2600 LOSEE RD N. LAS VEGAS, NV 89030 O: 702.656.4618 F:702.645.6212

SDS MANUAL

WORLD WIDE SAFETY

702.355.4979

DESERT CONCRETE

SDS MANUAL
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1. LSC - RED - i PT CABLE COATING

Technical Product Information

RED-*i* PT CABLE COATING GREASE

RED-*i* PT CABLE COATING IS SPECIALLY FORMULATED FOR THE POST TENSIONING CONSTRUCTION INDUSTRY, AND EXCEEDS THE POST TENSIONING INSTITUTE (PTI) SPECIFICATIONS IN CORROSION PROTECTION FOR UNBONDED AND SINGLE-STRAND TENDONS IN CORROSIVE SERVICE.

Product Description: **RED-*i* PT CABLE COATING** is a premium lithium grease fortified with effective corrosion inhibitors. The coating is specifically designed to provide extended protection against corrosion of metal cables or any metallic surface exposed to moisture.

Features:

- Adhesive properties protects metal surfaces from air, moisture, and sea water.
- Excellent corrosion and rust inhibition properties.
- Exceeds PTI specifications.
- Member Post Tensioning Institute.
- High dropping point.
- Contains antimicrobial agent.

Typical Uses:

- Preserves metallic cables and wires exposed to corrosive environments.
- Preserves steel reinforcement bars or rods used for concrete structures against corrosion.
- Recommended for use in marine and construction industries.

Typical Specifications:

GRADE, NLGI	**2**
Penetration @ 77° F. (ASTM Worked)	265-295
Dropping Point, ASTM D-2265, °F.	383
Color	Amber
Texture	Butter
Appearance	Smooth
Soap Type	Lithium
Soap, %	7.0
Rust Test, ASTM D-1743	Pass
Corrosion Test, ASTM B-117	Pass (No Rust)
Soak Test, ASTM B-117 Modified	Pass
Emulsification Of Coating	None
Oil Separation, FTM 321.2 , Wt.%	0.5
Flash Point, ASTM D-92, Coc, °F	350
Water Content, ASTM D-95, Wt.%	<0.1
Base Oil Viscosity	
cSt. @ 40° C.	321.0
cSt. @ 100° C.	21.0
SUS@100° F.	74
Viscosity Index	<0.5
Chlorides, PPM ASTM D-512	<0.1
Nitrates, PPM, ASTM D3867	8.54
Tensile Strength Change Of Polymer, ASTM D638	

VALUES SHOWN HERE ARE TYPICAL AND MAY VARY.

Red-I Pt Cable Coating

Product Code 50102

MSDS Date 06/21/2010

1. Identification of the preparation and company

Preparation/Product Name	Red-I Pt Cable Coating
Product Code	50102
Company Name	LUBRICATING SPECIALTIES COMPANY 8015 PARAMOUNT BLVD. PICO RIVERA, CA 90660
Telephone No.	(562) 776-4000
24 hour Emergency Telephone No.	(800) 424-9300
General MSDS	(562) 776-4000

2. Hazard identification of the product

GHS Classification:

Item	Category	Hazard
Flammability	Not classified	Not applicable
Acute Toxicity (mouth)	Not classified	Not applicable
Acute Toxicity (skin)	Not classified	Not applicable
Acute Toxicity (inhalation)	Not classified	Not applicable
Acute Toxicity (ingestion)	Not classified	Not applicable
Skin corrosion/irritation	Not classified	Not applicable
Eye damage/irritation	Not classified	Not applicable
Sensitization	Not classified	Not applicable

(respiratory)		
Sensitization (skin)	Not classified	Not applicable
Germ toxicity	Not classified	Not applicable
Specific target organ systemic toxicity (single exposure)	1	No target organs for this category.
	2	No target organs for this category.
	3	No target organs for this category.
Specific target organ systemic Toxicity (repeated exposure)	1	No target organs for this category.
	2	No target organs for this category.
Aspiration hazard	Not classified	Not applicable
Harmfulness to aquatic Environment (acute)	Not classified	Not applicable
Harmfulness to aquatic Environment (long term effect)	Not classified	Not applicable
Carcinogenicity	Not classified	Not applicable
Reproductive Toxicity	Not classified	Not applicable
Organic Peroxide	Not classified	Not applicable

Safety Phrases:

3. Composition/information on ingredients

Mixture : Yes

Ingredient	CAS Number	Concentration
Calcium Sulfonate	Proprietary or N/A	<3
Hydroxyl Containing Saturated Fatty Acids	Proprietary or N/A	<5
Petroleum distillates, hydrotreated heavy naphthenic	064742-52-5	<100

Contains no other ingredients now known to be hazardous as defined by OSHA 29 CFR 1910.1000(z)

4. First aid measures

Inhalation Remove exposed person to fresh air. If breathing is labored, administer oxygen and obtain immediate medical attention. If irritation persists or if

Exposure Limits	The PEL (OSHA) and the TLV (ACGIH) is 5 mg/m3 for oil mists.
Ventilation	Use in areas of adequate ventilation. Use mechanical exhaust to control vapors or mists.
Gloves	Nitrile or neoprene gloves are recommended.
Eye Protection	Safety glasses, goggles, or face shield are recommended.
Respiratory Protection	Use NIOSH/MSHA approved respirator with organic vapor cartridge and dust/mist cartridge is recommended if exposure limit is exceeded. Self-contained breathing apparatus is recommended for confined space entry.
Clothing	Long sleeve shirt and apron when potential for skin contact. Wear neoprene or nitrile rubber boots when necessary to avoid contaminating shoes.

9. Physical and chemical properties

Appearance	AMBER OILY LIQUID	**Odor**	Petroleum Odor
Flash Point °C	>200	**Boiling Point °C**	>300
VOC %	NIL	**pH**	n/d
Specific Gravity	0.922	**Solubility in Water**	negligible
Vapor Pressure	<0.01 mmHg@20 °C	**Vapor Density**	Heavier than air.

Evaporation Point	less than ether
Flammability	Materials classified as DOT Combustible Liquids (Flash Point > 141° F and < 200° F) are not regulated by DOT in containers of 110 gallons, or less for domestic shipments.

10. Stability and reactivity

Stability	Material is normally stable at ambient temperature and pressure.
Conditions to Avoid	Do not store with strong oxidizing agents. Keep away from heat, sparks, open flame, or all sources of ignition.
Polymerization	Will not occur.
Decomposition	Carbon dioxide, carbon monoxide.

11. Toxicological information

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LD50, mg/L/4hr
Calcium Sulfonate	> 5,000, rat - Category: NA	> 2,000, rabbit - Category: 5	-----

toxic symptoms are observed, get medical attention.

Eye Contact Flush with water at least 15 minutes. Get medical attention if eye irritation develops or persists.

Skin Contact Wash immediately with soap and water. Remove soiled clothing. Get medical attention if irritation develops. Launder contaminated clothing.

Ingestion DO NOT INDUCE VOMITING. If conscious, give 2 glasses of water. Get immediate medical attention.

5. Fire-fighting measures

Flash Point °C 200

Slightly Combustible. May release flammable vapors when heated above flash point.

Extinguishing Media Carbon Dioxide, dry chemical, or foam. Avoid using water.

Combustion Products Carbon monoxide and asphyxiants.

Special Fire Procedures Recommend SCBA. Use water only for cooling container. Water may cause splattering, or transport the flame.

6. Accidental release measures

Evacuate all non-essential personnel. Personal Protective Equipment must be worn, see PPE section 8 & 16. Remove sources of ignition. Prevent entry into sewers and waterways. Contain release, pick up free liquid for recycling or disposal. Residual liquid can be absorbed with inert material. Check DOT/CERCLA and other agencies for reporting requirements.

Prevent contamination to soil, waterway and sewer systems

7. Handling and storage

Handling Avoid prolonged skin contact, breathing vapors, and contaminated clothing. Use with adequate ventilation. Wear recommended protective equipment. Practice good personal hygiene after handling. Empty containers retain material residue. Do not cut, weld, braze, solder or expose containers to other ignition sources.

Storage Store in closed containers of proper construction. Store away from ignition sources and in areas of good ventilation.

8. Exposure controls and personal protection

Proper Shipping Name	Oil, n.o.s
Hazard Class	Not regulated
UN No	Not applicable
Packaging Group	Not applicable
Marine Pollutant	No
GHS Hazard Class	Not applicable
GHS Shipping Information	Not applicable
IMDG	Not Regulated

15. Regulatory information

TSCA:	All components of this product are listed on the United States TSCA (Toxic Control Substance Act) Inventory.
RCRA:	Not RCRA regulated

SARA 311/312 (>0.1%):	Not applicable
SARA 313 (>0.1%):	Not applicable
CERCLA (>0.1%):	Not applicable
Inventory - Canada - Non-Domestic Substances List (NDSL):	Not applicable
California Proposition 65 Cancer:	Not applicable
California Proposition 65 Developmental:	Not applicable
California Proposition 65 Female Reproductive:	Not applicable
California Proposition 65 Male Reproductive:	Not applicable

Inventory - Australia - Inventory of Chemical Substances (AICS):

Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene

Calcium Sulfonate

Lithium hydroxide monohydrate

Petroleum distillates, hydrotreated heavy naphthenic

Inventory - Japan Existing and New Chemical Substances (ENCS):

Hydroxyl Containing Saturated Fatty Acids	-----	-----	-----
Petroleum distillates, hydrotreated heavy naphthenic	> 5,000, rat - Category: NA	5,000.00, rabbit - Category: 5	-----

Oral Toxicity Swallowing material may cause irritation of the gastrointestinal lining, nausea, vomiting, diarrhea, and abdominal pain.

Eye Irritation Not expected to cause eye irritation.

Skin Irritation Not expected to be a primary skin irritant. Prolonged or repetitive contact may cause irritation.

Carcinogenicity

CAS Number	Ingredient		
Proprietary or N/A	Calcium Sulfonate	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2A: No; Group 2B: No; Group 3: No; Group 4: No;
		California OSHA	Listed: No
Proprietary or N/A	Hydroxyl Containing Saturated Fatty Acids	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2A: No; Group 2B: No; Group 3: No; Group 4: No;
		California OSHA	Listed: No
064742-52-5	Petroleum distillates, hydrotreated heavy naphthenic	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2A: No; Group 2B: No; Group 3: No; Group 4: No;
		California OSHA	Listed: No

12. Ecological information

This material is expected to have adverse effects on marine and plant life. Spills may contaminate drinking water.

13. Disposal considerations

Consult federal, state and local regulations regarding disposal methods, recycle used oil. Do not contaminate used oil with solvents or other chemicals.

14. Transport information

See 49 CFR part 171.8 through 178.510

HMIS	**Health:**	1	**NFPA**	**Health:**	1
	Fire:	1		**Fire:**	1
	Physical Hazards:	0		**Reactivity:**	0
	PPE:	C		**Special Hazards:**	---

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Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (3-301)

Petroleum distillates, hydrotreated heavy naphthenic ()

Korean Existing Chemicals Inventory:

Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene

Petroleum distillates, hydrotreated heavy naphthenic

Inventory of Existing Chemical Substances in China:

Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene

Calcium Sulfonate

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :

Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene

Calcium Sulfonate

Lithium hydroxide monohydrate

Petroleum distillates, hydrotreated heavy naphthenic

Taiwan List of Toxic Chemical Substances regulated under Toxic Chemical Substances Control Act : Not applicable

EU REACH: Annex XVII, Dangerous Substances and Preparations:

Petroleum distillates, hydrotreated heavy naphthenic

Inventory - European Union - European Inventory of Existing Commercial Chemical Substances (EINECS):

Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (272-940-1)

Calcium Sulfonate ()

Petroleum distillates, hydrotreated heavy naphthenic (265-155-0)

EU List of Notified Chemical Substances (ELINCS): Not applicable

Risk Phrases:

16. Other information

2. JDH PACIFIC - SURE LOCK 0.5' MONO ANCHOR

MATERIAL SAFETY DATA SHEET

I. PRODUCT INFORMATION

TRADE NAME (as labeled)

This MSDS Supplied for:
Sure Lock 0.5" Mono Anchor
Ductile Iron ASTM A 536

MANUFACTURER

JDH Pacific, Inc.
15301 S. Blackburn Ave
Norwalk, CA 90650
Phone: (562) 926-8088
Fax: (562) 926-8066

DATE PREPARED OR REVISED 01/01/05 **NAME OF PREPARER***

II. HAZARDOUS INGREDIENTS

INGREDIENT	CAS NO.	PERCENT	TLV	PEL
Carbon	7440-44-0	3.0 - 4.3	N/E	N/E
Silicon	7440-21-3	1.8 - 4.0	10 mg/cu.m	15mg/cu.m
Manganese	7439-96-5	<1.2	C5 mg/cu.m as dust 1 as fume	C5 mg/cu.m as dust
Nickel	7440-02-0	0.01 - 1.5	1 mg/cu.m	1 mg/cu.m
Chromium	7440-47-3	0.02 - 0.13	.5 mg/cu.m	1 mg/cu.m
Chromium (Hexavalent)			.05 mg/cu.m	N/E
Molybdenum	7439-98-7	0.01 - 0.75	10 mg/cu.m	15 mg/cu.m
Sulfur	7704-34-9	0.02	N/E	N/E
Phosphorous	7723-14-0	<0.05	.1 mg/cu.m	.1 mg/cu.m
Aluminum	7429-90-5	0.003 - 0.06	10 mg/cu.m	N/E
Copper	7440-50-8	0.01 - 0.90	.2 mg/cu.m as fume 1 mg/cu.m as dust	.1 mg/cu.m as fume 1 mg/cu.m as dust
Iron	7439-89-6	87.7 - 95.1	5 mg/cu.m as fume	10 mg/cu.m as fume
Carium	7440-45-1	<0.3	N/E	N/E
Magnesium	7439-95-4	0.02 - 0.1	10 mg/cu.m as oxide fume	15 mg/cu.m as oxide fume

Water insoluble hexavalent chromium is classified as a human carcinogens by the American Conference of Governmental Hygienists (ACGIH). Approximately 68% of the total chromium (in welding fume) is hexavalent, and about 5% of that is insoluble. Considering the small amount of chromium in the casting, overexposure to hexavalent chromium is not likely. (There is no hexavalent chromium in the alloy or it's dust).

III. PHYSICAL PROPERTIES

VAPOR DENSITY: N/A
SPECIFIC GRAVITY: 7.86 For Iron
BOILING POINT OR RANGE: 2750C For Iron
SOLUBILITY IN WATER: N/A
EVAPORATION RATE: N/A
VAPOR PRESSURE: N/A
APPEARANCE & ODOR: Solid Silver/Gray in color No Odor

IV. FIRE AND EXPLOSION

Castings will not burn or explode.

V. HEALTH HAZARD INFORMATION

SYMPTOMS OF OVEREXPOSURE FOR EACH POTENTIAL ROUTE OF EXPOSURE

EYES: Metal particles should be removed by trained individuals, such as a nurse or physician.
SKIN: None known.
BREATHING: Prolonged or repeated overexposure to iron oxide produced in grinding or welding may cause siderosis.
SWALLOWING: N/A
NOISE: Grinding or machining castings is noisy. The OSHA limit for noise averaged over 8 hours is 90 decibels (dBA) hearing conservation program required if exposure is over 85 dBA. If noise is at or above 90 dBA, you should wear ear muffs or ear plugs.

FIRST AID: EMERGENCY PROCEDURES

EYE CONTACT: Metal particles should be removed by trained individuals, such as a nurse or a physician.
SKIN CONTACT: N/A
INALED: (Fumes from Welding) Move to fresh air.
SWALLOWED: N/A

VI. REACTIVITY DATA

STABILITY: Stable
INCOMPATIBILITY: Iron may cause violent decomposition of hydrogen peroxide (52% bt weight or greater)
HAZRDOUS POLYMERIZATION: Will not occur.

-------VII. SPILL, LEAK, AND DISPOSAL PROCEDURES--------

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

If damaged, return castings to vendor or send to scrap reclaimer. Collected dust from machining/welding may be classified as a hazardous waste, depending on circumstance. Consult local authorities regarding disposal.

NOTE: DISPOSE OF ALL WASTES IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS.

----------VIII. SPECIAL HANDLING INFORMATION----------

VENTILATION AND ENGINEERING CONTROLS: Provide general ventilation and or local exhaust if necessary to maintain concentrations below the TLVs.

RESPIRATORY PRODUCTION: Wear a NIOSH approved respirator for dusts or fumes, if concentrations exceed the TLV or PEL.

GLOVES: Work gloves advisable for handling castings.

EYE PROTECTION: Safety glasses with side shields and/or face shields for particles (grinding). Welding goggles or helmet for welding.

OTHER PROTECTIVE EQUIPMENT: Wear a protective apron and gauntlets if arc-air gouging or cutting, or welding on casting, If noise is at or above 90 dBA you should wear ear muffs or ear plugs.

----------IX. SPECIAL PRECAUTIONS----------

STORAGE: Keep dry to reduce rusting.

MATERIAL SAFETY DATA SHEET FOR PC STRAND

Manufacturing Facility, Company or Subsidiary:	Sumiden Wire Products Corporation
	1412 El Pinal Drive, Stockton, California 95205 Phone: 209-466-8924
	710 Marshall Stuart Drive Dickson, Tennessee 37055 Phone: 615-446-3199
Date of Preparation:	November 1, 2002
Product Name or Number:	Standard Alloy Steel Strand Products, all sizes

Section I - Component Data

Chemical Components	C.A.S. Number	(%) Wt.
Primary Metals:		
Iron	7439-89-6	>92
Chromium	7440-47-3	<2
Nickel	7440-02-0	<4
Manganese	7439-96-5	<2
Silicon	7440-21-3	<2.2
Residuals:		
A thin residual of stearates.		

Section II - Physical Data

Boiling Point (°F):	Not Applicable (N/A)
Vapor Pressure(mmHg @ 20°C):	N/A
Vapor Density (Air = 1):	N/A
Solubility In Water:	Non Soluble
Specific Gravity (H_20 = 1):	Approx. 8
Percent Volatile by Volume:	N/A
Evaporative Rate (Ethyl Ether = 1):	N/A
pH Information:	N/A
Appearance and Odor:	Odorless solid with metallic luster.

