	Total Silica, crystalline quartz	14808-60-7	TWA 0.050000 mg/m^3 USA. NIOSH
NIOSH	Portland cement clinker	65997-15-1	NIOSH TWA 10 mg/m^3 (total dust), 5 mg/m^3 (respirable fraction)
	Calcium carbonate (as limestone)	1317-65-3	NIOSH TWA 10 mg/m^3 (total dust), 5 mg/m^3 (respirable fraction)
	Calcium sulfate	7778-18-9	NIOSH TWA 10 mg/m^3 (total dust), 5 mg/m^3 (respirable fraction)
	Aluminum oxide (as alpha-Alumina)	1344-28-1	NIOSH TWA 10 mg/m^3 (total dust), 5 mg/m^3 (respirable fraction)
	Magnesium carbonate	546-93-0	NIOSH TWA 10 mg/m^3 (total dust), 5 mg/m^3 (respirable fraction)
	Silica, crystalline quartz (Respirable)	14808-60-7	NIOSH TWA 0.05 mg/m^3

Biological limit values:

No biological exposure limits noted for the ingredient(s).

Information on monitoring procedures:

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. Biological monitoring may also be appropriate for some substances.

Appropriate engineering controls:

Emergency eyewash fountains and safety showers should be available in the immediate vicinity of use or handling. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor and mists below the applicable workplace exposure limits (Occupational Exposure Limits-OELs) indicated above.

Personal protection equipment

Eye and face protection:

Safety goggles or glasses, or appropriate eye protection.

Skin and body protection:

Select glove material impermeable and resistant to the substance. Wear appropriate clothing to prevent any possibility of skin contact.

Respiratory protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

General hygienic measures:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust, mist, vapors, or spray. Wash hands thoroughly after handling. Use only outdoors or in a well-ventilated area. Do not eat, drink, smoke or use personal products when handling chemical substances.

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Rapid Set WunderFixx

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Solid; gray powder
Odor	Low
Odor threshold	Not available
pH	11 - 12 when wet
Melting point/freezing point	Not available
Initial boiling point/range	Not applicable
Flash point (closed cup)	Not available
Evaporation rate	Not applicable
Flammability (solid, gas)	Not available
Upper flammability/explosive limit	Not available
Lower flammability/explosive limit	Not available
Vapor pressure	Not applicable
Vapor density	Not applicable
Bulk Density	60 lb/ft³
Relative density	2.7 - 3.1 at 20°C
Solubilities	Partially soluble
Partition coefficient (n-octanol/water)	Not available
Auto/Self-ignition temperature	Not available
Decomposition temperature	2460°F (1350°C)
Dynamic viscosity	Not applicable
Kinematic viscosity	Not applicable
Explosive properties	Not available
Oxidizing properties	Not available

Other information

VOC (Weight %)	0 g/l when mixed with water

SECTION 10: Stability and reactivity

Reactivity:

Does not react under normal conditions of use and storage.

Chemical stability:

Stable under normal conditions of use and storage.

Possibility of hazardous reactions:

None under normal conditions of use and storage.

Conditions to avoid:

None known.

Incompatible materials:

None known.

Hazardous decomposition products:

None known.

SECTION 11: Toxicological information

Information on toxicological effects:

Acute toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Skin corrosion/irritation Assessment:

Causes skin irritation

Serious eye damage/irritation Assessment:

Causes serious eye damage

Respiratory or skin sensitization

Assessment: Based on available data, the classification criteria are not met.

Carcinogenicity Assessment:

May cause cancer

International Agency for Research on Cancer (IARC):

Name	Classification
Silica, crystalline quartz (Respirable)	Group 1 - Carcinogenic to humans

National Toxicology Program (NTP):

Name	Classification
Silica, crystalline quartz (Respirable)	Known to be human carcinogens

Germ cell mutagenicity

Assessment: Based on available data, the classification criteria are not met.