3. SWPC - PRESTRESSING STEEL STRAND (PC STRAND)

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SWPC

Material Safety Data Sheet

Material Name: Prestressing Steel Strand (PC Strand)

*** Section 1 - Chemical Product and Company Identification ***

Manufacturer Information

Sumiden Wire Products Corporation
710 Marshall Stuart Drive
Dickson, TN 37055
Phone: 615-466-3199
Fax: 615-740-1518

Sumiden Wire Products Corporation
1412 El Pinal Drive
Stockton, CA 95205
Phone: 209-466-8924
Fax: 209-941-2990

*** Section 2 - Hazards Identification ***

Emergency Overview

May cause eye, skin and respiratory irritation.

Potential Health Effects: Eyes

Fumes or dusts may cause irritation.

Potential Health Effects: Skin

Dermatitis due to sensitization may occur in some individuals from exposure to nickel and chromium fumes.

Potential Health Effects: Ingestion

Not considered a likely route of exposure. If swallowed, may cause gastrointestinal irritation.

Potential Health Effects: Inhalation

No toxic effects would be expected from its inert solid form. Prolonged, repeated exposure to fumes or dusts generated during heating, cutting, brazing or welding may cause adverse health effects associated with the following constituents:

Iron: Siderosis, no fibrosis

Chromium: The dusts of chromium metal are usually reported to be relatively non-toxic, although there are reports of a nodular type of disease with impairment of lung function. Some insoluble chromium compounds are suspect carcinogens.

Nickel: Respiratory irritation and pneumonitis; several nickel compounds, including nickel oxide, are suspect lung and nasal carcinogens.

Manganese: Pneumonitis, CNS involvement, including irritability, difficulty in walking, speech disorders, compulsive behavior, mask-like face and Parkinson-like syndrome.

Silicon: May produce X-ray changes in the lungs without disability.

Note: Some constituents pose more potential hazards than others, depending upon their inherent toxicity and concentration. Of special concern are chromium, nickel, manganese, and perhaps iron.

HMIS Ratings: Health: 1 **Fire:** 0 **HMIS Reactivity** 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

*** Section 3 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7439-89-6	Iron	>92
10-02-0	Nickel	<4
0-21-3	Silicon	<2.2
7439-96-5	Manganese	<2

7440-47-3	Chromium	<2

*** Section 4 - First Aid Measures ***

First Aid: Eyes

In case of contact, immediately wash eyes with large amounts of water for fifteen minutes, occasionally lifting the lower and upper lids. Seek medical attention, if necessary.

First Aid: Skin

If irritation develops, remove contaminated clothing immediately, and wash contaminated skin with soap or mild detergent and water for five minutes. if irritation persists, seek medical attention.

First Aid: Ingestion

Seek medical attention, if necessary.

First Aid: Inhalation

Seek medical attention, if necessary.

*** Section 5 - Fire Fighting Measures ***

General Fire Hazards

See Section 9 for Flammability Properties.

None

Hazardous Combustion Products

Metal fumes and certain noxious gases, such as CO, may be produced during welding or burning operations.

Extinguishing Media

Use media appropriate for surrounding fire.

Fire Fighting Equipment/Instructions

None

NFPA Ratings: Health: 1 Fire: 0 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

*** Section 6 - Accidental Release Measures ***

Containment Procedures

No special containment necessary.

Clean-Up Procedures

No special measures necessary.

Evacuation Procedures

Isolate area. Keep unnecessary personnel away.

Special Procedures

None

*** Section 7 - Handling and Storage ***

Handling Procedures

Strand has spring action. Use caution when handling. During welding, precautions should be taken for airborne contaminants and noxious gases that may originate from the welding process or from components of the welding rod. Of special concern are silica or silicates, fluorides, copper, manganese, carbon monoxide and nitrogen oxides. Arc and sparks generated when welding with this product could be source of ignition for combustible and flammable materials.

Storage Procedures

No special storage procedures.

*** Section 8 - Exposure Controls / Personal Protection ***

A: Component Exposure Limits

Nickel (7440-02-0)

ACGIH: 1.5 mg/m3 TWA (inhalable fraction)
OSHA: 1 mg/m3 TWA
NIOSH: 0.015 mg/m3 TWA

Silicon (7440-21-3)
OSHA: 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable fraction)
NIOSH: 10 mg/m3 TWA (total dust); 5 mg/m3 TWA (respirable dust)

Manganese (7439-96-5)
ACGIH: 0.2 mg/m3 TWA
OSHA: 1 mg/m3 TWA (fume)
3 mg/m3 STEL (fume)
5 mg/m3 Ceiling
NIOSH: 1 mg/m3 TWA (fume)
3 mg/m3 STEL

Chromium (7440-47-3)
ACGIH: 0.5 mg/m3 TWA
OSHA: 1 mg/m3 TWA
NIOSH: 0.5 mg/m3 TWA

Engineering Controls
Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face
Use face shield (8" minimum) and/or goggles when welding, burning or grinding.

Personal Protective Equipment: Skin
Use appropriate clothing, such as welder's aprons and gloves when welding or burning.

Personal Protective Equipment: Respiratory
A properly fitted, NIOSH approved, dust-fume respirator should be worn during welding or burning whenever welding fumes exceed the threshold limit value (TLV) or other recommended limits, in accordance with the OSHA Respiratory Protection Standard.

Personal Protective Equipment: General
Eye wash fountain and emergency showers are recommended when cutting or grinding the product.

*** Section 9 - Physical & Chemical Properties ***

Appearance:	Metallic	**Odor:**	None
Physical State:	Solid	**pH:**	NA
Vapor Pressure:	NA	**Vapor Density:**	NA
Boiling Point:	NA	**Melting Point:**	ND
Solubility (H2O):	NA	**Specific Gravity:**	Approx. 8
Evaporation Rate:	NA	**VOC:**	ND
Octanol/H2O Coeff.:	ND	**Flash Point:**	NA
Flash Point Method:	NA	**Upper Flammability Limit (UFL):**	NA
Lower Flammability Limit (LFL):	NA	**Burning Rate:**	NA
Auto Ignition:	NA		

*** Section 10 - Chemical Stability & Reactivity Information ***

Chemical Stability
This is a stable material.

Chemical Stability: Conditions to Avoid
None

Incompatibility
None

Hazardous Decomposition
Metal fumes and certain noxious gases, such as CO, may be produced during welding or burning operations.

Possibility of Hazardous Reactions

Will not occur.

*** Section 11 - Toxicological Information ***

Acute Dose Effects

Component Analysis - LD50/LC50

Iron (7439-89-6)
Oral LD50 Rat: 984 mg/kg

Nickel (7440-02-0)
Oral LD50 Rat: >9000 mg/kg

Silicon (7440-21-3)
Oral LD50 Rat: 3160 mg/kg

Manganese (7439-96-5)
Oral LD50 Rat: 9 g/kg

Carcinogenicity

Component Carcinogenicity

Nickel (7440-02-0)

ACGIH: A5 - Not Suspected as a Human Carcinogen
NIOSH: potential occupational carcinogen
NTP: Reasonably Anticipated To Be A Human Carcinogen (Possible Select Carcinogen)
IARC: Monograph 49 [1990], Supplement 7 [1987] (Group 2B (possibly carcinogenic to humans))

Chromium (7440-47-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Monograph 49 [1990] (listed under Chromium and Chromium compounds), Supplement 7 [1987] (Group 3 (not classifiable))

*** Section 12 - Ecological Information ***

Ecotoxicity

Component Analysis - Ecotoxicity - Aquatic Toxicity

Iron (7439-89-6)

Test & Species		Conditions
96 Hr LC50 Morone saxatilis	13.6 mg/L [static]	

Nickel (7440-02-0)

Test & Species		Conditions
96 Hr LC50 Oncorhynchus mykiss	31.7 mg/L	adult
96 Hr LC50 Pimephales promelas	3.1 mg/L	
96 Hr LC50 Brachydanio rerio	>100 mg/L	
72 Hr EC50 freshwater algae (4 species)	0.1 mg/L	
72 Hr EC50 Selenastrum capricornutum	0.18 mg/L	
96 Hr EC50 water flea	510 µg/L	

*** Section 13 - Disposal Considerations ***

US EPA Waste Number & Descriptions

A: General Product Information

This product contains a component identified as hazardous under 40 CFR 261.24.

B: Component Waste Numbers

Chromium (7440-47-3)

RCRA: 5.0 mg/L regulatory level

Disposal Instructions

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: Not Regulated

*** Section 15 - Regulatory Information ***

US Federal Regulations

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Nickel (7440-02-0)

SARA 313: 0.1 % de minimis concentration

CERCLA: 100 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 45.4 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

Manganese (7439-96-5)

SARA 313: 1.0 % de minimis concentration

Chromium (7440-47-3)

SARA 313: 1.0 % de minimis concentration

CERCLA: 5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 2270 kg final RQ (no reporting of releases of this hazardous material is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)

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
Iron	7439-89-6	Yes	No	No	No	No	No
Nickel	7440-02-0	Yes	Yes	Yes	Yes	Yes	Yes
Silicon	7440-21-3	No	Yes	Yes	Yes	Yes	Yes
Manganese	7439-96-5	Yes	Yes	Yes	Yes	Yes	Yes
Chromium	7440-47-3	Yes	Yes	Yes	Yes	Yes	Yes

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

Material Safety Data Sheet

Material Name: Prestressing Steel Strand (PC Strand)

WARNING! This product contains a chemical known to the state of California to cause cancer.

Component Analysis - WHMIS IDL

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

Component	CAS #	Minimum Concentration
Nickel	7440-02-0	0.1 %
Manganese	7439-96-5	1 %
Chromium	7440-47-3	0.1 %

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Iron	7439-89-6	Yes	DSL	EINECS
Nickel	7440-02-0	Yes	DSL	EINECS
Silicon	7440-21-3	Yes	DSL	EINECS
Manganese	7439-96-5	Yes	DSL	EINECS
Chromium	7440-47-3	Yes	DSL	EINECS

*** Section 16 - Other Information ***

Other Information

The information herein is presented in good faith and believed to be accurate as of the effective date given. However, no warranty, expressed or implied, is given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

Key/Legend

NA - Not Applicable
ND - Not Determined
ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
TLV - Threshold Limit Value
PEL - Permissible Exposure Limit
TWA - Time Weighted Average
STEL - Short Term Exposure Limit
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer

4. CONOCO - HYDROCLEAR QUENCH OIL 22/32 HS/ MS

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Hydroclear® Quench Oil 22/32 HS/MS

Material Safety Data Sheet

1. Product and Company Identification

Product Name:	Hydroclear® Quench Oil 22/32 HS/MS
MSDS Number:	794880
Synonyms:	Conoco Hydroclear® Quench Oil 22MS Conoco Hydroclear® Quench Oil 22HS Conoco Hydroclear® Quench Oil 32HS
Intended Use:	Metalworking Fluid
Manufacturer/Supplier:	ConocoPhillips Lubricants 600 N. Dairy Ashford, 2W900 Houston, Texas 77079-1175
Emergency Health and Safety Number:	Chemtrec: 800-424-9300 (24 Hours)
Customer Service:	U.S.: 800-822-6457 or International: +1-83-2486-3363
Technical Information:	800-766-0050
MSDS Information:	Internet: http://w3.conocophillips.com/NetMSDS/

2. Hazards Identification

Emergency Overview

This material is not considered hazardous according to OSHA criteria.

NFPA

Appearance: Clear and bright
Physical Form: Liquid
Odor: Petroleum

Potential Health Effects

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness and a burning sensation. Prolonged or repeated contact can defat the skin, causing drying and cracking of the skin, and possibly dermatitis (inflammation). No harmful effects from skin absorption are expected.

Inhalation (Breathing): No information available on acute toxicity.

Ingestion (Swallowing): No harmful effects expected from ingestion.

Signs and Symptoms: Effects of overexposure may include irritation of the digestive tract, nausea and diarrhea. Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

Existing Medical Conditions: Conditions which may be aggravated by exposure include skin disorders.

See Section 11 for additional Toxicity Information.

3. Composition / Information on Ingredients

Component	CASRN	Concentration*
Lubricant Base Oil (Petroleum)	VARIOUS	>95
Additives	PROPRIETARY	<5
Sodium Long-Chain Alkaryl Sulfonate	Proprietary	<3

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

4. First Aid Measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If symptoms persist, seek medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Notes to Physician: Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

5. Fire-Fighting Measures

NFPA 704 Hazard Class

Health: 0 **Flammability:** 1 **Instability:** 0 (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the initial stage, emergency responders in the immediate hazard area should wear protective clothing. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulfur, nitrogen or phosphorus may also be formed.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

6. Accidental Release Measures

Personal Precautions: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

ods for Containment and Clean-Up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal.

7. Handling and Storage

Precautions for safe handling: Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment.

Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Conditions for safe storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

8. Exposure Controls / Personal Protection

Component	US-ACGIH	OSHA	Other
ubricant Base Oil (Petroleum)	TWA: 5mg/m^3 STEL: 10 mg/m^3 as Oil Mist, if generated	TWA: 5 mg/m^3 as Oil Mist, if generated	---

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Suggested protective materials: Nitrile.

Respiratory Protection: Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with R or P95 filters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

9. Physical and Chemical Properties

: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are ot intended to be specifications.

Appearance:	Clear and bright
Physical Form:	Liquid
Odor:	Petroleum
Odor Threshold:	No data

pH:	Not applicable
Vapor Pressure:	<1 mm Hg
Vapor Density (air=1):	>1
Boiling Point/Range:	No data
Melting/Freezing Point:	<10.4°F / <-12°C
Pour Point:	<10.4°F / <-12°C
Solubility in Water:	Insoluble
Partition Coefficient (n-octanol/water) (Kow):	No data
Specific Gravity:	0.86 @ 60°F (15.6°C)
Bulk Density:	7.2 lbs/gal
Viscosity:	4-6 cSt @ 100°C; 20-34 cSt @ 40°C
Percent Volatile:	Negligible
Evaporation Rate (nBuAc=1):	No data
Flash Point:	>302°F / >150°C
Test Method:	Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010
LEL (vol % in air):	No data
UEL (vol % in air):	No data
Autoignition Temperature:	No data

10. Stability and Reactivity

Stability: Stable under normal ambient and anticipated conditions of use.

Conditions to Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous Decomposition Products: Not anticipated under normal conditions of use.

Hazardous Polymerization: Not known to occur.

11. Toxicological Information

Chronic Toxicity:

A mortality study sponsored by General Motors and the United Auto Workers suggested a link between cutting oils or machining fluids and various forms of cancer (e.g., esophageal, laryngeal,and rectal) The study evaluated workplace exposures from 1940-1984. Since the composition of these materials has changed substantially since 1940, and because the most notable effects were seen among those with work histories dating back to that time, the relevance of these findings to present-day exposures is uncertain. Cutting oils or machining fluids have not been identified as carcinogens by NTP, IARC, or OSHA.

Lubricant Base Oil (Petroleum)

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including severe hydrocracking/hydroprocessing to reduce aromatics and improve performance characteristics. All of the oils meet the IP-346 criteria of less than 3 percent PAH's and are not considered carcinogens by NTP, IARC, or OSHA.

Acute Toxicity:

Component	Oral LD50	Dermal LD50	Inhalation LC50
Lubricant Base Oil (Petroleum)	>5 g/kg	>2 g/kg	No data

12. Ecological Information

Ecotoxicity: Experimental studies show that acute aquatic toxicity values are greater than 1000 mg/l. These values are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon compositions.

Mobility: Volatilization to air is not expected to be a significant fate process due to the low vapor pressure of this material. In water, base oils will float and spread over the surface at a rate dependent upon viscosity. There will be significant removal of hydrocarbons from the water by sediment adsorption. In soil and sediment, hydrocarbon components will show low mobility with adsorption to sediments being the predominant physical process. The main fate process is expected to be slow biodegradation of base oil components in soil and sediment.

Persistence and degradability: The hydrocarbons in this material are not readily biodegradable, but since they can be degraded by microorganisms, they are regarded as inherently biodegradable.

accumulation Potential: Log Kow values measured for the hydrocarbon components of this material range from 4 to over 6, and therefore regarded as having the potential to bioaccumulate. In practice, metabolic processes may reduce bioconcentration.

13. Disposal Considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

This material under most intended uses would become "Used Oil" due to contamination by physical or chemical impurities. Whenever possible, Recycle Used Oil in accordance with applicable federal and state or local regulations. Container contents should be completely used and containers should be emptied prior to discard.

14. Transportation Information

U.S. Department of Transportation (DOT)

Shipping Description: *Not regulated*
Note: *If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)*

International Maritime Dangerous Goods (IMDG)

Shipping Description: *Not regulated*
Note: *U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 25.*

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

UN/ID #: *Not regulated*

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	—	—	—
Max. Net Qty. Per Package:	—	—	—

15. Regulatory Information

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

Acute Health:	No
Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

CERCLA/SARA - Section 313 and 40 CFR 372:
This material does not contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

(CERCLA) Reportable Quantity (in pounds):
This material does not contain any chemicals with CERCLA Reportable Quantities.

California Proposition 65:
This material does not contain any chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm at concentrations that trigger the warning requirements of California Proposition 65.

Canadian Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the Regulations.

WHMIS Hazard Class
None

National Chemical Inventories:
All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.
All components are either on the DSL, or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

16. Other Information

Date of Issue:	26-Nov-2008
Status:	Final
Previous Issue Date:	19-Oct-2005
Revised Sections or Basis for Revision:	Health Hazard (Section 2) Physical Properties (Section 9) NFPA ratings (Sections 2&5) Regulatory information (Section 15)
MSDS Number:	794880

Guide to Abbreviations:
ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada).

Disclaimer of Expressed and implied Warranties:
The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person 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. In addition, no authorization is given nor implied to practice any patented invention without a license.

5. CONOCO - HYDROCLEAR QUENCH OIL 22

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HYDROCLEAR® Quench Oil 22

Material Safety Data Sheet

1. Product and Company Identification

Product Name:	HYDROCLEAR® Quench Oil 22
MSDS Number:	775696
Synonyms:	Conoco HYDROCLEAR® Quench Oil 22
Intended Use:	Quench Oil
Manufacturer/Supplier:	ConocoPhillips Lubricants 600 N. Dairy Ashford Houston, Texas 77079-1175
Emergency Health and Safety Number:	Chemtrec: 800-424-9300 (24 Hours)
Customer Service:	888-766-7676
Technical Information:	800-255-9556
MSDS Information:	Internet: http://w3.conocophillips.com/NetMSDS/

2. Hazards Identification

Emergency Overview

This material is not considered hazardous according to OSHA criteria.

NFPA

Appearance: Clear and bright
Physical Form: Liquid
Odor: Petroleum

Potential Health Effects

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Contact may cause mild skin irritation including redness and a burning sensation. Prolonged or repeated contact can defat the skin, causing drying and cracking of the skin, and possibly dermatitis (inflammation). No harmful effects from skin absorption are expected.

Inhalation (Breathing): No information available on acute toxicity.

Ingestion (Swallowing): No harmful effects expected from ingestion.

Signs and Symptoms: Effects of overexposure may include irritation of the digestive tract, nausea and diarrhea. Inhalation of oil mist or vapors at elevated temperatures may cause respiratory irritation.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders.

Section 11 for additional Toxicity Information.

3. Composition / Information on Ingredients

Component	CASRN	Concentration*
Lubricant Base Oil (Petroleum)	VARIOUS	100

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

4. First Aid Measures

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. If symptoms persist, seek medical attention.

Skin Contact: Remove contaminated shoes and clothing and cleanse affected area(s) thoroughly by washing with mild soap and water or a waterless hand cleaner. If irritation or redness develops and persists, seek medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air in a position comfortable for breathing. If symptoms persist, seek medical attention.

Ingestion (Swallowing): First aid is not normally required; however, if swallowed and symptoms develop, seek medical attention.

Notes to Physician: Acute aspirations of large amounts of oil-laden material may produce a serious aspiration pneumonia. Patients who aspirate these oils should be followed for the development of long-term sequelae. Inhalation exposure to oil mists below current workplace exposure limits is unlikely to cause pulmonary abnormalities.

5. Fire-Fighting Measures

NFPA 704 Hazard Class

Health: 0 **Flammability:** 1 **Instability:** 0 (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

Unusual Fire & Explosion Hazards: This material may burn, but will not ignite readily. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide, foam, or water spray is recommended. Water or foam may cause frothing of materials heated above 212°F. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done safely. Avoid spreading burning liquid with water used for cooling purposes.

Hazardous Combustion Products: Combustion may yield smoke, carbon monoxide, and other products of incomplete combustion. Oxides of sulfur, nitrogen or phosphorus may also be formed.

See Section 9 for Flammable Properties including Flash Point and Flammable (Explosive) Limits

6. Accidental Release Measures

Personal Precautions: This material may burn, but will not ignite readily. Keep all sources of ignition away from spill/release. The use of explosion-proof electrical equipment is recommended. Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

Environmental Precautions: Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

Methods for Containment and Clean-Up: Notify relevant authorities in accordance with all applicable regulations. Immediate cleanup of any spill is recommended. Dike far ahead of spill for later recovery or disposal. Absorb spill with inert material such as sand or vermiculite, and place in suitable container for disposal.

7. Handling and Storage

Precautions for safe handling: Wash thoroughly after handling. Use good personal hygiene practices and wear appropriate personal protective equipment.

Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. Do not wear contaminated clothing or shoes.

"Empty" containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. "Empty" drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSI Z49.1, and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Conditions for safe storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated area away from heat and all sources of ignition. Store only in approved containers. Keep away from any incompatible material (see Section 10). Protect container(s) against physical damage.

8. Exposure Controls / Personal Protection

Component	US-ACGIH	OSHA	Other
Lubricant Base Oil (Petroleum)	TWA: 5mg/m^3 STEL: 10 mg/m^3 as Oil Mist, if generated	TWA: 5 mg/m^3 as Oil Mist, if generated	---

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

Eye/Face Protection: The use of eye protection that meets or exceeds ANSI Z.87.1 is recommended to protect against potential eye contact, irritation, or injury. Depending on conditions of use, a face shield may be necessary.

Skin/Hand Protection: The use of gloves impervious to the specific material handled is advised to prevent skin contact. Users should check with manufacturers to confirm the breakthrough performance of their products. Suggested protective materials: Nitrile.

Respiratory Protection: Where there is potential for airborne exposure above the exposure limit a NIOSH certified air purifying respirator equipped with R or P95 filters may be used.

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use. Air purifying respirators provide limited protection and cannot be used in atmospheres that exceed the maximum use concentration (as directed by regulation or the manufacturer's instructions), in oxygen deficient (less than 19.5 percent oxygen) situations, or under conditions that are immediately dangerous to life and health (IDLH).

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

9. Physical and Chemical Properties

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

Appearance:	Clear and bright
Physical Form:	Liquid
Odor:	Petroleum
Odor Threshold:	No data

pH:	Not applicable
Vapor Pressure:	<1 mm Hg
Vapor Density (air=1):	>1
Boiling Point/Range:	No data
Melting/Freezing Point:	<10.4°F / <-12°C
Pour Point:	<10.4°F / <-12°C
Solubility in Water:	Negligible
Partition Coefficient (n-octanol/water) (Kow):	No data
Specific Gravity:	0.85 @ 60°F (15.6°C)
Bulk Density:	7.1 lbs/gal
Viscosity:	4 cSt @ 100°C; 20 cSt @ 40°C
Percent Volatile:	Negligible
Evaporation Rate (nBuAc=1):	<1
Flash Point:	>302°F / >150°C
Test Method:	Pensky-Martens Closed Cup (PMCC), ASTM D93, EPA 1010
LEL (vol % in air):	No data
UEL (vol % in air):	No data
Autoignition Temperature:	No data

10. Stability and Reactivity

Stability: Stable under normal ambient and anticipated conditions of use.

Conditions to Avoid: Extended exposure to high temperatures can cause decomposition.

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidizing agents and strong reducing agents.

Hazardous Decomposition Products: Not anticipated under normal conditions of use.

Hazardous Polymerization: Not known to occur.

11. Toxicological Information

Chronic Data:

Lubricant Base Oil (Petroleum)

Carcinogenicity: The petroleum base oils contained in this product have been highly refined by a variety of processes including severe hydrocracking/hydroprocessing to reduce aromatics and improve performance characteristics. All of the oils meet the IP-346 criteria of less than 3 percent PAH's and are not considered carcinogens by NTP, IARC, or OSHA.

Acute Data:

Component	Oral LD50	Dermal LD50	Inhalation LC50
Lubricant Base Oil (Petroleum)	>5 g/kg	>2 g/kg	No data

12. Ecological Information

Ecotoxicity: Experimental studies show that acute aquatic toxicity values are greater than 1000 mg/l. These values are consistent with the predicted aquatic toxicity of these substances based on their hydrocarbon compositions.

Mobility: Volatilization to air is not expected to be a significant fate process due to the low vapor pressure of this material. In water, base oils will float and spread over the surface at a rate dependent upon viscosity. There will be significant removal of hydrocarbons from the water by sediment adsorption. In soil and sediment, hydrocarbon components will show low mobility with adsorption to sediments being the predominant physical process. The main fate process is expected to be slow biodegradation of base oil components in soil and sediment.

Persistence and degradability: The hydrocarbons in this material are not readily biodegradable, but since they can be degraded by microorganisms, they are regarded as inherently biodegradable.

Bioaccumulation Potential: Log Kow values measured for the hydrocarbon components of this material range from 4 to over 6, and therefore regarded as having the potential to bioaccumulate. In practice, metabolic processes may reduce bioconcentration.

Disposal Considerations

The generator of a waste is always responsible for making proper hazardous waste determinations and needs to consider state and local requirements in addition to federal regulations.

This material, if discarded as produced, would not be a federally regulated RCRA "listed" hazardous waste and is not believed to exhibit characteristics of hazardous waste. See Sections 7 and 8 for information on handling, storage and personal protection and Section 9 for physical/chemical properties. It is possible that the material as produced contains constituents which are not required to be listed in the MSDS but could affect the hazardous waste determination. Additionally, use which results in chemical or physical change of this material could subject it to regulation as a hazardous waste.

This material under most intended uses would become "Used Oil" due to contamination by physical or chemical impurities. Whenever possible, Recycle Used Oil in accordance with applicable federal and state or local regulations. Container contents should be completely used and containers should be emptied prior to discard.

14. Transportation Information

U.S. Department of Transportation (DOT)

Shipping Description: ***Not regulated***

Note: ***If shipped by land in a packaging having a capacity of 3,500 gallons or more, the provisions of 49 CFR, Part 130 apply. (Contains oil)***

International Maritime Dangerous Goods (IMDG)

Shipping Description: ***Not regulated***

Note: ***U.S. DOT compliance requirements may apply. See 49 CFR 171.22, 23 & 25.***

International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)

ID #: ***Not regulated***

	LTD. QTY	Passenger Aircraft	Cargo Aircraft Only
Packaging Instruction #:	—	—	—
Max. Net Qty. Per Package:	—	—	—

15. Regulatory Information

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs (in pounds):
This material does not contain any chemicals subject to the reporting requirements of SARA 302 and 40 CFR 372.

CERCLA/SARA - Section 311/312 (Title III Hazard Categories)

Acute Health:	No
Chronic Health:	No
Fire Hazard:	No
Pressure Hazard:	No
Reactive Hazard:	No

CERCLA/SARA - Section 313 and 40 CFR 372:
This material does not contain any chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372.

EPA (CERCLA) Reportable Quantity (in pounds):
This material does not contain any chemicals with CERCLA Reportable Quantities.

California Proposition 65:
This material does not contain any chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm at concentrations that trigger the warning requirements of California Proposition 65.

Canadian Regulations:
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the Regulations.

WHMIS Hazard Class
None

National Chemical Inventories:
All components are either listed on the US TSCA Inventory, or are not regulated under TSCA.
All components are either on the DSL, or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

16. Other Information

Date of Issue:	16-Sep-2008
Status:	Final
Previous Issue Date:	18-Oct-2005
Revised Sections or Basis for Revision:	NFPA ratings (Sections 2&5) Environmental hazards (Section 12)
MSDS Number:	775696

Guide to Abbreviations:
ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; IARC = International Agency for Research on Cancer; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

Disclaimer of Expressed and implied Warranties:
The information presented in this Material Safety Data Sheet is based on data believed to be accurate as of the date this Material Safety Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person 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. In addition, no authorization is given nor implied to practice any patented invention without a license.

6. CEMEX - PORTLAND CEMENT

Safety Data Sheet

Portland Cement

Section 1. Identification

Product identifier:	Portland Cement
Other means of identification:	Cement, hydraulic cement CEMEX Type I CEMEX Type II CEMEX Type I/II CEMEX Type III CEMEX Type II/V CEMEX Type V CEMEX Type IA CEMEX Type I/II Low Alkali CEMEX Type II Low Alkali CEMEX Type III Low Alkali CEMEX Type V Low Alkali CEMEX Type II/V Low Alkali CEMEX Class A CEMEX Class C CEMEX Class H White Cement
Chemical name:	Calcium compounds, calcium silicate compounds, and other calcium compounds containing iron and aluminum make up the majority of this product.
Relevant Uses:	Building materials, construction application, a basic ingredient in concrete.
Manufacturers Name:	CEMEX
Address:	929 Gessner Road, Suite 1900 Houston TX, 77024 T Customer Care 1-800-99-CEMEX
Emergency telephone number:	CHEMTREC: 1-800-424-9300

Section 2. Hazards Identification

OSHA/HCS status:	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Category Classification(s):	SKIN CORROSION/IRRITATION - Category 1 EYE DAMAGE - Category 1 SKIN SENSITIZATION - Category 1 CARCINOGENICITY/INHALATION - Category 1

GHS label elements:

Hazard pictograms:

GHS05 GHS07 GHS08

Signal word:	Danger
Hazard statements:	Causes severe skin burns and eye damage May cause an allergic skin reaction Causes serious eye damage May cause cancer (Inhalation, Dermal).

Safety Data Sheet

Precautionary Statements:

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Do not breathe dust
Wash clothing, face, hands thoroughly after handling
Contaminated work clothing must not be allowed out of the workplace
Wear eye protection, protective clothing, protective gloves
If swallowed: rinse mouth. Do NOT induce vomiting
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
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 exposed or concerned: Get medical advice/attention
Immediately call a doctor
Specific treatment (see Section 4 on this label)
If skin irritation or rash occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse
Wash contaminated clothing before reuse
Dispose of contents/container to comply with local/regional/national regulations

Other Hazards:

Trace amounts of naturally occurring chemicals might be detected during chemical analysis. Trace constituents may include up to 0.75% insoluble residue, some of which may be free Quartz (crystalline silica), calcium oxide (Also known as lime or quick lime), magnesium oxide, potassium sulfate, sodium sulfate, chromium compounds, and nickel compounds.

Section 3. Composition / Information on Ingredients

Substance/mixture: Portland Cement - mixture

Chemical name: Calcium compounds; calcium silicates and calcium oxides make up the majority of this product – calcium compounds can contain small amounts or iron and aluminum.

Ingredient Name	% Content	CAS number
Portland Cement Clinker	81 - 96	65997-15-1
Gypsum	4 - 9	7778-18-9
Limestone	0 - 5	1317-65-3
Granulated Blast Furnace Slag	0 - 5	65996-69-2
Kiln Bag House Dust	0 – 5	69012-63-1
Lime Kiln Dust	0 – 2	1305-78-8
Quartz (crystalline silica)	0 - 0.1	14808-60-7
Hexavalent chromium*	*	18450-29-9

Any concentration shown as a range is to protect confidentiality or is due to process variation.

*Hexavalent chromium is included due to dermal sensitivity associated with the component.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4. First-Aid Measures

Description of necessary first aid measures:

General: Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Eye contact: Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove

	any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.
Inhalation:	Seek medical help if coughing or other symptoms persist. Inhalation of large amounts of Portland Cement requires immediate medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If the individual is not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
Skin contact:	Get medical attention immediately. Heavy exposure to Portland Cement dust, wet concrete or associated water requires prompt attention. Quickly remove contaminated clothing, shoes, and leather goods such as watchbands and belts. Quickly and gently blot or brush away excess Portland Cement. Immediately wash thoroughly with lukewarm, gently flowing water and non-abrasive pH neutral soap. Seek medical attention for rashes, burns, irritation, dermatitis and prolonged unprotected exposures to wet cement, cement mixtures or liquids from wet cement. Burns should be treated as caustic burns.
Ingestion:	Get medical attention immediately. Call a poison center or physician. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING unless directed to do so by medical personnel. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Have victim drink 60 to 240 mL (2 to 8 oz.) of water. Stop giving water if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.

Potential symptoms and effects from acute exposures (delayed or immediate):

Eye contact:	Causes serious eye damage.
Inhalation:	May cause respiratory irritation.
Skin contact:	Causes severe burns. Discomfort or pain cannot be relied upon to alert a person to a serious injury. You may not feel pain or the severity of the burn until hours after the exposure. Chemical burns must be treated promptly by a physician. May cause an allergic skin reaction.
Ingestion:	Not expected to be a significant route of entry. May cause burns to mouth, throat and stomach.

Potential symptoms and effects from over-exposures:

Eye contact:	Adverse symptoms may include the following: pain, watering and redness
Inhalation:	Adverse symptoms may include the following: respiratory tract irritation and coughing
Skin contact:	Adverse symptoms may include the following: pain or irritation, redness and blistering may occur, skin burns, ulceration and necrosis may occur
Ingestion:	Adverse symptoms may include the following: stomach pains

Recommendations for immediate medical attention / treatment:

If large quantities have been Ingested or inhaled:	Seek medical treatment and contact poison treatment specialist immediately.
Notes to physician:	Treat symptomatically.
Protection of first-aiders:	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Safety Data Sheet

Section 5. Fire-fighting Measures

Extinguishing media

Suitable extinguishing media:	Non-flammable. Use an extinguishing agent suitable for the surrounding fire.
Specific hazards arising from the chemical:	No specific fire or explosion hazard.
Hazardous thermal decomposition products:	Decomposition products may include the following materials: carbon dioxide, carbon monoxide, sulfur oxides and metal oxide/oxides products:
Special protective actions for firefighters:	Evacuate area. Fight fire with normal precautions from a reasonable distance. Move containers from fire area if this can be done without risk.
Special protective equipment for fire-fighters:	Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. For personal protective clothing requirements, please see Section 8.

For non-emergency personnel:	Evacuate area, if necessary. Contact emergency personnel, if needed. Do not breathe dust. Stay upwind.
For emergency responders:	Evacuate surrounding areas if necessary. Keep unnecessary and unprotected personnel from entering. Do not breathe dust. Provide adequate ventilation.
Environmental precautions:	Avoid release to the environment. Contain the spill to avoid the discharge of spilled material into drains, surface waters and/or groundwater. If the spilled material enters any drainage systems, surface waters and/or groundwater, follow all applicable local, state and federal laws and regulations for additional clean-up and/or reporting requirements.

Methods and materials for containment and cleaning up

Small and large spills:	Wear appropriate personal protective equipment as described in Section 8 for cleaning, containing and removing the spill. Minimize generation of dust. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of cement dust (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended). For large spills, use control dust measures and carefully scoop or shovel into clean dry container for later reuse or disposal. DO NOT USE COMPRESSED AIR TO CLEAN SPILLS. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and Storage

Precautions for safe handling

Protective measures:	Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure by obtaining and following special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.
Advice on general	Eating, drinking and smoking should be prohibited in areas where this material is handled,

occupational hygiene: stored and processed. Workers should wash hands and face before eating, drinking and smoking.