Reproductive toxicity

Assessment: Based on available data, the classification criteria are not met.

Specific target organ toxicity (single exposure)

Assessment:

May cause respiratory irritation

Specific target organ toxicity (repeated exposure)

Assessment:

Safety Data Sheet
According to OSHA Communication Standard, 29 CFR 1910.1200

Rapid Set WunderFixx

May cause damage to organs (lungs) through prolonged or repeated exposure

Name	Result
Silica, crystalline quartz (Respirable)	Causes damage to organs (lungs) through prolonged or repeated exposure via inhalation.

Aspiration toxicity

Assessment: Based on available data, the classification criteria are not met.

Information on likely routes of exposure:

Eye and skin contact, inhalation

Symptoms related to the physical, chemical and toxicological characteristics:

No data available.

Other information:

No data available.

SECTION 12: Ecological information

Acute (short-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Chronic (long-term) toxicity

Assessment: Based on available data, the classification criteria are not met.

Product data: No data available.

Substance data: No data available.

Persistence and degradability

Product data: No data available.

Substance data: No data available.

Bioaccumulative potential

Product data: No data available.

Substance data: No data available.

Mobility in soil

Product data: No data available.

Substance data: No data available.

Other adverse effects: No data available.

SECTION 13: Disposal considerations

Disposal methods:

It is the responsibility of the waste generator to properly characterize all waste materials according to applicable regulatory entities. Dispose of contents/container in accordance with local, regional, national, and international regulations.

SECTION 14: Transport information

Safety Data Sheet
According to OSHA Communication Standard, 29 CFR 1910.1200

Rapid Set WunderFixx

United States Transportation of dangerous goods (49 CFR DOT)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Maritime Dangerous Goods (IMDG)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

International Air Transport Association Dangerous Goods Regulations (IATA-DGR)

UN number	Not regulated
UN proper shipping name	Not regulated
UN transport hazard class(es)	None
Packing group	None
Environmental hazards	None
Special precautions for user	None

SECTION 15: Regulatory information

United States regulations Inventory listing (TSCA):

12004-14-7	Aluminum calcium oxide sulfate	Listed
10034-77-2	Dicalcium silicate	Listed
7778-18-9	Calcium sulfate	Listed
14808-60-7	Silica, crystalline quartz	Listed

Significant New Use Rule (TSCA Section 5): None of the ingredients are listed.

Export notification under TSCA Section 12(b): None of the ingredients are listed.

SARA Section 302 extremely hazardous substances: None of the ingredients are listed. None of the ingredients are listed.

SARA Section 313 toxic chemicals: None of the ingredients are listed.

CERCLA: None of the ingredients are listed.

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Rapid Set WunderFixx

RCRA: None of the ingredients are listed.

Section 112(r) of the Clean Air Act (CAA): None of the ingredients are listed.

Massachusetts Right to Know:

7778-18-9	Calcium sulfate	Listed
65997-15-1	Portland cement	Listed
1317-65-3	Limestone (calcium carbonate)	Listed
14808-60-7	Silica, crystalline quartz (Respirable)	Listed
546-93-0	Magnesium carbonate	Listed
1344-28-1	Aluminum oxide	Listed

New Jersey Right to Know:

1305-78-8	Calcium oxide	Listed
14808-60-7	Silica, crystalline quartz (Respirable)	Listed
1344-28-1	Aluminum oxide	Listed

New York Right to Know:

None-listed

Pennsylvania Right to Know:

65997-15-1	Portland cement	Listed
7778-18-9	Calcium sulfate	Listed
1317-65-3	Limestone (calcium carbonate)	Listed
14808-60-7	Silica, crystalline quartz (Respirable)	Listed
1344-28-1	Aluminum oxide	Listed

California Proposition 65:

⚠ **WARNING:** Cancer and Reproductive Harm – www.P65Warning.ca.gov.