Conditions for safe storage, including any incompatibilities: A key to using the product safely requires the user to recognize that Portland Cement reacts chemically with water to produce calcium hydroxide which can cause severe chemical burns. Every attempt should be made to avoid skin and eye contact with cement. Do not get Portland Cement inside boots, shoes or gloves. Do not allow wet, saturated clothing to remain against the skin. Promptly remove clothing and shoes that are dusty or wet with cement mixtures. Launder/clean clothing and shoes before reuse. Do not enter a confined space that stores or contains Portland Cement unless appropriate procedures and protection are available. Portland Cement can build up or adhere to the walls of a confined space and then release or fall suddenly (engulfment)

Section 8. Exposure Controls / Personal Protection

Occupational Exposure Limits

Ingredient name	Exposure limits
Portland Cement Clinker	ACGIH TLV (United States, 3/2012). TWA: 1 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m3 10 hours. Form: Total OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total
Quartz (crystalline silica)	ACGIH TLV (United States, 3/2012). TWA: 0.025 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009). TWA: 0.05 mg/m^3 8 hours. Form: Respirable OSHA PEL Z-3 (United States, 9/2005). TWA: 10mg/m^3 divided by %SiO2 + 2: Respirable TWA: 30mg/m^3 divided by %SiO2 + 2: Total
Limestone	ACGIH TLV (United States, 3/2012). TWA: 10 mg/m^3 8 hours. Form: Total NIOSH REL (United States, 6/2009). TWA: 5 mg/m^3 10 hours. Form: Respirable TWA: 10 mg/m^3 10 hours. Form: Total Dust OSHA PEL (United States, 6/2010). TWA: 5 mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust
Gypsum	ACGIH TLV (United States, 3/2012) TWA: 10 mg/m^3 8 hours. Form: Respirable NIOSH REL (United States, 6/2009) TWA 5 mg/m^3 8 hours. Form: Respirable TWA 10 mg/m^3 8 hours. Form: Total OSHA PEL Z-1 (United States, 2/2006) TWA 5 mg/m^3 8 hours. Form: Respirable TWA 15 mg/m^3 8 hours. Form: Total
Particulates Not Otherwise Regulated (Total Dust)	ACGIH TLV (United States, 3/2012) TWA: 3 mg/m^3 8 hours. Form: Respirable TWA: 10 mg/m^3 8 hours. Form: Total dust OSHA PEL (United States, 6/2010). TWA: 5mg/m^3 8 hours. Form: Respirable TWA: 15 mg/m^3 8 hours. Form: Total dust

Controls

Appropriate engineering controls:	Use only with adequate ventilation. If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
Environmental exposure controls:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Hygiene

Wash	Clean water should always be readily available for skin and (emergency) eye washing. Periodically wash areas contacted by Portland Cement with a pH neutral soap and clean, uncontaminated water. If clothing becomes saturated with Portland Cement, garments should be removed and replaced with clean, dry clothing. Remove protective equipment and saturated clothing before entering eating areas.

PPE

Eye/face protection:	To prevent eye contact, wear safety glasses with side shields, safety goggles or face shields when handling dust or wet cement. Wearing contact lenses when working with cement is not recommended.
Hand protection:	Use impervious, waterproof, and alkali-resistant gloves. Do not rely on barrier creams in place of impervious gloves. Do not get Portland Cement inside gloves. Recommended material: Nitrile®
Body protection:	Use impervious, waterproof, abrasion and alkali-resistant boots and protective long-sleeved and long- legged clothing to protect the skin from contact with wet Portland Cement. To reduce foot and ankle exposure, wear impervious boots that are high enough to prevent Portland Cement from getting inside them. Do not get Portland Cement inside boots, shoes, or gloves. Remove clothing and protective equipment that becomes saturated with cement and immediately wash exposed areas of the body.
Other skin protection:	Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Footwear and other gear to protect the skin should be approved by a specialist before handling this product.
Respiratory protection:	Use a properly fitted, particulate filter 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 assigned protection factor of the selected respirator.

Section 9. Physical and Chemical Properties

Physical State:	Solid. [Powder.]	Lower and upper explosive (flammable) limits:	Not applicable.
Color:	Gray or white.	Vapor pressure:	Not applicable.
Odor:	Odorless.	Vapor density:	Not applicable.
Odor threshold:	Not available.	Relative density:	2.7 to 3.15
pH (in water):	12 - 13	Solubility:	Slightly soluble in water.
Melting point:	Not available.	Solubility in water:	0.1 to 1%

Boiling point:	>1000°C (>1832°F)	Partition coefficient: n-octanol/water:	Not applicable.
Flash point:	Not flammable. Not combustible.	Auto-ignition temperature:	Not applicable.
Burning time:	Not available.	Decomposition temperature:	Not available.
Burning rate:	Not available.	SADT:	Not available.
Evaporation rate:	Not applicable.	Viscosity:	Not applicable.
Flammability (solid, gas):	Not applicable.		

Section 10. Stability and Reactivity

Reactivity: Reacts slowly with water forming hydrated compounds, releasing heat and producing a strong alkaline solution until reaction is substantially complete.

Chemical stability: The product is stable.

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

Conditions to avoid: No specific data.

Incompatible materials: Reactive or incompatible with the following materials: oxidizing materials, acids, aluminum and ammonium salt. Portland Cement is highly alkaline and will react with acids to produce a violent, heat-generating reaction. Toxic gases or vapors may be given off depending on the acid involved. Reacts with acids, aluminum metals and ammonium salts. Aluminum powder and other alkali and alkaline earth elements will react in wet mortar or concrete, liberating hydrogen gas. Limestone ignites on contact with fluorine and is incompatible with acids, alum, ammonium salts, and magnesium. Silica reacts violently with powerful oxidizing agents such as fluorine, boron trifluoride, chlorine trifluoride, manganese trifluoride, and oxygen difluoride yielding possible fire and/or explosions. Silicates dissolve readily in hydrofluoric acid producing a corrosive gas — silicon tetrafluoride.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological Information

Toxicological Effects

Acute toxicity: Portland Cement LD50/LC50 = Not available

Irritation/Corrosion: Skin: May cause serious burns in the presence of moisture.
Eyes: Causes serious eye damage. May cause burns in the presence of moisture.
Respiratory: May cause respiratory tract irritation.

Sensitization: May cause sensitization due to the potential presence of trace amounts of hexavalent chromium.

Mutagenicity: Not classified.

Reproductive toxicity: Not classified.

Teratogenicity: Not classified.

Aspiration hazard: Not classified.

Carcinogenicity Classification:

Ingredient	OSHA	IARC	ACGIH	NTP
Portland Cement Clinker	–	–	A4	–

Quartz (crystalline silica)	–	1	A2	Known to be a human carcinogen.

Specific target organ toxicity (single exposure): Product Not Classified

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 3	Inhalation	Respiratory tract irritation

Specific target organ toxicity (repeated exposure): Product Not Classified

Ingredient	Category	Route of Exposure	Target Organs
Quartz (crystalline silica)	Category 2	Inhalation	Respiratory tract and kidneys

Routes of exposure - Dermal contact, Eye contact, Inhalation, and Ingestion.

Potential acute health effects:

Eye contact: Causes serious eye damage.
Inhalation: May cause respiratory irritation.
Skin contact: Causes severe burns. May cause an allergic skin reaction.
Ingestion: May cause burns to mouth, throat and stomach.

Symptoms related to the physical, chemical and toxicological characteristics:

Eye contact: Adverse symptoms may include the following: pain, watering, redness
Inhalation: Adverse symptoms may include the following: respiratory tract irritation, coughing
Skin contact: Adverse symptoms may include the following: pain or irritation, redness, blistering may occur, skin burns, ulcerations and necrosis may occur
Ingestion: Adverse symptoms may include the following: stomach pains

Delayed and immediate effects and also chronic effects from short and long term exposure:

Short term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Long term exposure
Potential immediate effects: No known significant effects or critical hazards.
Potential delayed effects: No known significant effects or critical hazards.

Potential chronic health effects:

General: Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. If sensitized to hexavalent chromium, a severe allergic dermal reaction may occur when subsequently exposed to very low levels.

Carcinogenicity: Quartz (crystalline silica) is considered a hazard by inhalation. IARC has classified Quartz (crystalline silica) as a Group 1 substance, carcinogenic to humans. This classification is based on the findings of laboratory animal studies (inhalation and implantation) and epidemiology studies that were considered sufficient for carcinogenicity. Excessive exposure to Quartz (crystalline silica) can cause silicosis, a non-cancerous lung disease.

Mutagenicity: No known significant effects or critical hazards.

Teratogenicity: No known significant effects or critical hazards.

Developmental effects: No known significant effects or critical hazards.

Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity: There are no data available - acute toxicity estimates.

Section 12. Ecological

Toxicity

Persistence and degradability: There are no data available.

Bioaccumulation potential: There are no data available.

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Mobility in soil: Soil/water partition coefficient (Koc): Not available.

Other adverse effects: No known significant effects or critical hazards.

Ecotoxicity: No recognized unusual toxicity to plants or animals

Section 13. Disposal Considerations

Disposal methods: Salvage spilled cement material where possible. Uncontaminated cement material may be reused. Dispose of waste material in accordance with local, state and federal laws and regulations.

Section 14. Transport Information

Special precautions for user: Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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

Transport Parameters	DOT Classification	IMDG	IATA
UN Number	Not Regulated	Not Regulated	Not Regulated
UN Proper Shipping Name	-	-	-
Transport Hazard Class	-	-	-
Packing Group	-	-	-
Environmental Hazard	None	None	None
Additional Information	-	-	-

Section 15. Regulatory Information

Status under USDOL-OSHA Hazard Communication Rule, 29 CFR 1910.1200
This product is considered a "hazardous chemical" under this regulation, and should be part of any hazard communication program.

Status under CERCLA/SUPERFUND 40 CFR 117 and 302
Not listed.

Hazard Category under SARA(Title III), Sections 311 and 312
This product qualifies as a "hazardous substance" with delayed health effects.

Status under SARA (Title III), Section 313
This cement product does not contain Emergency Planning and Community Right to Know (EPCRA") Section 313 chemicals in excess of the applicable de minimis concentration specified in EPCRA Section 313 Section 372.38(a). Trace amounts of naturally occurring chemicals might be detected during chemical analysis.

Status under TSCA (as of May 1997)
The ingredients of this product are listed on the TSCA inventory or are exempt.

Status under the Federal Hazardous Substances Act
This product is a "hazardous substance" subject to statutes promulgated under the subject act.

Safety Data Sheet

Status under California Proposition 65
This product contains up to 0.05 percent of chemicals (trace elements) known to the State of California to cause cancer, birth defects or other reproductive harm. California law requires the manufacturer to give the above warning in the absence of definitive testing to prove that the defined risks do not exist.

State Right to Know:
Portland Cement Clinker (65997-15-1)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Quartz (crystalline silica) (14808-60-7)
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Gypsum (7778-18-9)
U.S. - New Jersey - Right to Know Hazardous Substance List

Limestone (1317-65-3)
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Washington - Permissible Exposure Limits - TWAs

Section 16. Other Information

Approval or Revision History

Date of issue (mm/dd/yyyy):	July 1998
Revision:	April 2011 (Michael Tilton)
Revison:	May 2015 - Revised Section(s) per HCS-GHS

Notice to reader

While the information provided in this safety data sheet is believed to provide a useful summary of the hazards of Portland Cement as it is commonly used, the sheet cannot anticipate and provide all of the information that might be needed in every situation. Inexperienced product users should obtain proper training before using this product. In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Portland Cement to produce Portland Cement products. Users should review other relevant material safety data sheets before working with this Portland Cement or working on Portland Cement products, for example, Portland Cement concrete.

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 CEMEX, Inc. except that the product shall conform to contracted specifications. The information provided herein was believed by CEMEX 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 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 non-delivery 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.** In particular, the data furnished in this sheet do not address hazards that may be posed by other materials mixed with Portland Cement to produce Portland Cement products. Users should review other relevant safety data sheets before working with Portland Cement or working on Portland Cement products, for example, Portland Cement concrete.

Abbreviations

ACGIH — American Conference of Governmental Industrial Hygienists
CAS — Chemical Abstract Service
CERCLA — Comprehensive Emergency Response and Comprehensive Liability Act
CFR — Code of Federal Regulations DOT — Department of Transportation
GHS – Globally Harmonized System Globally Harmonized System
HEPA - High Efficiency Particulate Air
IATA — International Air Transport Association
IARC — International Agency for Research on Cancer
IMDG — International Maritime Dangerous Goods

Safety Data Sheet

NIOSH — National Institute of Occupational Safety and Health
NOEC — No Observed Effect Concentration
NTP — National Toxicology Program
OSHA — Occupational Safety and Health Administration
PEL — Permissible Exposure Limit
REL — Recommended Exposure Limit RQ — Reportable Quantity
SARA — Superfund Amendments and Reauthorization Act
SDS — Safety Data Sheet
TLV — Threshold Limit Value
TPQ — Threshold Planning Quantity
TSCA — Toxic Substances Control Act
TWA — Time-Weighted Average
UN — United Nations

7. SUMIDEN WIRE - SEVEN WIRE PRESTRESSED CONCRETE STEEL STRAND

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SUMIDEN WIRE
PRODUCTS CORPORATION

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Trade Name: Low-Relaxation, Seven-Wire Prestressed Concrete Steel Strand
CAS Number: Not Applicable
Synonyms: PC Strand
Use/Description: Prestressed Concrete, Ground Anchors, Mine Roof Bolts, Stay Cables

SUMIDEN WIRE PRODUCTS Mill Locations **(24 Hour Contact – CHEMTREC 1-800-424-9300)**

Sumiden Wire Products 710 Marshall Stuart Dr Dickson, TN 37055 (615) 446-3199	Sumiden Wire Products 1412 El Pinal Dr Stockton, CA 95205 (209) 466-8924

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
STEEL PRODUCTS AS SOLD BY SUMIDEN WIRE PRODUCTS CORPORATION ARE NOT HAZARDOUS PER OSHA GHS 29 CFR 1910, 1915, 1926. However, individual customer processes (such as welding, sawing, brazing, grinding, abrasive blasting, etc.) may result in the formation of fumes, dust (combustible or otherwise), and/or particulate that may present the following hazards:

OSHA Hazards:
Carcinogen
Skin Sensitizer
Target Organ Effect – Lungs

GHS Classification:
Carcinogenicity (Category 2)
Skin Sensitization (Category 1)
Specific Target Organ Toxicity-Repeated Exposure (Category 1)

Pictogram(s):

Signal Word: Danger

Hazard Statement(s)
H317: Dust/fumes may cause an allergic skin reaction.
H351: Dust/fumes suspected of causing cancer via inhalation.
H372: Inhalation of dust/fumes causes damage to respiratory tract through prolonged or repeated exposure.

Precautionary Statement(s)
P202: Do not handle until all safety precautions have been read and understood.
P261: Avoid breathing dust/fumes.
P281: Use personal protective equipment as required.
P308+P313: If exposed or concerned: Get medical advice/attention.

Potential Health Effects

Eye Contact
Dusts or particulates may cause mechanical irritation including pain, tearing, and redness. Scratching of the cornea can occur if eye is rubbed. Fumes may be irritating. Contact with the heated material may cause thermal burns.

Skin Contact
Dusts or particulates may cause mechanical irritation due to abrasion. Coated steel may cause skin irritation in sensitive individuals (see Section 16 for additional information.) Some components in this product are capable of causing an allergic reaction, possibly resulting in burning, itching and skin eruptions. Contact with heated material may cause thermal burns.

Inhalation
Dusts may cause irritation of the nose, throat, and lungs. Excessive inhalation of metallic fumes and dusts may result in metal fume fever, an influenza-like illness. It is characterized by a sweet or metallic taste in the mouth, accompanied by dryness and irritation of the throat, cough, shortness of breath, pulmonary edema, general malaise, weakness, fatigue, muscle and joint pains, blurred vision, fever and chills. Typical symptoms last from 12 to 48 hours.

Ingestion
Not expected to be acutely toxic via ingestion based on the physical and chemical properties of the product. Swallowing of excessive amounts of the dust may cause irritation, nausea, and diarrhea.

Potential Fire and Explosion Hazards
Under normal conditions, steel products do not present fire or explosion hazards, and dust generated by handling steel products is oxidized and not combustible. Processing of steel product by some individual customers may produce potentially combustible dust that may represent a fire or explosion hazard.

Chronic or Special Toxic Effects
Repeated exposure to fine dusts may inflame the nasal mucosa and cause changes to the lung. In addition, a red-brown pigmentation of the eye and/or skin may occur. Welding fumes have been associated with adverse health effects. Contains components that may cause cancer or reproductive effects. The following components are listed by NTP, OSHA, or IARC as carcinogens: Nickel, chromium (hexavalent), cobalt, lead, cadmium, antimony (trioxide), arsenic, beryllium. See Section 11, for additional, specific information on effects noted above.

Target Organs
Overexposure to specific components of this product that are generated in dusts or fumes may cause adverse effects to the following organs or systems: eyes, skin, liver, kidney, central nervous system, cardiovascular system, respiratory system.

Medical Conditions Aggravated by Exposure
Diseases of the skin such as eczema may be aggravated by exposure. Also, disorders of the respiratory system including asthma, bronchitis, and emphysema. Long-term inhalation exposure to agents that cause pneumoconiosis (e.g. dust) may act synergistically with inhalation of oxide fumes or dusts of this product.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components		CAS No.	% Weight	Exposure Limits			
				ACGIH TLV (mg/m³)		OSHA PEL (mg/m³)	
Base Metal:							
Iron	(Fe)	7439-89-6	Balance	5	Oxide Dust/Fume	10	Oxide Dust/Fume
Alloying Elements							
Aluminum	(Al)	7429-90-5	<0.05	10 5	Dust Fume	15 5	Dust Respirable fraction
Antimony	(Sb)	7440-36-0	<0.9	0.5	As Antimony	0.5	As Antimony
Arsenic	(As)	7440-38-2	<0.09	0.01	As Arsenic (A1 Carcinogen)	0.01	As Arsenic
Beryllium	(Be)	7440-41-7	<0.09	0.00 2 0.01	As Beryllium (A1 Carcinogen) As Beryllium (STEL)	0.002 0.005	As Beryllium As Beryllium (Ceiling)
Boron	(B)	7440-42-8	<0.9	10	Oxide Dust	15	Oxide Dust
Cadmium	(Cd)	7440-43-9	<0.01	0.01 0.00 2	As Cadmium (A2 Carcinogen) Respirable fraction	0.005 0.0025	As Cadmium As Cadmium (Action Level)
Calcium	(Ca)	1305-78-8	<0.9	2	Oxide Dust	5	Oxide Dust
Carbon	(C)	7440-44-0	<1.2		Not Established		Not Established
Chromium	(Cr)	7440-47-3	<0.5	0.5	Metal	1	Metal
Cobalt	(Co)	7440-48-4	<0.09	0.02	As Cobalt (A3 Carcinogen)	0.1	Metal/Dust/Fume
Copper	(Cu)	7440-50-8	<0.3	1 0.2	Dust Fume	1 0.1	Dust Fume
ad	(Pb)	7439-92-1	<0.07	0.05	Dust / Fume (A3 Carcinogen)	0.05	Dust / Fume
Magnesium	(Mg)	7439-95-4	<0.9		Not Established		Not Established
Manganese	(Mn)	7439-96-5	<2.0	0.2	Elemental Mn and Inorg Compounds	5	Fume (Ceiling)
Molybdenum	(Mo)	7439-98-7	<0.9	10	Insoluble Compounds	15	Insoluble Compounds
Niobium	(Nb)	7440-03-1	<0.9		Not Established		
Nickel	(Ni)	7440-02-0	<1.0	1.5	Metal	1	Metal and Insoluble Compounds
Nitrogen	(N)	7727-37-9	<0.1		Simple Asphyxiant		Simple Asphyxiant
Phosphorus	(P)	7723-14-0	<0.1	0.1	Phosphorus	0.1	Phosphorus
Selenium	(Se)	7782-49-2	<0.9	0.2	Selenium	0.2	Selenium
Silicon	(Si)	7440-21-3	<1.2	10	Dust	15	Dust
Sulfur	(S)	7446-09-05	<0.1	5.2 13	Sulfur Dioxide Sulfur Dioxide (STEL)	13	Sulfur Dioxide
Tin	(Sn)	7440-31-5	<0.9	2	Metal,Oxide and Inorganic Compounds	2	Inorganic Compounds
Titanium	(Ti)	7440-32-6	<0.9		Not Established		Not Established
Tungsten	(W)	7440-33-7	<0.9	5 10	Insoluble Compounds as W Insoluble Compounds as W (STEL)		Not Established
Vanadium	(V)	7440-62-2	<0.2	0.05	Oxide Dust/Fume	0.5 0.1	Oxide Dust (Ceiling) Oxide Fume (Ceiling)
Zinc	(Zn)	7440-66-6	<0.1	10 5 10	Oxide Dust OxideFume Oxide Fume (STEL)	5 10	Oxide Fume Oxide Dust

TE: No permissible exposure limits (PEL) or threshold limit values (TLV) exist for steel over all. The above listing is a summary of elements potentially used in alloying Sumiden Wire Products Corporation's products. Various grades and heats of steel will contain different combinations of these elements and/or trace materials. Exact chemistry may be found by calling the mill location and asking for a mill certificate for a known heat number.

4. FIRST AID MEASURES

Eye Contact - In case of overexposure to dusts or fumes, immediately flush eyes with plenty of water for at least 15 minutes occasionally lifting the eye lids. Get medical attention if irritation persists. Thermal burns should be treated as medical emergencies.
Skin Contact - In case of overexposure to dusts or particulates, wash with soap and plenty of water. Get medical attention if irritation develops or persists. If thermal burn occurs, flush area with cold water and get immediate medical attention.
Inhalation - In case of overexposure to dusts or fumes, remove to fresh air. Get immediate medical attention if symptoms described in this SDS develop.
Ingestion - Not considered an ingestion hazard. However, if excessive amounts of dust or particulates are swallowed, treat symptomatically and supportively. Get medical attention.
Notes to Physician - Inhalation of metal fume or metal oxides may produce an acute febrile state, with cough, chills, weakness, and general malaise, nausea, vomiting, muscle cramps, and remarkable leukocytosis. Treatment is symptomatic, and condition is self-limited in 24-48 hours. Chronic exposure to dusts may result in pneumoconiosis of mixed type.

5. FIRE FIGHTING MEASURES

Flash Point (Method) - Not applicable
Flammable Limits (% volume in air) - Not applicable
Auto Ignition Temperature - Not applicable
Extinguishing Media - For molten metal, use dry powder or sand. For steel dust use dry sand, water, foam, argon or nitrogen.
Special Fire Fighting Procedures - Do not use water on molten metal. Do not use Carbon Dioxide (CO_2). Firefighters should not enter confined spaces without wearing NIOSH/MSHA approved positive pressure breathing apparatus (SCBA) with full face mask and full protective equipment.
Unusual Fire or Explosion Hazards - Steel products do not present fire or explosion hazards under normal conditions. Any non-oxidized fine metal particles/ dust generated by grinding, sawing, abrasive blasting, or individual customer processes may produce materials that the customer should test for combustibility and other hazards in accordance with applicable regulations. High concentrations of combustible metallic fines in the air may present an explosion hazard.

6. ACCIDENTAL RELEASE MEASURES

Precautions if Material is Spilled or Released - Emergency response is unlikely unless in the form of combustible dust. Avoid inhalation, eye, or skin contact of dusts by using appropriate precautions outlined in this SDS (see section 8). Fine turnings and small chips should be swept or vacuumed and placed into appropriate disposable containers. Keep fine dust or powder away from sources of ignition. Scrap should be reclaimed for recycling. Prevent materials from entering drains, sewers, or waterways. Specific standards and regulations may be applicable to materials generated by individual customer processes. As appropriate, these standards and regulations should be consulted for applicability.
Fire and Explosion Hazards - Some customer processes may generate combustible dust that may require specific precautions when cleaning spills or releases of dust.
Environmental Precautions - Some grades of steel may contain reportable quantities of alloying elements. See Section 15 for additional information.
Waste Disposal Methods - Dispose of used or unused product in accordance with applicable Federal, State, and Local regulations. Please recycle.

7. HANDLING AND STORAGE

Storage Temperatures - Stable under normal temperatures and pressures.
Precautions to be Taken in Handling and Storing - Store away from strong oxidizers. Dusts and/or powders, alone, or combined with process specific fluids, may form explosive mixtures with air. Applicable Federal, state and local laws and regulations may require testing dust generated from processing of steel

products to determine if it represents a fire or explosion hazard and to determine appropriate protection methods. Avoid breathing dusts or fumes.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Operations with potential for generating high concentrations of airborne particulates or fumes should be evaluated and controlled as necessary.
Eye Protection - Use safety glasses. Dust resistant safety goggles are recommended under circumstances where particles could cause mechanical injury such as grinding or cutting. Face shield should be used when welding or cutting.
Skin - Appropriate protective gloves should be worn as necessary. Good personal hygiene practices should be followed including cleansing exposed skin several times daily with soap and water, and laundering or dry cleaning soiled work clothing.
Respiratory Protection - NIOSH/MSHA approved dust/fume/mist respirator should be used to avoid excessive exposure. See Section 3 for component material information exposure limits. If such concentrations are sufficiently high that this respirator is inadequate, or high enough to cause oxygen deficiency, use a positive pressure self-contained breathing apparatus (SCBA). Follow all applicable respirator use, fitting, and training standards and regulations.
Ventilation - Provide general and/or local exhaust ventilation to control airborne levels of dust or fumes below exposure limits.
Exposure Guidelines - No permissible exposure limits (PEL) or threshold limit values (TLV) exist for steel. See Section 3 for component materials. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor – Grey black with metallic luster
Boiling Point - Not applicable
Melting Point - Approximately 2800 °F
pH - Not applicable
Specific Gravity (at 15.6°C) - Not applicable
Density (at 15.6 °C) - Not applicable
Vapor Pressure - Not applicable
Vapor Density (air = 1) - Not applicable
% Volatile, by Volume - Not applicable
Solubility in Water - Insoluble.
Evaporation Rate (Butyl Acetate = 1) - Not applicable
Other Physical and Chemical Data - None

10. STABILITY AND REACTIVITY

Stability - Stable
Conditions to Avoid - Steel at temperatures above the melting point may liberate fumes containing oxides of iron and alloying elements. Avoid generation of airborne fume.
Hazardous Polymerization - Will not occur.
Incompatibility (Materials to Avoid) - Reacts with strong acids to form hydrogen gas. Do not store near strong oxidizers.
Hazardous Decomposition Products - Metallic fumes may be produced during welding, burning, grinding, and possibly machining or any situation with the potential for thermal decomposition. Refer to ANSI Z49.1

11. TOXICOLOGICAL INFORMATION

The primary component of this product is iron. Long-term exposure to iron dusts or fumes can result in a condition called siderosis which is considered to be a benign pneumoconiosis. Symptoms may include chronic bronchitis, emphysema, and shortness of breath upon exertion. Penetration of iron particles in the skin or eye may cause an exogenous or ocular siderosis which may be characterized by a red-brown

pigmentation of the affected area. Ingestion overexposures to iron may affect the gastrointestinal, nervous, and hematopoietic system and the liver. Iron and steel founding, but not iron or iron oxide, has been listed as carcinogenic (Group 1) by IARC.

When this product is welded, fumes are generated. Welding fumes may be different in composition from the original welding product, with the chief component being ordinary oxides of the metal being welded. Chronic health effects (including cancer) have been associated with the fumes and dusts of individual component metals (see above), and welding fumes as a general category have been listed by IARC as a carcinogen (Group 2B). There is also limited evidence that welding fumes may cause adverse reproductive and fetal effects. Evidence is stronger where welding materials contain known reproductive toxins, e.g., lead, which may be present in the coating material of this product.

Breathing fumes or dusts of this product may result in metal fume fever, which is an illness produced by inhaling metal oxides. These oxides are produced by heating various metals including cadmium, zinc, magnesium, copper, antimony, nickel, cobalt, manganese, tin, lead, beryllium, silver, chromium, aluminum, selenium, iron, and arsenic. The most common agents involved are zinc and copper.

This product may contain small amounts of manganese. Prolonged exposure to manganese dusts or fumes is associated with "manganism", a Parkinson-like syndrome characterized by a variety of neurological symptoms including muscle spasms, gait disturbances, tremors, and psychoses.

This product may contain small amounts of cadmium. Primary target organs for cadmium overexposure are the lung and the kidney. Because of its cumulative nature, chronic cadmium poisoning can cause serious disease which takes many years to develop and may continue to progress despite cessation of exposure. Progression of the disease may not reflect current exposure conditions. It is also capable of causing a painful osteomalacia called "Itai-Itai" in postmenopausal women, and has caused developmental effects and/or reproductive effects in male and female animals. Cadmium is a listed carcinogen by NTP, OSHA, and IARC (Group 1).

This product may contain small amounts of chromium. Prolonged and repeated overexposure to chromium dusts or fumes may cause skin ulcers, nasal irritation and ulceration, kidney damage and cancer of the respiratory system. Chromium is skin sensitizer. Cancer is generally attributed to the hexavalent (+6) form of chromium which is listed as a carcinogen by NTP and IARC (Group 1).

This product may contain small amounts of nickel. Prolonged and repeated contact with nickel may cause sensitization dermatitis. Inhalation of nickel compounds has caused lung damage as well as sinus, nasal and lung cancer in laboratory animals. Nickel is a listed carcinogen by NTP and IARC (Group 1).

This product may contain small amounts of vanadium. Adverse effects from dermal, inhalation or parenteral exposure to various vanadium compounds have been reported. The major target for vanadium pentoxide toxicity is the respiratory tract. Fumes or dust can cause severe eye and respiratory irritation, and systemic effects. Chronic bronchitis, green tongue, conjunctivitis, pharyngitis, rhinitis, rales, chronic productive cough, and tightness of the chest have been reported following overexposure. Allergic reactions resulting from skin and inhalation exposures have also been reported. A statistical association between vanadium air levels and lung cancer has been suggested, but vanadium currently is not regarded as a human carcinogen.

This product may contain small amounts of lead. Lead can accumulate in the body. Consequently, exposure to fumes or dust may produce signs of polyneuritis, diminished vision and peripheral neuropathy, such as tingling and loss of feeling in fingers, arms and legs. Lead is a known reproductive and developmental toxin. It is also associated with central nervous system disorders, anemia, kidney dysfunction and neurobehavioral abnormalities. The brain is a major target organ for lead exposure. Elemental lead is listed as an IARC 2B carcinogen.

The product may contain small amounts of copper. Copper dust and fumes can irritate the eyes, nose and throat causing coughing, wheezing, nosebleeds, ulcers and metal fume fever. Other effects from repeated inhalation of copper fumes include a metallic or sweet taste, and discoloration of skin, teeth or hair. Copper also may cause an allergic skin reaction. Overexposure to copper can affect the liver.

12. ECOLOGICAL INFORMATION

Aquatic Ecotoxicological Data - No specific information available on this product.
Environmental Fate Data - No specific information available on this product.

13. DISPOSAL CONSIDERATIONS

Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts. Dispose in accordance with federal, state, and local health and environmental regulations. Prevent materials from entering drains, sewers, or waterways.

14. TRANSPORT INFORMATION

DOT Proper Shipping Name - Not regulated
DOT Hazard Classification - Not regulated
UN/NA Number - Not applicable
DOT Packing Group - Not applicable
Labeling Requirements - Not applicable
Placards - Not applicable
DOT Hazardous Substance - Not applicable
DOT Marine Pollutant - Not applicable

15. REGULATORY INFORMATION

This product is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. However, dusts and fumes from this product may be combustible or hazardous and require protection to comply with applicable Federal, state and local laws and regulations.

California Proposition 65: This product contains chemicals (antimony [oxide], arsenic, beryllium, chromium [hexavalent], cobalt, cadmium, lead, nickel) known to the State of California to cause cancer and chemicals (cadmium, lead) known to the State of California to cause birth defects or other reproductive harm.

Massachusetts Substance List: Aluminum, Antimony, Arsenic, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Magnesium, Manganese, Molybdenum, Nickel, Nitrogen, Phosphorus, Selenium, Silicon, Sulfur, Tin, Titanium, Tungsten, Vanadium, Zinc

Pennsylvania Hazardous Substance List: Aluminum, Antimony, Arsenic, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Magnesium, Manganese, Molybdenum, Nickel, Nitrogen, Phosphorus, Selenium, Silicon, Sulfur, Tin, Titanium, Tungsten, Vanadium, Zinc

New Jersey Hazardous Substance List: Aluminum, Antimony, Arsenic, Beryllium, Boron, Cadmium, Chromium, Cobalt, Copper, Lead, Magnesium, Manganese, Molybdenum, Nickel, Nitrogen, Phosphorus, Selenium, Silicon, Sulfur, Tin, Titanium, Tungsten, Vanadium, Zinc

Toxic Substances Control Act (TSCA)
Components of this product are listed on the TSCA Inventory.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)
Steel is not reportable, however, it contains hazardous substances that may be reportable if released in pieces with diameters less than or equal to 0.004 inches (RQ marked with a "*").

Chemical Name	Reportable Quantity (in lb)
Antimony	5000*
Arsenic	1*
Beryllium	10*
Cadmium	10*
Chromium	5000*
Copper	5000*

Chemical Name	Reportable Quantity (in lb)
Lead	10*
Nickel	100*
Phosphorus	1
Selenium	100*
Zinc	1000*

Superfund Amendments and Reauthorization Act of 1986 (SARA), Title III
SECTION 311/312 HAZARD CATEGORIES: Immediate Health Effect, Delayed Health Effect

This product contains the following EPCRA Section 313 chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right – To – Know Act of 1986 (40 CFR 372):

SECTION 313 REPORTABLE INGREDIENTS:

Chemical Name	CAS Number	Concentration (% by weight)	Reportable
Aluminum	7429-90-5	<0.05	No – Less than 1%
Antimony	7440-36-0	<0.9	No – Less than 1%
Arsenic	7440-38-2	<0.09	No – Less than 0.1%
Beryllium	7440-41-7	<0.09	No – Less than 0.1%
Cadmium	7440-43-9	<0.01	No – Less than 0.1%
Chromium	7440-47-3	0.01-1.2	Yes – Greater than 0.1%
Cobalt	7440-48-4	<0.09	No – Less than 0.1%
Copper	7440-50-8	<0.3	No – Less than 1%
Lead	7439-92-1	<0.07	Yes
Manganese	7439-96-5	0.2-2	Yes – Greater than 1%
Nickel	7440-02-0	<1.0	Yes – Greater than 0.1%
Phosphorus	7723-14-0	<0.9	No – Less than 1%
Selenium	7782-49-2	<0.9	No – Less than 1%
Vanadium	7440-62-2	<0.9	No – Less than 1%
Zinc	7440-66-6	0-0.10	No – Less than 1%

Concentrations based on analytical data and process knowledge of typical products distributed by the facility.

16. OTHER INFORMATION

This SDS covers Sumiden Wire Products product as delivered from the Sumiden Wire facility, but does not include chemicals that may be applied by subsequent handlers and/or distributors of this product. This could include a variety of materials including oils, paints, galvanization, etc. that are not included in this SDS. Additionally, specialty orders may require application of coating material not listed in this SDS. SDSs for any Sumiden Wire-applied specialty coating will be provided separately. During welding, precautions should be taken for airborne contaminants that may originate from components of the welding rod. Arc or spark generated when welding or burning could be a source of ignition for combustible and/or flammable materials. The information in this Safety Data Sheet (SDS) was obtained from sources which we believe are reliable; however, the information is provided without any representation or warranty, expressed or implied, regarding the accuracy or correctness. 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 not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, use, or disposal of this product.

8. AERVOE CONSTRUCTION MARKING PAINT - AEROSOL

Safety Data Sheet (SDS)

Date Prepared/Revised: 1/6/2015 Version no.: 02 Supersedes: (9/11/2014)

1.) Identification of the Mixture and of the Company

Product identifier: **Aervoe Construction Marking Paint - Aerosol**

Product name: **Construction Marking Paint**

Fluorescent Colors	Non-Fluorescent Colors	16 oz. I.A.C.
246 Red 247 Orange 248 Green 249 Pink 250 Blue 253 Yellow 283 Red-Orange	251 Black 252 Yellow 254 Blue 255 White 256 Red 257 Orange 258 Hi Vis Yellow 259 Green 260 Purple	261 Red 262 Yellow 263 Blue 265 Orange 267 White 270 Fluorescent Red 272 Fluorescent Orange 274 Fluorescent Green 275 Fluorescent Red/Orange 279 Fluorescent Pink

Relevant identified uses of the substance: Designed to adhere to most surfaces, including pavement, gravel, and soil.
Uses advised against: Do not apply if surface is wet, or if rain is imminent within 4 hours of application.