SECTION 16: Other information

Abbreviations and Acronyms:

ACGIH: American Conference of Governmental Industrial Hygienists
ADR: European Road Transport
AU: Australia
CA: Canada
CAS: Chemical Abstracts Service
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CN: China
CPR: Controlled Products Regulations
DFG: Deutsche Forschungsgemeinschaft
DOT: Department of Transportation
DSL: Domestic Substances List

EEC: European Economic Community
ECHA: European Chemicals Agency
EINECS: European Inventory of Existing Commercial Chemical Substances
EPA: Environmental Protection Agency
EU: European Association
IARC: International Agency for Reach on Cancer
IMDG: International maritime dangerous goods code
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
JP: Japan
COD: Chemical Oxygen Demand
BOD5: 5-day biochemical oxygen demand
BCF: Bioconcentration factor
LD50: Lethal Dose 50
CL50: Lethal Concentration 50
EC50: Effective concentration 50
Log-POW: Octanol-water partition coefficient
Koc: Partition coefficient of organic carbon
Know: Octanol/water partition coefficient
KR: Korea
LEL: Lower Explosive Limit
UEL: Upper Explosive Limit
NIOSH: National Institute for Occupational Safety and Health Administration
PH: Philippines
RCRA: Resource Conservation and Recovery Act
OSHA: Occupational Safety and Health Administration
RID: European Rail Transport
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Transportation of Dangerous Goods
TSCA: Toxic Substances Control Act
TWA: Time Weighted Average
US: United States

Disclaimer:

This product has been classified in accordance with OSHA HCS 2012 guidelines. The information provided in this SDS is correct, to the best of our knowledge, based on information available. The information given is designed only as a guidance for safe handling, use, storage, transportation and disposal and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials, unless specified in the text. The responsibility to provide a safe workplace remains with the user.

NFPA: 3-0-0

HMIS: 3-0-0*

Initial preparation date: 11/16/20

Version #: 3

Revision Date: 04/07/22

End of Safety Data Sheet

This is a kit that contains the following components:
TAMMSPATCH II GRY POWDER 'A' 45# BG, TAMMSPATCH II GRAY POWDER 'A'
TAMMSPATCH II LIQUID

SAFETY DATA SHEET

1. Identification

Product identifier: TAMMSPATCH II GRY POWDER 'A' 45# BG, TAMMSPATCH II GRAY POWDER 'A'
Product Code: TR5112745501

Recommended use and restriction on use

Recommended use: Cement, Portland, chemicals
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:	EH&S Department
Telephone:	216-531-9222
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Health Hazards

Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 1
Skin sensitizer	Category 1
Carcinogenicity	Category 1A
Specific Target Organ Toxicity - Single Exposure	Category 3[1.]
Specific Target Organ Toxicity - Repeated Exposure	Category 1[2.]

Target Organs

1. Respiratory tract irritation.
2. Lung

Unknown toxicity - Health

Acute toxicity, oral	99.17 %
Acute toxicity, dermal	99.9 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	31.99 %

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement:
Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.
May cause cancer.
May cause respiratory irritation.
Causes damage to organs through prolonged or repeated exposure.

Precautionary Statements

Prevention: Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Contaminated work clothing should not be allowed out of the workplace. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product.

Response: IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Immediately call a POISON CENTER/doctor. Specific treatment (see on this label). Wash contaminated clothing before reuse.

Storage: Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Crystalline Silica (Quartz)/ Silica Sand	14808-60-7	50 - <100%
Portland cement	65997-15-1	20 - <50%
Titanium dioxide	13463-67-7	0.1 - <1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

Inhalation:	Move to fresh air.
Skin Contact:	Get medical attention. Destroy or thoroughly clean contaminated shoes. Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. If skin irritation or an allergic skin reaction develops, get medical attention.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.
Ingestion:	Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
Personal Protection for First-aid Responders:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Most important symptoms/effects, acute and delayed

Symptoms:	Prolonged or repeated contact with skin may cause redness, itching, irritation and eczema/chapping. Extreme irritation of eyes and mucous membranes, including burning and tearing. Respiratory tract irritation.
Hazards:	No data available.

Indication of immediate medical attention and special treatment needed

Treatment:	Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards:	No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media:	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical:	During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire-fighters

Special fire-fighting procedures:	No data available.

Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
Accidental release measures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.
Methods and material for containment and cleaning up:	Collect spillage in containers, seal securely and deliver for disposal according to local regulations.
Environmental Precautions:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation):	Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.
Safe handling advice:	Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Do not get in eyes. Wash hands thoroughly after handling. Avoid contact with skin. Avoid contact with eyes, skin, and clothing.Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Use mechanical ventilation in case of handling which causes formation of dust.
Contact avoidance measures:	No data available.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace.

Storage

Safe storage conditions:	Store locked up.
Safe packaging materials:	No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source

Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.05 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016)
	OSHA_ACT	0.025 mg/m3	US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053), as amended (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	PEL	0.05 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (03 2016)
Crystalline Silica (Quartz)/ Silica Sand - Respirable.	TWA	2.4 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values, as amended (02 2020)
Portland cement - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values, as amended (2011)
Portland cement - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Portland cement - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Portland cement	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (2000)
Titanium dioxide	TWA	10 mg/m3	US. ACGIH Threshold Limit Values, as amended (2008)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
Titanium dioxide - Respirable fraction.	TWA	15 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Titanium dioxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Titanium dioxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)
Titanium dioxide - Total dust.	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000), as amended (03 2016)

Chemical name	Type	Exposure Limit Values	Source
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Portland cement - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Portland cement - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Portland cement - Respirable.	TWA	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2017)
Portland cement - Respirable fraction.	TWA	1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (08 2017)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Titanium dioxide	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Aluminum oxide - Respirable fraction.	TWA	1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Aluminum oxide - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Aluminum oxide - Respirable fraction.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015)
Aluminum oxide - Total dust. - as Al	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Aluminum oxide - Respirable.	TWA	1.0 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Aluminum oxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Aluminum oxide - Inhalable particles.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Aluminum oxide - Respirable particles.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Aluminum oxide - Respirable	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational

fraction.			Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Amorphous silica - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Amorphous silica - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Amorphous silica - Respirable particles.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Amorphous silica - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (03 2020)
Amorphous silica - Respirable fraction.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Amorphous silica - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Amorphous silica - Inhalable particles.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Zirconium dioxide - as Zr	STEL	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Zirconium dioxide - as Zr	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
	STEL	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
Zirconium dioxide - as Zr	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
	STEL	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)

Zirconium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Zirconium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (04 2019)
Zirconium dioxide - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Zirconium dioxide - Inhalable particles.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Zirconium dioxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Zirconium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Zirconium dioxide - Respirable particles.	TWA	3 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
Iron oxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Iron oxide - Dust. - as Fe	TWA	5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Iron oxide - Fume. - as Fe	STEL	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Iron oxide - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Iron oxide - Fume. - as Fe	TWA	5 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Iron oxide - Dust and fume. - as Fe	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Iron oxide - Respirable fraction.	TWA	5 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)

Appropriate Engineering Controls

Mechanical ventilation or local exhaust ventilation may be required. Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of dust.

Individual protection measures, such as personal protective equipment

Eye/face protection:

Wear a full-face respirator, if needed. Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection

Hand Protection:

Additional Information: Use suitable protective gloves if risk of skin contact.

Skin and Body Protection:	Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
Hygiene measures:	Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Wash contaminated clothing before reuse. Avoid contact with skin. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance

Physical state:	solid
Form:	Powder
Color:	Gray
Odor:	Odorless
Odor threshold:	No data available.
pH:	No data available.
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	No data available.
Flash Point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Vapor pressure:	No data available.
Vapor density:	No data available.
Relative density:	2.6
Solubility(ies)	
Solubility in water:	Miscible with water.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No data available.

Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	No data available.
Conditions to avoid:	Avoid heat or contamination.
Incompatible Materials:	No data available.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
Skin Contact:	Causes skin irritation. May cause an allergic skin reaction.
Eye contact:	Causes serious eye damage.
Ingestion:	May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation:	No data available.
Skin Contact:	No data available.
Eye contact:	No data available.
Ingestion:	No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product:	Not classified for acute toxicity based on available data.

Specified substance(s):

Crystalline Silica (Quartz)/ Silica Sand	LD 50: > 2,000 mg/kg
Titanium dioxide	LD 50 (Rat): > 5,000 mg/kg

Dermal

Product:	Not classified for acute toxicity based on available data.

Inhalation

Product:	Not classified for acute toxicity based on available data.

Specified substance(s):

Crystalline Silica (Quartz)/ Silica Sand	LC 50: > 5.0 mg/l
Titanium dioxide	LC 50 (Rat): 3.43 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

Titanium dioxide	in vivo (Rabbit): Not irritant , 24 h

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Titanium dioxide	Rabbit, 24 - 72 hrs: Not irritant

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Crystalline Silica (Quartz)/ Silica Sand	Overall evaluation: Carcinogenic to humans.
Titanium dioxide	Overall evaluation: Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Crystalline (Quartz)/ Sand	Silica	Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:

Crystalline Silica (Quartz)/ Silica Sand	Cancer

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Target Organs
Specific Target Organ Toxicity - Single Exposure: Respiratory tract irritation.
Specific Target Organ Toxicity - Repeated Exposure: Lung

Aspiration Hazard
Product: No data available.

Other effects: Constituents of this product may include crystalline silica which, if in inhalable form, may cause silicosis, a form of progressive pulmonary fibrosis. Inhalable crystalline silica is listed by IARC as a group I carcinogen (lung) based on sufficient evidence in occupationally exposed humans and sufficient evidence in animals. Crystalline silica is also listed by the NTP as a known human carcinogen. Constituents may also contain asbestiform or non-asbestiform tremolite or other silicates as impurities, and above de minimis exposure to these impurities in inhalable form may be carcinogenic or cause other serious lung problems.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):
Titanium dioxide — LC 50 (Pimephales promelas, 96 h): 8.2 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):
Titanium dioxide — LC 50 (Daphnia magna, 48 h): > 100 mg/l experimental result Experimental result, Weight of Evidence study

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Specified substance(s):
Titanium dioxide — NOAEL (Daphnia magna): 100 mg/l experimental result Experimental result, Supporting study

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Other adverse effects: No data available.

13. Disposal considerations

Disposal methods: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

Chemical Identity	OSHA hazard(s)
Crystalline Silica (Quartz)/ Silica Sand	kidney effects lung effects immune system effects Cancer

CERCLA Hazardous Substance List (40 CFR 302.4):

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate (Acute) Health Hazards
Delayed (Chronic) Health Hazard
Skin Corrosion or Irritation
Serious eye damage or eye irritation
Respiratory or Skin Sensitization
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

Not regulated.

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

Chemical Identity	% by weight

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

WARNING
Cancer - www.P65Warnings.ca.gov

International regulations

Montreal protocol
Not applicable

Stockholm convention
Not applicable

Rotterdam convention
Not applicable

Kyoto protocol
Not applicable

VOC:

Regulatory VOC (less water and exempt solvent)	:	0 g/l
VOC Method 310	:	0.00 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Mexico INSQ:	One or more components in this

	product are not listed on or exempt from the Inventory.
Ontario Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Taiwan Chemical Substance Inventory:	One or more components in this product are not listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	11/17/2022
Version #:	3.1
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

SAFETY DATA SHEET

1. Identification

Product identifier: TAMMSPATCH II LIQUID
Product Code: TR5112745501

Recommended use and restriction on use

Recommended use: Coatings
Restrictions on use: Not known.