CAS No:	**Not Applicable (mixture)**
EC No:	**Not Applicable (mixture)**
Index No:	**Not Applicable (mixture)**
Manufacturer/Supplier:	**Aervoe Industries Incorporated**
Street address/P.O. Box:	**1100 Mark Circle**
Country ID/Postcode/Place	**Gardnerville, Nevada 89410**
Telephone number:	**001 (0) 1-775-782-0100**
e-mail:	**mailbox@aervoe.com**
National contact:	**Aervoe Industries Incorporated**
For Product Information:	**001 (0) 1-800-227-0196**
Emergency telephone number:	**001 (0) 1-800-424-9300 (CHEMTREC – 24 hrs)** **English Language Service**

2. Hazards identification

Classifications

Physical Hazards:

Aerosol - Category 1
Flam. Gas. 1
Press. Gas
Flam. Liq. 2

Health Hazards:

Car 1B
Muta 1B
Asp Tox. 1

Eye Irrit. - 2
Rep. 2
Skin. Irr. 2
STOT SE3

Environmental Hazards: Aquatic Chronic 2

Labeling

Signal Word: Danger

Hazard Statements:

H220 – Extremely flammable gas
H222 – Extremely flammable aerosol
H225 – Highly flammable liquid and vapour.
H229 - Pressurized container: may burst if heated
H304 – May be fatal if swallowed and enters airways.
H315 – Causes skin irritation.
H319 – Causes serious eye irritation.
H336 – May cause drowsiness or dizziness.
H340 – May cause genetic defects
H350 – May cause cancer
H361 – Suspected of damaging fertility or the unborn child .
H373 – May cause damage to organs through prolonged or repeated exposure
H411 - Toxic to aquatic life with long lasting effects

Precautionary Statements:

P101 - If medical advice is needed, have product container or label at hand
P102 - Keep out of reach of children
P103 - Read label before use
P210 - Keep away from heat/sparks/open flames/hot surfaces - no smoking
P211 - Do not spray on an open flame or other ignition source
P251 - Pressurized container: Do not pierce or burn, even after use
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P262 - Do not get in eyes, on skin, or on clothing
P264 - Wash … thoroughly after handling
P280 - Wear protective gloves/eye protection/face protection

P303+P361+P353 - If on skin or hair, remove/takeoff immediately all contaminated clothing. Rinse skin with water/shower.
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation

Symbols/Pictograms:

3. Composition / Information on Ingredients

Composition

Chemical	Synonyms	CAS Number	EINECS Number	Weight Percent	Hazard Category	H-Code
Hydrocarbon Propellant	LPG	68476-86-8	270-705-8	10-30%	Press. Gas Flam. Gas 1 Carc. 1B Muta. 1B	H220 H350 H340
Hexane	n-Hexane	110-54-3	203-777-6	5-10%	Flam. Liq. 2 Repr. 2 Asp. Tox. 1 STOT RE 2 * Skin Irrit. 2 STOT SE 3 Aquatic Chronic 2	H225 H361f *** H304 H373 ** H315 H336 H411
Aliphatic Petroleum Distillates	Solvent Naphtha	64742-89-8	265-192-2	5-10%	Carc. 1B Muta. 1B Asp. Tox. 1	H350 H340 H304
Aliphatic Petroleum Distillates	Solvent Naphtha	64742-88-7	265-191-7	1-5%	Asp. Tox. 1	H304
Aliphatic Petroleum Distillates	Solvent Naphtha	8032-32-4	232-453-7	1-5%	Carc. 1B Muta. 1B Asp. Tox. 1	H350 H340 H304
Non-fluorescent colors also contain:						
Acetone	Propanone	67-64-1	200-662-2	1-5%	Flam. Liq. 2 Eye Irrit. 2 STOT SE 3	H225, H319, H336

Other Product Information

Chemical Identity: Mixture

4.) First Aid Measures

General Advice:	If symptoms persist, always call a doctor.
Inhalation First Aid:	Remove victim to fresh air and provide oxygen if breathing is difficult. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention immediately.
Skin Contact First Aid:	Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse.
Eye Contact First Aid:	If contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids open. Get medical attention immediately.
Ingestion First Aid:	If swallowed, wash out mouth with water provided the person is conscious. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
Most Important Symptoms/Effects:	Exposure may cause slight irritation to the skin, eyes, and respiratory tract. Excessive exposure may cause central nervous system effects.

5. Fire Fighting Measures

Flammable Properties:	Aerosol
Auto Ignition Temperature:	Not Available
Suitable extinguishing media:	Carbon dioxide, dry chemical, water spray.
Unsuitable extinguishing media:	None known
Special hazards arising from the substance or mixture:	None known
Hazardous combustion products:	Carbon dioxide, Carbon monoxide
Fire & Explosion Hazards:	Closed Containers may rupture due to the buildup of pressure from extreme temperatures.
Precautions for fire-fighters:	Use water spray to cool containers exposed to heat or fire to prevent pressure build up. In the event of a fire, wear full protective clothing and NIOSH- approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

PERSONAL PRECAUTIONARY MEASURES:

1) Follow personal protective equipment recommendations found in section 8.
2) Maintain adequate ventilation.

SPILL CLEAN-UP PROCEDURES:
1.) Evacuate unprotected personnel from the area.
2.) Remove sources of ignition if safe to do so.
3.) Pickup spilled materials using non-sparking tools and place in an appropriate container for disposal.
4.) Contain spill to prevent material from entering sewage or ground water systems.
5.) Always dispose of waste materials in accordance with all EU, National and Local Regulations.

7. Handling and Storage

Handling:

Flammable Aerosol, use in a well ventilated area.
Do not use near sources of ignition.
Do not to eat, drink and smoke while working with this material.
Wash hands after use.

Conditions for safe storage, including any incompatibilities:

Store out of direct sunlight.
Storage Temperature: 32° to 120°F (0° to 49°C).
No known incompatibilities.

8. Exposure Controls / Personal Protection

Appropriate engineering controls:
Ensure adequate ventilation. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits.
Keep away from sources of ignition.
Take precautionary measures against static discharge.

Personal Protection:
Eye & face protection devices such as safety glasses, safety goggles or face shield are recommended.

Skin protection
Wear the appropriate protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Respiratory protection:
Use only in an adequately ventilated area. For unknown vapor concentrations use a positive-pressure, pressure-demand, self-contained breathing apparatus (SCBA).

Hazardous Ingredient	CAS Number	ACGIH TLV (TWA)	ACGIH TLV (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)

Aliphatic Petroleum Distillates	64742-88-7	N/AV	N/AV	N/AV	N/AV
Aliphatic Petroleum Distillates	64742-89-8	N/AV	N/AV	N/AV	N/AV
Hydrocarbon Propellant	68476-86-8	N/AV	N/AV	N/AV	N/AV
Aliphatic Petroleum Distillates	8032-32-4	200ppm	300ppm	200ppm	N/AV
Hexane	110-54-3	50ppm	N/AV	500ppm	N/AV
Acetone	67-64-1	500ppm	750ppm	1000ppm	N/AV

***Values are based on the 2014 Guide to Occupational Exposure Values by ACGIH**

9. Information on Basic Physical and Chemical Properties

Appearance: Color varies by product.	Odor: Hydrocarbon Odor
Odor Threshold: N/AV	pH: Not Applicable (solvent Base)
Melting Point: N/AV	Freezing Point: N/AV
Initial Boiling Point: N/AV	Boiling Point Range: N/AV
Flash Point: <0° F (-18° C)	Evaporation Rate: Faster than n-Butyl Acetate
Flammability Solid/Gas: Flammable gas	LEL: 0.9% UEL: 13%
Vapor Pressure: N/AV	Vapor Density: Heavier Than Air
Relative Density: N/AV	Solubility: Negligible
Partition Coefficient: n-octanol/ water: N/AV	Auto-ignition Temperature: N/AV
Decomposition Temperature: N/AV	Viscosity: N/AV
Explosive Properties: N/AV	Oxidizing Properties: N/AV

10. Stability & Reactivity

Possibility of hazardous reactions: Hazardous polymerization will not occur under normal conditions
Chemical stability: Stable under normal conditions
Conditions to avoid: Heat and ignition sources
Incompatible materials: Strong Oxidizing Agents
Hazardous decomposition products: Will not occur

11. Toxicological Information

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Repeated overexposure can also damage kidneys, lungs, liver, heart and blood

Routes of exposure: Eyes, skin, ingestion, and/or inhalation

Acute toxicological data: (Acetone) Acute oral LD50: 5800mg/kg(rat)

	(Acetone) LC50: 21000 ppm / 8 hr (rat) (Hexane) LD50: 2870 mg/kg (Rat-Oral)
Eye irritation data:	N/AV
Skin irritation/sensitization/absorption data:	N/AV
Reproductive toxicity data:	N/AV
Mutagenicity data:	Muta 1B
Symptoms associated with physical contact:	N/AV
Acute/chronic effects from short/long term exposure:	Irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis. Not expected to be a skin sensitizer.
Known reportable carcinogens via the following agencies:	
NTP:	N/AV
IARC:	IARC3:Classification not possible from current data
OSHA:	TLV-A4

* Petroleum distillates may contain chemical carcinogens in limited quantities (< 0.01%). These quantities are determined by the supplier/fraction/purity of the distillate during the manufacturing process. Chemicals that may be present within distillates are listed on California's prop 65 list such as ETHYLBENZENE, BENZENE, and TOLUENE.

12. Ecological Information

Ecotoxicity: **No Data Available**
Persistence and degradability: **No Data Available**
Bioaccumulative potential: **No Data Available**
Mobility in soil: **No Data Available**
Results of PBT and vPvB assessment: **No Data Available**
Other adverse effects: **No Data Available**

13. Disposal Considerations

Waste Disposal: Dispose of material in accordance with EU, national and local requirements. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or

laws governing your location.
Product / Packaging disposal: Dispose of packaging in accordance with federal, state and local requirements, regulations and/or laws governing your location.

14. Transportation Information

US DOT

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Reference 49 CFR 172.101

IMDG

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Reference IMDG code part 3

IATA:

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols, Flammable	2.1	Not Applicable	Not Applicable	Reference IATA Dangerous Goods Regulation

15. Regulatory Information

Workplace classification:
This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). The Occupational Safety and Health Administration's interpretation of the product's hazard to workers.
SARA Title 3:
Section 311/312 Categorizations (40 CFR 372): This product is a hazardous chemical under 29 CFR 1910.1200, and is categorized as an immediate and delayed health, and flammability physical hazard. Superfund Amendment and Reauthorization Act (SARA) category. SARA requires reporting any spill of any hazardous substance.
TSCA status: All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.
WHMIS: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the (M)SDS contains all of the information required by the CPR.
PROP 65 (CA): WARNING: This product may contain chemicals know to the state of California to cause cancer, birth defects or other reproductive harm.

16. Other Information

Safety Data Sheet (SDS)

Date Prepared/Revised: 1/6/2015 Version no.: 02 Supersedes: (9/11/2014)

This SDS has been completed in accordance with GHS Rev04 (2011): U.S OSHA, CMA, ANSI, Canadian WHMIS standards, and European Directives.

Date of Preparation/Revision: 1-6-2015
Supersedes: (9/11/2014)

To the best of our knowledge, the information contained herein is believed to be accurate. However, the above data does not imply any guarantee or warranty of any kind, expressed or implied. The final determination of the suitability of any material is the sole responsibility of the user. All materials made present un-known hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee these are the only hazards existing.

9. NATIONAL POWER - LITHIUM ION BATTERY

Safety Data Sheet for Chemical Products (SDS)

1. PRODUCT AND COMPANY IDENTIFICATION

- Product name: Lithium ion rechargeable battery
- Product code: None
  (Models assembled with individual cell capacities of less than or equal to 5.4Ah)
- Company name: National Power Corporation
- Address: 4330 W. Belmont Ave., Chicago, IL. 60641, USA
- Telephone number: +773-685-2662
- Fax number: +1-773-685-8316
- Emergency telephone number: [North America] 1-800-424-9300 [International] 001-703-527-3887

2. HAZARDS IDENTIFICATION

For the battery cell, chemical materials are stored in a hermetically sealed metal or metal laminated plastic case, designed to withstand temperatures and pressures encountered during normal use. As a result, during normal use, there is no physical danger of ignition or explosion and chemical danger of hazardous materials' leakage.

However, if exposed to a fire, added mechanical shocks, decomposed, added electric stress by miss-use, the gas release vent will be operated. The battery cell case will be breached at the extreme, hazardous materials may be released.

Moreover, if heated strongly by the surrounding fire, acrid gas may be emitted.

- GHS classification: Not available
  (This product is outside the scope of GHS system since it's considered as an "article".)

- Most important hazard and effects
  Human health effects:
  Inhalation: The steam of the electrolyte has an anesthesia action and stimulates a respiratory tract.
  Skin contact: The steam of the electrolyte stimulates a skin. The electrolyte skin contact causes a sore and stimulation on the skin.
  Eye contact: The steam of the electrolyte stimulates eyes. The electrolyte eye contact causes a sore and stimulation on the eye. Especially, substance that causes a strong inflammation of the eyes is contained.
  Environmental effects: Since a battery cell remains in the environment, do not throw out it into the environment.

- Specific hazards:
  If the electrolyte contacts with water, it will generate detrimental hydrogen fluoride.
  Since the leaked electrolyte is inflammable liquid, do not bring close to fire.

3. COMPOSITION / INFORMATION ON INGREDIENTS

- Substance or preparation: Preparation
- Information about the chemical nature of product: *1

Portion	Material name	Concentration range (wt %)
Positive electrode	Lithium transition metal oxidate ($Li[M]_m[O]_n$ *2)	20~60
Positive electrode's base	Aluminum	1~10
Negative electrode	Carbon	10~30
Negative electrode's base	Copper	1~15
Electrolyte	Organic electrolyte principally involves ester carbonate	5~25
Outer case	Aluminum, iron, aluminum laminated plastic	1~30

**1 Not every product includes all of these materials.*
**2 The letter M means transition metal and candidates of M are Co, Mn, Ni and Al. One compound includes one or more of these metals and one product includes one or more of the compounds. The letter m and n means the number of atoms.*

4. FIRST-AID MEASURES

Spilled internal cell materials

- Inhalation:
  Make the victim blow his/her nose, gargle. Seek medical attention if necessary.
- Skin contact:
  Remove contaminated clothes and shoes immediately. Wash extraneous matter or contact region with soap and plenty of water immediately.
- Eye contact:
  Do not rub one's eyes. Immediately flush eyes with water continuously for at least 15 minutes. Seek medical attention immediately.

A battery cell and spilled internal cell materials

- Ingestion:
  Make the victim vomit. When it is impossible or the feeling is not well after vomiting, seek medical attention.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media: Plenty of water, carbon dioxide gas, nitrogen gas, chemical powder fire extinguishing medium and fire foam.
- Specific hazards: Corrosive gas may be emitted during fire.
- Specific methods of fire-fighting: When the battery burns with other combustibles simultaneously, take fire-extinguishing method which correspond to the combustibles. Extinguish a fire from the windward as much as possible.
- Special protective equipment for firefighters:
  Respiratory protection: Respiratory equipment of a gas cylinder style or protection-against-dust mask
  Hand protection: Protective gloves
  Eye protection: Goggle or protective glasses designed to protect against liquid splashes
  Skin and body protection: Protective cloth

6. ACCIDENTAL RELEASE MEASURES

Spilled internal cell materials, such as electrolyte leaked from a battery cell, are carefully dealt with according to the followings.

- Precautions for human body:
  Remove spilled materials with protective equipment (protective glasses and protective gloves). Do not inhale the gas as much as possible. Moreover, avoid touching with as much as possible.
- Environmental precautions: Do not throw out into the environment.
- Method of cleaning up: The spilled solids are put into a container. The leaked place is wiped off with dry cloth.
- Prevention of secondary hazards: Avoid re-scattering. Do not bring the collected materials close to fire.

7. HANDLING AND STORAGE
- Handling suggestions
  - Do not connect the positive terminal to the negative terminal with electrical wire or chain.
  - Avoid polarity reverse connection when installing the battery to an instrument.
  - Do not wet the battery with water, seawater, drink or acid; or expose to strong oxidizer.
  - Do not damage or remove the external tube.
  - Keep the battery away from heat and fire.
  - Do not disassemble or reconstruct the battery; or solder the battery directly.
  - Do not give a mechanical shock or deform.
  - Do not use unauthorized charger or other charging method. Terminate charging when the charging process doesn't end within specified time.

- Storage
  - Do not store the battery with metalware, water, seawater, strong acid or strong oxidizer.
  - Make the charge amount 30~50% then store at room temperature or less (temperature= -20~35 degree C) in a dry (humidity: 45~85%) place. Avoid direct sunlight, high temperature, and high humidity.
  - Use insulative and adequately strong packaging material to prevent short circuit between positive and negative terminal when the packaging breaks during normal handling. Do not use conductive or easy to break packaging material.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION (WHEN THE ELECTROLYTE LEAKS)
- Control parameters
  ACGIH has not been mentioned control parameter of electrolyte.
- Personal protective equipment
  Respiratory protection: Respirator with air cylinder, dust mask
  Hand protection: Protective gloves
  Eye protection: Goggles or protective glasses designed to protect against liquid splashes
  Skin and body protection: Working clothes with long sleeve and long trousers

9. PHYSICAL AND CHEMICAL PROPERTIES
- Appearance
  Physical state: Solid
  Form: Cylindrical or Prismatic or Pouch (laminated)
  Color: Metallic color or black (without tube if it has tube) Odor: No odor

10. STABILITY AND REACTIVITY
- Stability: Stable under normal use
- Hazardous reactions occurring under specific conditions
  - Conditions to avoid: When a battery cell is exposed to an external short-circuit, crushes, deformation, high temperature above 100 degree C, it will be the cause of heat generation and ignition. Direct sunlight and high humidity.
  - Materials to avoid: Conductive materials, water, seawater, strong oxidizers and strong acids.
  - Hazardous decomposition products: Acrid or harmful gas is emitted during fire.

11. TOXICOLOGICAL INFORMATION

Organic Electrolyte

- Acute toxicity:
  LD_{50}, oral - Rat 2,000mg/kg or more
- Irritating nature: Irritative to skin and eye

12. ECOLOGICAL INFORMATION

- Persistence/degradability:
  Since a battery cell and the internal materials remain in the environment, do not bury or throw out into the environment.

13. DISPOSAL CONSIDERATIONS

- Recommended methods for safe and environmentally preferred disposal:

Product (waste from residues)

Specified collection or disposal of lithium ion battery is required by the law like as "battery control law" in several nations. Collection or recycle of the battery is mainly imposed on battery's manufacturer or importer in the nations recycle is required.

Contaminated packaging

Neither a container nor packing is contaminated during normal use. When internal materials leaked from a battery cell contaminates, dispose as industrial wastes subject to special control.

14. TRANSPORT INFORMATION

In the case of transportation, avoid exposure to high temperature and prevent the formation of any condensation. Take in a cargo of them without falling, dropping and breakage. Prevent collapse of cargo piles and wet by rain. The container must be handled carefully. Do not give shocks that result in a mark of hitting on a cell. Please refer to Section 7-HANDLING AND STORAGE also.

UN regulation

- UN number: 3480 (3481 when the battery is contained in equipment or packed with equipment)
- Proper shipping name:
  Lithium ion batteries ("lithium ion batteries contained in equipment" or "lithium ion batteries packed with equipment")
- Class: 9 *
- Packing instruction: 965 (966 or 967 when battery is packaged with equipment or contained in equipment).

** Although this product meets the criteria of "dangerous goods" and are classified as "lithium ion batteries", depending on the battery's total capacity in the packaging, etc., they may not be subject to the fully regulated provisions.*

Regulation depends on region and transportation mode

- Worldwide - Air transportation:
  ICAO/IATA-DGR [packing instruction 965 sections IB or II]
  (When shipping batteries "packed with" or "contained in" equipment, use packing instruction 966 or 967 as appropriate.)
- Worldwide - Ocean transportation:
  IMO-IMDG Code [special provision 188]
- Europe - Ground transportation:
  ADR [special provision 188]

** Instructions or provisions in the box brackets are conditions to make the battery cell exempted from full regulation.*

15. REGULATORY INFORMATION

- Regulations specifically applicable to the product:
  Wastes Disposal and Public Cleaning Law [Japan]
  Law for Promotion of Effective Utilization of resources [Japan]
  US Department of Transportation 49 Code of Federal Regulations [USA]

** About overlapping regulations, please refer to Section 14-TRANSPORT INFOMATION.*

16. OTHER INFORMATION

- This safety data sheet is offered an agency who handles this product to handle it safely.
- The agency should utilize this safety data sheet effectively (put it up, educate person in charge) and take proper measures.

- ***The information contained in this Safety data sheet is based on the present state of knowledge and current legislation.***
- This safety data sheet provides guidance on health, safety and environmental aspects of the product and should not be construed as any guarantee of technical performance or suitability for particular applications.

Reference

Dangerous Goods Regulations – 59th Edition Effective 1 January 2018: International Air Transport Association (IATA)
IMDG Code – 2016 Edition: International Maritime Organization (IMO)
The European Agreement concerning the International Carriage of Dangerous Goods by Road – 2017: The United Nations Economic Commission for Europe (UNECE)

Reference

Reference Document: SDS-IBT-00026-21_E, 2018

10. BARCADE WB 244

BARACADE WB 244

WATER-BASED, PENETRATING WATER REPELLENT FOR CONCRETE AND MASONRY

EUCLID CHEMICAL

DESCRIPTION

BARACADE WB 244 is a ready-to-use, water-based siloxane/silane penetrating water repellent sealer. BARACADE WB 244 soaks into the substrate and forms a water and chloride barrier that protects concrete and masonry from the damaging effects of water and salts, especially in freeze-thaw climates and marine environments. BARACADE WB 244 is a breathable sealer that does not alter the appearance or texture of the substrate.

PRIMARY APPLICATIONS

- Sidewalks
- Ramps
- Parking decks
- Bridge decks
- Industrial floors
- Walls

FEATURES/BENEFITS

- Low VOC content
- ▲ Can contribute to LEED points
- Breathable
- Non film-forming; leaves no gloss or shine

TECHNICAL INFORMATION

Typical Engineering Data

The following are typical values obtained under laboratory conditions. Expect reasonable variation under field conditions.

Material Properties @ 75° F (24° C)

Flash Point ..... > 200°F (93° C)
Weight/gal ..... 8.4 lbs
VOC Content ..... 50 g/L
Active Content (by weight) 10%
Viscosity ..... 50 cp
Drying Time at 70°F (21°C) ..... 1 to 2 hours
Foot Traffic ..... 4 to 6 hours
Wheel Traffic ..... 10 to 12 hours

Average Depth of Penetration
(substrate dependent) ..... 3/8" (9.5 mm)
Absorption Reduction
Federal Specification SS-W-110C 88%
NCHRP Report No. 244
Reduction in Chloride Ion Content
21 days 89%
Reduction in Water Absorption
21 days 85%

PACKAGING

BARACADE WB 244 is packaged in 5 gal (18.9 L) pails and 55 gal (208 L) drums.

SHELF LIFE

1 year in original, unopened container

SPECIFICATIONS/COMPLIANCES

BARACADE WB 244 meets the performance standards of NCHRP 244

Federal specification SS-W-110C

Complies with all U.S. EPA and local VOC regulations, including OTC, LADCO, Maricopa County, and California (CARB and SCAQMD)

Canadian MTQ

COVERAGE

Approximate Coverage ft²/gal (m²/L)

Surface	1st Coat	2nd Coat
Dense	100 to 150 (2.45 to 3.68)	—
Porous	100 to 150 (2.45 to 3.68)	100 to 150 (2.45 to 3.68)

Because of variations in surface density, the following coverage rates are approximate and are intended for estimating purposes only. Use test applications on actual surfaces to accurately determine coverage rates. Extremely porous surfaces may require two coats of BARACADE WB 244. When two coats are required, apply the second coat on the still wet BARACADE WB 244 by following a "wet on wet" technique.

19215 Redwood Road • Cleveland, OH 44110
800-321-7628 t • 216-531-9596 f
www.euclidchemical.com

Directions for Use

Surface Preparation: Cure new concrete a minimum of 3 days before application. Surface must be clean, dry and structurally sound. The substrate must also be free of all curing compounds, form release agents and any other contaminants which may prevent the proper penetration of BARACADE WB 244. Prior to application, moving joints or cracks must be properly sealed with an elastomeric joint sealant.

Non-moving cracks or voids wider than 1/64 inch (0.4 mm) must be filled with a suitable material. Surfaces must be dry for a minimum of 24 hours prior to application. Mask all adjacent surfaces including grass, plants, shrubs and asphalt to protect from drips or over spray.

Mixing: BARACADE WB 244 does not normally require mixing.

Application: For best results, BARACADE WB 244 should be applied using low pressure, non-atomizing, airless spray equipment. A garden sprayer may be used for smaller projects only when an airless sprayer is not available. To produce the proper material flow, reduce air pressure on pumping equipment and use spray tips with orifice sizes no smaller than 0.035 inch (0.9 mm). Larger tips may be required with some spray equipment to get desired material flow. Flood the surface with BARACADE WB 244 using a low pressure sprayer. A roller or broom may also be used. Distribute material evenly. Do not allow the material to puddle. When applying to vertical surfaces, work from the bottom up.

Clean-Up

Clean drips, runs, and overspray residue while still wet, using detergent and water. Dried material may require mechanical abrasion for removal. Clean application and spray equipment with detergent and water immediately following use.

Precautions/Limitations

- Store material between 40°F to 90°F (4°C to 32°C).
- PROTECT FROM FREEZING.
- Temperature of air and surface must be at least 40°F (4°C) and rising.
- Do not dilute
- Do not allow to puddle. All product should penetrate the substrate with no surface build-up.
- Do not apply if rain is expected within 12 hours.
- BARACADE WB 244 can be applied to pH neutral surfaces; however, longer cure times may be required to develop full repellency.
- BARACADE WB 244 is non-flammable and non-hazardous.
- BARACADE WB 244 may exhibit minor settling upon storage. Agitation prior to use may be necessary.
- A small (6' x 6') test area is strongly recommended prior to starting full application, in order to ensure desired performance results, aesthetics, and coverage rates. Allow 5 to 7 days for product to fully react before evaluating.
- In all cases, consult the Safety Data Sheet before use.

Rev. 09.19

WARRANTY: The Euclid Chemical Company ("Euclid") solely and expressly warrants that its products shall be free from defects in materials and workmanship for one (1) year from the date of purchase. Unless a ed in writing by an officer of Euclid, no other representations or statements made by Euclid or its representatives, in writing or orally, shall alter this warranty. EUCLID MAKES NO WARRANTIES, IMPLIED OR OTH E, AS TO THE MERCHANTABILITY OR FITNESS FOR ORDINARY OR PARTICULAR PURPOSES OF ITS PRODUCTS AND EXCLUDES THE SAME. If any Euclid product fails to conform with this warranty, Euclid will rep the product at no cost to Buyer. Replacement of any product shall be the sole and exclusive remedy available and buyer shall have no claim for incidental or consequential damages. Any warranty claim must be made within one (1) year from the date of the claimed breach. Euclid does not authorize anyone on its behalf to make any written or oral statements which in any way alter Euclid's installation information or instructions in its product literature or on its packaging labels. Any installation of Euclid products which fails to conform with such installation information or instructions shall void this warranty. Product demonstrations, if any, are done for illustrative purposes only and do not constitute a warranty or warranty alteration of any kind. Buyer shall be solely responsible for determining the suitability of Euclid's products for the Buyer's intended purposes.

11. PLANITOP X

Safety Data Sheet
PLANITOP X
Safety Data Sheet dated: 9/12/2016 - version 1
Date of first edition: 9/12/2016

1. Identification

Product identifier

Mixture identification:

Trade name: PLANITOP X

Recommended use and restrictions on use

Recommended use: Mortar

Restrictions on use: N.A.

Supplier's details

Company: MAPEI INC. (Canada)
2900 Francis-Hughes Avenue
H7L 3J5 - Laval - QC - CAN
Phone: 1-450-662-1212

Emergency phone number

(USA) CHEMTREC 1-800-424-9300
(Canada) CANUTEC 1-613-996-6666

2. Hazard identification

Classification of the product

Skin Corr. 1A	Causes severe skin burns and eye damage.
Eye Dam. 1	Causes serious eye damage.
Skin Sens. 1	May cause an allergic skin reaction.
Carc. 1A	May cause cancer if inhaled.
STOT RE 1	Causes damage to organs through prolonged or repeated exposure if inhaled.

Label elements

Symbols:

Danger

Code	Description
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H350.A	May cause cancer if inhaled.
H372.A	Causes damage to organs through prolonged or repeated exposure if inhaled.

Code	Description
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260.B	Do not breathe dust.
P264.2	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/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+P313	IF exposed or concerned: Get medical advice/attention.
P310.B	Immediately call a doctor.
P321.A	Specific treatment (see supplementary instructions on this label).
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P501.A	Dispose of contents/container in accordance with applicable regulations.

Other hazards

None

Ingredient(s) with unknown acute toxicity

None

3. Composition/information on ingredients

Substances

N.A.

Mixtures

Hazardous components within the meaning of WHMIS 2015 and related classification:

List of components

Quantity	Name	Ident. Numb.	Classification
25-50 %	Silica Sand	CAS:14808-60-7	STOT RE 1, H372; Carc. 1A, H350
5-10 %	Portland cement	CAS:65997-15-1	STOT SE 3, H335; Eye Dam. 1, H318; Skin Sens. 1, H317; Skin Corr. 1A, H314
0.1-0.25 %	Lithium carbonate	CAS:554-13-2	Acute Tox. 4, H302; Eye Irrit. 2A, H319

4. First-aid measures

Description of necessary first-aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

Remove contaminated clothing immediately and dispose of safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

Most important symptoms/effects, acute and delayed

Eye irritation

Eye damages

Skin Irritation

Erythema

Indication of immediate medical attention and special treatment needed, if necessary

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

5. Fire-fighting measures

Suitable and unsuitable extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO2).

Unsuitable extinguishing media:

None in particular.

Specific hazards arising from the hazardous product

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products: N.A.

Special protective equipement and precautions for fire-fighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

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6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

See protective measures under point 7 and 8.

Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

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7. Handling and storage

Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Exercise the greatest care when handling or opening the container.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

Conditions for safe storage, including any incompatibilities

Storage temperature: N.A.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

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8. Exposure controls/personal protection

Control parameters

List of components with OEL value

Component	OEL Type	Country	Ceiling	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Behaviour	Note
Silica Sand	ACGIH			0,025					A2 - Suspected Human Carcinogen;lung cancer;pulmonary fibrosis;
Portland cement	OSHA			15					
	OSHA			5					
	ACGIH			1					A4 - Not Classifiable as a Human Carcinogen;pulmonary function;respiratory symptoms;asthma;

Appropriate engineering controls

N.A.

Individual protection measures, such as personal protective equipment (PPE)

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Use adequate protective respiratory equipment.

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9. Physical and chemical properties

Appearance and colour: Powder grey
Odour: Cement like
Odour threshold: N.A.
pH: N.A.
Melting point / freezing point: N.A.
Initial boiling point and boiling range: N.A.
Flash point: N.A.
Evaporation rate: N.A.
Upper/lower flammability or explosive limits: N.A.
Vapour density: N.A.
Vapour pressure: N.A.
Relative density: 2.15 g/cm3
Solubility in water: Dispersible
Solubility in oil: N.A.
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Viscosity: N.A.
Explosive properties: N.A.
Oxidizing properties: N.A.
Solid/gas flammability: N.A.

Other information

Substance groups relevant properties: N.A.
Miscibility: N.A.
Fat Solubility: N.A.
Conductivity: N.A.

10. Stability and reactivity

Reactivity

Stable under normal conditions

Chemical stability

Data not Available.

Possibility of hazardous reactions

None.

Conditions to avoid

Stable under normal conditions.

Incompatible materials

None in particular.

Hazardous decomposition products

None.

11. Toxicological information

Information on toxicological effects

Toxicological information of the mixture:

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Toxicological Information on main components of the mixture:

Silica Sand	a) acute toxicity	LD50 Oral Rat = 500mg/kg
Lithium carbonate	a) acute toxicity	LC50 Inhalation Rat > 217mg/l 4h
		LD50 Oral Rat = 525mg/kg

If not differently specified, the information required in the regulation and listed below must be considered as N.A.

a) acute toxicity

b) skin corrosion/irritation

c) serious eye damage/irritation

d) respiratory or skin sensitisation

e) germ cell mutagenicity

f) carcinogenicity

h) STOT-single exposure

i) STOT-repeated exposure

j) aspiration hazard

Substance(s) listed on the IARC Monographs:

Silica Sand Group 1

Substance(s) listed as OSHA Carcinogen(s):

Silica Sand

Substance(s) listed as NIOSH Carcinogen(s):

Silica Sand

Substance(s) listed on the NTP report on Carcinogens:

Silica Sand

12. Ecological information

Ecotoxicity

Adopt good working practices, so that the product is not released into the environment.

List of components with eco-toxicological properties

Quantity	Component	Ident. Numb.	Ecotox Infos
25-50 %	Silica Sand	CAS: 14808-60-7	LC50 a) Aquatic acute toxicity carp> 10000,00000mg/L 72h

Persistence and degradability

N.A.

Bioaccumulative potential

N.A.

Mobility in soil

N.A.

Other adverse effects

N.A.

13. Disposal considerations

Safe handling and methods for disposal

Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force.

14. Transport information

Not classified as dangerous in the meaning of transport regulations.

UN number

TDG-UN number: N.A.
ADR-UN number: N.A.
DOT-UN Number: N.A.
IATA-Un number: N.A.
IMDG-Un number: N.A.

UN proper shipping name

TDG-Shipping Name: N.A.
ADR-Shipping Name: N.A.
DOT-Proper Shipping Name: N.A.
IATA-Technical name: N.A.
IMDG-Technical name: N.A.

Transport hazard class(es)

TDG-Class: N.A.
ADR-Class: N.A.
DOT-Hazard Class: N.A.
IATA-Class: N.A.
IMDG-Class: N.A.

Packing group

TDG-Packing Group: N.A.
ADR-Packing Group: N.A.

IMDG-Packing group: N.A.

Environmental hazards

Marine pollutant: No

Environmental Pollutant: N.A.

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

N.A.

Special precautions in connection with transport or conveyance

TDG:

TDG Special provisions: N/A

Department of Transportation (DOT):

N.A.

Road and Rail (ADR-RID):

N.A.

Air (IATA):

N.A.

Sea (IMDG):

N.A.

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15. Regulatory information

Canada- Federal regulations

DSL - Domestic Substances List

DSL Inventory:

All the substances are listed in the DSL.

NDSL - Non Domestic Substances List

NDSL Inventory:

no substances listed

NPRI - National Pollutant Release Inventory

Substances listed in NPRI:

no substances listed

USA - Federal regulations

TSCA - Toxic Substances Control Act

TSCA inventory:

All the components are listed on the TSCA inventory

TSCA listed substances:

Silica Sand	is listed in TSCA	Section 8b
Portland cement	is listed in TSCA	Section 8b
Lithium carbonate	is listed in TSCA	Section 8b

SARA - Superfund Amendments and Reauthorization Act

Section 302 - Extremely Hazardous Substances:

no substances listed

Section 304 - Hazardous substances:

no substances listed

Section 313 - Toxic chemical list:

Lithium carbonate

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA:

no substances listed

CAA - Clean Air Act

CAA listed substances:

no substances listed

CWA listed substances:

no substances listed

USA - State specific regulations

California Proposition 65

Substance(s) listed under California Proposition 65:

Silica Sand	Listed as carcinogen
Lithium carbonate	Listed as reproductive toxicant

Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:

Silica Sand

Portland cement

Lithium carbonate

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

Silica Sand

Portland cement

New Jersey Right to know

Substance(s) listed under New Jersey Right to know:

Silica Sand

Portland cement

Lithium carbonate

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16. Other information

Code	Description
H[illegible]	Harmful if swallowed.
H[illegible]	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H350	May cause cancer .
H350.A	May cause cancer if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure .
H372.A	Causes damage to organs through prolonged or repeated exposure if inhaled.