Manufacturer/Importer/Supplier/Distributor Information
EUCLID CHEMICAL COMPANY
19218 REDWOOD ROAD
CLEVELAND OH 44110
US

Contact person:	EH&S Department
Telephone:	216-531-9222
Emergency telephone number:	1-800-424-9300 (US); 1-613-996-6666 (Canada)

2. Hazard(s) identification

Hazard Classification

Not classified

Label Elements

Hazard Symbol:	No symbol
Signal Word:	No signal word.
Hazard Statement:	Not applicable
Precautionary Statements	Not applicable

Hazard(s) not otherwise classified (HNOC): None.

3. Composition/information on ingredients

Mixtures

Chemical Identity	CAS number	Content in percent (%)*
Ammonium hydroxide	1336-21-6	0.1 - <1%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Description of necessary first-aid measures

Inhalation: Move to fresh air.

Skin Contact: Wash skin thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention.

Eye contact: Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention.

Ingestion: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.

Personal Protection for First-aid Responders: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Most important symptoms/effects, acute and delayed

Symptoms: May cause skin and eye irritation.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: Get medical attention if symptoms occur.

5. Fire-fighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical: During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for fire-fighters

Special fire-fighting procedures: No data available.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: No data available.

Accidental release measures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Methods and material for containment and cleaning up: Dam and absorb spillages with sand, earth or other non-combustible material. Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Environmental Precautions: Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages.

7. Handling and storage

Handling

Technical measures (e.g. Local and general ventilation): Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Safe handling advice: Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Contact avoidance measures: No data available.

Hygiene measures: Observe good industrial hygiene practices.

Storage

Safe storage conditions: Store away from incompatible materials. Store in original tightly closed container.

Safe packaging materials: No data available.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Ammonium hydroxide	STEL	35 ppm	US. ACGIH Threshold Limit Values, as amended (2011)
	TWA	25 ppm	US. ACGIH Threshold Limit Values, as amended (2011)
	PEL	50 ppm 35 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (02 2006)
	STEL	35 ppm	US. ACGIH Threshold Limit Values, as

				amended (01 2021)
	PEL	50 ppm	35 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000), as amended (01 2017)
	TWA	25 ppm		US. ACGIH Threshold Limit Values, as amended (01 2021)

None of the components have assigned exposure limits.

Chemical name	Type	Exposure Limit Values		Source
Ammonium hydroxide	STEL	35 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	25 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Ammonium hydroxide	TWA	25 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
	STEL	35 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
	TWA	25 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
Ammonium hydroxide	STEL	35 ppm	24 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (03 2020)
	STEL	35 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
	STEL	35 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2020)
	TWA	25 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (01 2020)
	TWA	25 ppm	17 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (03 2020)
Formaldehyde	STEL	1 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010)
	CEV	1.5 ppm		Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (12 2007)
Formaldehyde	CEILING	2 ppm	3 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety), as amended (09 2017)
Formaldehyde	STEL	0.3 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (01 2020)
	TWA	0.1 ppm		Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Biological Substances, Occupational Health and Safety Regulation 296/97, as amended) (01 2020)

Appropriate Engineering Controls

Observe good industrial hygiene practices. Observe occupational exposure limits and minimize the risk of inhalation of vapors and mist. Mechanical ventilation or local exhaust ventilation may be required.

Individual protection measures, such as personal protective equipment

Eye/face protection: Wear goggles/face shield.

Skin Protection

Hand Protection: Additional Information: Use suitable protective gloves if risk of skin contact.

Skin and Body Protection: No data available.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: Observe good industrial hygiene practices.

9. Physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	White
Odor:	Mild
Odor threshold:	No data available.
pH:	9.0 - 10.0
Melting point/freezing point:	-0.00 °C 32 °F
Initial boiling point and boiling range:	> 100 °C > 212 °F
Flash Point:	No data available.
Evaporation rate:	Slower than Ether
Flammability (solid, gas):	No
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	No data available.
Flammability limit - lower (%):	No data available.
Explosive limit - upper:	No data available.
Explosive limit - lower:	No data available.
Vapor pressure:	17 mmHg (20 °C 68 °F)
Vapor density:	Vapors are heavier than air and may travel along the floor and in the bottom of containers.
Relative density:	1.1
Solubility(ies)	
Solubility in water:	Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity: No data available.

Chemical Stability: Material is stable under normal conditions.

Possibility of hazardous reactions: No data available.

Conditions to avoid: Avoid heat or contamination.

Incompatible Materials: Strong acids. Strong bases.

Hazardous Decomposition Products: Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation: In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.

Skin Contact: Causes mild skin irritation.

Eye contact: Eye contact is possible and should be avoided.

Ingestion: May be ingested by accident. Ingestion may cause irritation and malaise.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: Not classified for acute toxicity based on available data.

Specified substance(s):

Ammonium hydroxide — LD 50 (Rat): 350 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Inhalation

Product: Not classified for acute toxicity based on available data.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: No data available.

Carcinogenicity
Product: No data available.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended:
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity
Product: No data available.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: No data available.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: No data available.

Other adverse effects: No data available.

13. Disposal considerations

Disposal methods: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.

14. Transport information

TDG:

Not Regulated

CFR / DOT:

Not Regulated

IMDG:

Not Regulated

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None present or none present in regulated quantities.

US. Toxic Substances Control Act (TSCA) Section 5(a)(2) Final Significant New Use Rules (SNURs) (40 CFR 721, Subpt E)

None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050), as amended

Chemical Identity	OSHA hazard(s)
Formaldehyde	Skin irritation Flammability respiratory tract irritation Cancer Acute toxicity Skin sensitization Respiratory sensitization Eye irritation

CERCLA Hazardous Substance List (40 CFR 302.4):

Chemical Identity	Reportable quantity
Ammonium hydroxide	1000 lbs.
Formaldehyde	100 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Not classified
Not classified

US. EPCRA (SARA Title III) Section 304 Extremely Hazardous Substances Reporting Quantities and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substances

Not regulated.

US. EPCRA (SARA Title III Section 313 Toxic Chemical Release Inventory (TRI) Reporting

Chemical Identity	% by weight

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Chemical Identity	Reportable quantity
Formaldehyde	lbs

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

WARNING
Cancer - www.P65Warnings.ca.gov

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

VOC: When appropriately mixed with the other part, product has a VOC less water and exempt solvent of: < 5 g/l

Regulatory VOC (less water and exempt solvent)	:	13 g/l
VOC Method 310	:	0.00 %

Inventory Status:

Australia AICS:	One or more components in this product are not listed on or exempt from the Inventory.
Canada DSL Inventory List:	All components in this product are listed on or exempt from the Inventory.
EINECS, ELINCS or NLP:	One or more components in this product are not listed on or exempt from the Inventory.
Japan (ENCS) List:	One or more components in this product are not listed on or exempt from the Inventory.
China Inv. Existing Chemical Substances:	One or more components in this product are not listed on or exempt from the Inventory.
Korea Existing Chemicals Inv. (KECI):	One or more components in this product are not listed on or exempt from the Inventory.
Canada NDSL Inventory:	One or more components in this product are not listed on or exempt from the Inventory.
Philippines PICCS:	One or more components in this product are not listed on or exempt from the Inventory.
New Zealand Inventory of Chemicals:	One or more components in this product are not listed on or exempt from the Inventory.
Japan ISHL Listing:	One or more components in this product are not listed on or exempt from the Inventory.
Japan Pharmacopoeia Listing:	One or more components in this product are not listed on or exempt from the Inventory.
US TSCA Inventory:	All components in this product are listed on or exempt from the Inventory.

16.Other information, including date of preparation or last revision

Revision Date:	11/17/2022
Version #:	3.1
Further Information:	No data available.
Disclaimer:	For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.