Safety Data Sheet dated: 9/12/2016 - version 1

Product code: 2709

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

INCI: International Nomenclature of Cosmetic Ingredients.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
GefStoffVO: Ordinance on Hazardous Substances, Germany.
LC50: Lethal concentration, for 50 percent of test population.
LD50: Lethal dose, for 50 percent of test population.
DNEL: Derived No Effect Level.
PNEC: Predicted No Effect Concentration.
TLV: Threshold Limiting Value.
TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
STEL: Short Term Exposure limit.
STOT: Specific Target Organ Toxicity.
WGK: German Water Hazard Class.
KSt: Explosion coefficient.

12. TAMMSPATCH II

This is a kit that contains the following components:
TAMMSPATCH II GRAY POWDER 'A'
TAMMSPATCH II LIQUID

SAFETY DATA SHEET

1. Identification

Product identifier: 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 1B
Carcinogenicity	Category 1A
Specific Target Organ Toxicity - Single Exposure	Category 3[1.]

Target Organs

1. Respiratory tract irritation.

Unknown toxicity - Health

Acute toxicity, oral	94.01 %
Acute toxicity, dermal	99.95 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	99.93 %

Unknown toxicity - Environment

Acute hazards to the aquatic environment	98.04 %
Chronic hazards to the aquatic environment	100 %

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.

Precautionary Statements

Prevention: Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. Avoid breathing dust/fume/gas/mist/vapors/spray. 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. Use personal protective equipment as required. Use only outdoors or in a well-ventilated area.

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 water. If skin irritation or rash occurs: Get medical advice/attention. Immediately call a POISON CENTER/doctor. Specific treatment (see this label). Wash contaminated clothing before reuse.

Storage: Store locked up. Store in 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)/	14808-60-7	60 - 100%

Silica Sand		
Portland cement	65997-15-1	15 - 40%
Calcium salt	7778-18-9	1 - 5%
Titanium dioxide	13463-67-7	0.5 - 1.5%

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

4. First-aid measures

Ingestion: Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

Inhalation: Move to fresh air.

Skin Contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash contaminated clothing before reuse. 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.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

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 firefighters

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.

Methods and material for containment and cleaning up: Collect spillage in containers, seal securely and deliver for disposal according to local regulations.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions: Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling: 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. 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.

Conditions for safe storage, including any incompatibilities: Store locked up.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	type	Exposure Limit Values	Source
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	US. ACGIH Threshold Limit Values (2011)
Crystalline Silica (Quartz)/ Silica Sand	PEL	0.05 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (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) (2000)
	TWA	0.1 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)
Portland cement - Respirable fraction.	TWA	1 mg/m3	US. ACGIH Threshold Limit Values (2011)
Portland cement - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Portland cement - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Portland cement	TWA	50 millions of particles per cubic foot of air	US. OSHA Table Z-3 (29 CFR 1910.1000) (2000)

Calcium salt - Total	REL	10 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
Calcium salt - Respirable.	REL	5 mg/m3	US. NIOSH: Pocket Guide to Chemical Hazards (2010)
Calcium salt - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Calcium salt - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)
Calcium salt - Total dust.	TWA	15 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
Calcium salt - Respirable fraction.	TWA	5 mg/m3	US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)
Calcium salt	AN ESL	5 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (03 2014)
	ST ESL	50 µg/m3	US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (03 2014)
Calcium salt - Inhalable fraction.	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Calcium salt - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Calcium salt - Respirable fraction.	PEL	5 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)
Titanium dioxide	TWA	10 mg/m3	US. ACGIH Threshold Limit Values (2011)
Titanium dioxide - Total dust.	PEL	15 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (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) (03 2016)
Titanium dioxide - Total dust.	TWA	15 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (03 2016)
Titanium dioxide - Respirable fraction.	TWA	5 mg/m3	US. OSHA Table Z-3 (29 CFR 1910.1000) (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) (03 2016)

Chemical name	type	Exposure Limit Values	Source
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.025 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Crystalline Silica (Quartz)/ Silica Sand - Respirable fraction.	TWA	0.10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Crystalline Silica (Quartz)/ Silica Sand - Respirable dust.	TWA	0.1 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Portland cement - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Portland cement - Respirable fraction.	TWA	3 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Portland cement - Respirable fraction.	TWA	1 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Portland cement - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Portland cement - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Calcium salt	TWA	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
Calcium salt - Inhalable	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Calcium salt - Inhalable fraction.	TWA	10 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Calcium salt - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Calcium salt - Respirable dust.	TWA	5 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical 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 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) (11 2010)
Titanium dioxide - Total dust.	TWA	10 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)

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

General information:	Provide easy access to water supply and eye wash facilities. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
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:	Use suitable protective gloves if risk of skin contact.
Other:	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.

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.
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: 2,870.53 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):

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):

Calcium salt	in vivo (Rabbit): Not irritant Experimental result, Key study
Titanium dioxide	in vivo (Rabbit): Not irritant Experimental result, Supporting study

Serious Eye Damage/Eye Irritation

Product: No data available.

Specified substance(s):

Calcium salt	Rabbit, 72 hrs: Not irritating
Titanium dioxide	Rabbit, 24 hrs: Not irritating

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 Silica (Quartz)/ Silica Sand	Known To Be Human Carcinogen.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):
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.

Target Organs
Specific Target Organ Toxicity - Single Exposure: Respiratory tract irritation.

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.

Specified substance(s):

Calcium salt — LC 50 (Fathead minnow (Pimephales promelas), 96 h): > 1,970 mg/l Mortality

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Titanium dioxide — EC 50 (Water flea (Daphnia magna), 48 h): > 1,000 mg/l Intoxication

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 instructions: 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. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
None present or none present in regulated quantities.

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

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification
None present or none present in regulated quantities.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Crystalline Silica (Quartz)/ Silica Sand	10000 lbs
Portland cement	10000 lbs
Calcium salt	10000 lbs
Titanium dioxide	10000 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

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

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Titanium dioxide	Carcinogenic. 09 2011

US. New Jersey Worker and Community Right-to-Know Act

Chemical Identity
Crystalline Silica (Quartz)/ Silica Sand
Portland cement
Calcium salt

US. Massachusetts RTK - Substance List

Chemical Identity
Crystalline Silica (Quartz)/ Silica Sand
Portland cement
Calcium salt

US. Pennsylvania RTK - Hazardous Substances

Chemical Identity
Crystalline Silica (Quartz)/ Silica Sand
Portland cement
Calcium salt

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

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)	:	0 g/l 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.

16.Other information, including date of preparation or last revision

Revision Date:	02/01/2017
Version #:	2.0
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

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

Unknown toxicity - Health

Acute toxicity, oral	81.15 %
Acute toxicity, dermal	81.27 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

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

Ingestion: Rinse mouth thoroughly.

Inhalation: Move to fresh air.

Skin Contact: Remove contaminated clothing and wash the skin thoroughly with soap and water after work.

Eye contact: Rinse immediately with plenty of water.

Most important symptoms/effects, acute and delayed

Symptoms: Not applicable.

Hazards: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

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 firefighters

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.

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.

Notification Procedures: In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable 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

Precautions for safe handling: 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.

Conditions for safe storage, including any incompatibilities: Store away from incompatible materials. Store in original tightly closed container.

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 (2011)
	TWA	25 ppm		US. ACGIH Threshold Limit Values (2011)
	PEL	50 ppm	35 mg/m3	US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)

None of the components have assigned exposure limits.

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

General information: Use personal protective equipment as required.

Eye/face protection: Wear goggles/face shield.

Skin Protection
Hand Protection: Use suitable protective gloves if risk of skin contact.

Other:	No data available.
Respiratory Protection:	In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.
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 to remove contaminants. Discard contaminated footwear that cannot be cleaned.

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:	Moderately irritating to skin with prolonged exposure.
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:

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):
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 instructions: 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. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Chemical Identity	OSHA hazard(s)
Formaldehyde	Acute toxicity Skin irritation Skin sensitization Flammability respiratory tract irritation Respiratory sensitization Cancer 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 listed.

SARA 302 Extremely Hazardous Substance

Chemical Identity	Reportable quantity	Threshold Planning Quantity
Formaldehyde	100 lbs.	500 lbs.

SARA 304 Emergency Release Notification

Chemical Identity	Reportable quantity
Ammonium hydroxide	1000 lbs.
Formaldehyde	100 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity	Threshold Planning Quantity
Formaldehyde	500lbs
Ammonium hydroxide	10000 lbs

SARA 313 (TRI Reporting)

None present or none present in regulated quantities.

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

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Formaldehyde	Carcinogenic. 09 2011

US. New Jersey Worker and Community Right-to-Know Act

No ingredient regulated by NJ Right-to-Know Law present.

US. Massachusetts RTK - Substance List

Chemical Identity
Formaldehyde

US. Pennsylvania RTK - Hazardous Substances

No ingredient regulated by PA Right-to-Know Law present.

US. Rhode Island RTK

No ingredient regulated by RI Right-to-Know Law present.

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:	02/01/2017
Version #:	2.0
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.

13. HASQUARNA - 2 STROKE PREMIXED FUEL

SAFETY DATA SHEET

Husqvarna

1. Identification

Product identifier	**Husqvarna 2-Stroke Pre-Mixed Fuel**
Other means of identification	
Product code	581158701, 584309701, 584976601, 585572601, 585694801, 581158802, 581158703, 581158704, (Not all part numbers are available in all markets.)
Recommended use	2-stroke engines
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Supplier	Husqvarna Group
Address	9335 Harris Corners Parkway Charlotte, NC 28269 USA
Telephone number	800-487-5951
Emergency telephone number	+1-760-476-3961 (Access code 333721)

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2A
	Carcinogenicity	Category 2
	Reproductive toxicity (fertility, the unborn child)	Category 2
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, repeated exposure	Category 2
	Aspiration hazard	Category 1
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 2
	Hazardous to the aquatic environment, long-term hazard	Category 2
OSHA defined hazards	Not classified.	

Label elements

Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness. Suspected of causing cancer. Suspected of damaging fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure. Toxic to aquatic life with long lasting effects.

Precautionary statement

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 explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Immediately call a poison center/doctor. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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 exposed or concerned: Get medical advice/attention. Call a poison center/doctor if you feel unwell. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish. Collect spillage.

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

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

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Naphtha (petroleum), full-range alkylate, butane-contg	68527-27-5	≥ 50 - <75
2-Methylbutane	78-78-4	≥ 11 - <25
Toluene	108-88-3	≥ 10.2 - <25
Xylene	1330-20-7	≥ 10 - <25
Ethylbenzene	100-41-4	≥ 1.1 - <3
n-Hexane	110-54-3	≥ 0.1 - <0.3

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

Most important symptoms/effects, acute and delayed Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Edema. Jaundice. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Use water spray to reduce vapors or divert vapor cloud drift. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. The product is immiscible with water and will spread on the water surface. This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. 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. Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

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 handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	PEL	435 mg/m3
		100 ppm
n-Hexane (CAS 110-54-3)	PEL	1800 mg/m3
		500 ppm
Xylene (CAS 1330-20-7)	PEL	435 mg/m3
		100 ppm

US. OSHA Table Z-2 (29 CFR 1910.1000)

Components	Type	Value
Toluene (CAS 108-88-3)	Ceiling	300 ppm
	TWA	200 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
2-Methylbutane (CAS 78-78-4)	TWA	1000 ppm
Ethylbenzene (CAS 100-41-4)	TWA	20 ppm
n-Hexane (CAS 110-54-3)	TWA	50 ppm
Toluene (CAS 108-88-3)	TWA	20 ppm
Xylene (CAS 1330-20-7)	STEL	150 ppm
	TWA	100 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethylbenzene (CAS 100-41-4)	STEL	545 mg/m3
		125 ppm
	TWA	435 mg/m3
		100 ppm
n-Hexane (CAS 110-54-3)	TWA	180 mg/m3
		50 ppm
Toluene (CAS 108-88-3)	STEL	560 mg/m3
		150 ppm
	TWA	375 mg/m3
		100 ppm
Xylene (CAS 1330-20-7)	STEL	655 mg/m3
		150 ppm
	TWA	435 mg/m3
		100 ppm

Biological limit values

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Ethylbenzene (CAS 100-41-4)	0.15 g/g	Sum of mandelic acid and phenylglyoxylic acid	Creatinine in urine	*
n-Hexane (CAS 110-54-3)	0.4 mg/l	2,5-Hexanedion, without hydrolysis	Urine	*
Toluene (CAS 108-88-3)	0.3 mg/g	o-Cresol, with hydrolysis	Creatinine in urine	*
	0.03 mg/l	Toluene	Urine	*

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
	0.02 mg/l	Toluene	Blood	*
Xylene (CAS 1330-20-7)	1.5 g/g	Methylhippuric acids	Creatinine in urine	*

* - For sampling details, please see the source document.

Exposure guidelines

US - California OELs: Skin designation

n-Hexane (CAS 110-54-3) — Can be absorbed through the skin.
Toluene (CAS 108-88-3) — Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Toluene (CAS 108-88-3) — Skin designation applies.

US ACGIH Threshold Limit Values: Skin designation

n-Hexane (CAS 110-54-3) — Can be absorbed through the skin.

Appropriate engineering controls — Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection — Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection — Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other — Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection — Chemical respirator with organic vapor cartridge and full facepiece.

Thermal hazards — Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations — When using do not smoke. 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.

9. Physical and chemical properties

Appearance

Physical state — Liquid.

Form — Viscous liquid.

Color — Clear. Amber

Odor — Hydrocarbon.

Odor threshold — Not available.

pH — Not available.

Melting point/freezing point — Not available.

Initial boiling point and boiling range — 96.8 °F (36 °C)

Flash point — -20.0 °F (-28.9 °C) Closed Cup

Evaporation rate — Not available.

Flammability (solid, gas) — Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) — Not available.

Flammability limit - upper (%) — Not available.

Explosive limit - lower (%) — Not available.

Explosive limit - upper (%) — Not available.

Vapor pressure — Not available.

Vapor density	Not available.
Relative density	0.724
Solubility(ies)	
Solubility (water)	Insoluble
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Kinematic viscosity	< 0.205 cm^2/s (104 °F (40 °C))
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause damage to organs through prolonged or repeated exposure by inhalation. May cause drowsiness and dizziness. Headache. Nausea, vomiting. May cause irritation to the respiratory system.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Ingestion	Droplets of the product aspirated into the lungs through ingestion or vomiting may cause a serious chemical pneumonia.
Symptoms related to the physical, chemical and toxicological characteristics	Aspiration may cause pulmonary edema and pneumonitis. May cause drowsiness and dizziness. Narcosis. Headache. Nausea, vomiting. Behavioral changes. Decrease in motor functions. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. Edema. Jaundice.

Information on toxicological effects

Acute toxicity	May be fatal if swallowed and enters airways. Narcotic effects. May cause respiratory irritation.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitization	
Respiratory sensitization	Not a respiratory sensitizer.
Skin sensitization	This product is not expected to cause skin sensitization.
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
Carcinogenicity	Suspected of causing cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

Ethylbenzene (CAS 100-41-4)	2B Possibly carcinogenic to humans.
Toluene (CAS 108-88-3)	3 Not classifiable as to carcinogenicity to humans.
Xylene (CAS 1330-20-7)	3 Not classifiable as to carcinogenicity to humans.

NTP Report on Carcinogens

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Reproductive toxicity	Components in this product have been shown to cause birth defects and reproductive disorders in laboratory animals. Suspected of damaging fertility. Suspected of damaging the unborn child.
Specific target organ toxicity - single exposure	May cause respiratory irritation. May cause drowsiness and dizziness.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard	May be fatal if swallowed and enters airways.
Chronic effects	May cause damage to organs through prolonged or repeated exposure. Prolonged inhalation may be harmful. Prolonged exposure may cause chronic effects.

12. Ecological information

Ecotoxicity	Toxic to aquatic life with long lasting effects.
Persistence and degradability	No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

2-Methylbutane (CAS 78-78-4)	2.3
Toluene (CAS 108-88-3)	2.73
n-Hexane (CAS 110-54-3)	3.9

Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	D001: Waste Flammable material with a flash point <140 F
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN1993
UN proper shipping name	Flammable liquids, n.o.s. (Naphtha (petroleum), full-range alkylate, butane-contg., isopentane)
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Label(s)	3
Packing group	I
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	T11, TP1, TP27
Packaging exceptions	150
Packaging non bulk	201
Packaging bulk	243

IATA

UN number	UN1993
UN proper shipping name	Flammable liquid, n.o.s. (Naphtha (petroleum), full-range alkylate, butane-contg., isopentane)

Transport hazard class(es)

Class 3

Subsidiary risk -

Packing group I

Environmental hazards Yes

ERG Code 3H

Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1993

UN proper shipping name FLAMMABLE LIQUID, N.O.S. (NAPHTHA (PETROLEUM), FULL-RANGE ALKYLATE, BUTANE-CONTG., ISOPENTANE)

Transport hazard class(es)

Class 3

Subsidiary risk -

Packing group I

Environmental hazards

Marine pollutant Yes

EmS F-E, S-E

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 Not established.

15. Regulatory information

US 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.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

2-Methylbutane (CAS 78-78-4)	LISTED
Ethylbenzene (CAS 100-41-4)	LISTED
n-Hexane (CAS 110-54-3)	LISTED
Toluene (CAS 108-88-3)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - Yes
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Toluene	108-88-3	≥ 10.2 - <25
Xylene	1330-20-7	≥ 10 - <25
Ethylbenzene	100-41-4	≥ 1.1 - <3

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Ethylbenzene (CAS 100-41-4)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)
Xylene (CAS 1330-20-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

2-Methylbutane (CAS 78-78-4)

Safe Drinking Water Act (SDWA) Not regulated.

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Toluene (CAS 108-88-3) 6594

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Toluene (CAS 108-88-3) 35 %WV

DEA Exempt Chemical Mixtures Code Number

Toluene (CAS 108-88-3) 594

US state regulations

US. Massachusetts RTK - Substance List

2-Methylbutane (CAS 78-78-4)
Ethylbenzene (CAS 100-41-4)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)

US. New Jersey Worker and Community Right-to-Know Act

2-Methylbutane (CAS 78-78-4)
Ethylbenzene (CAS 100-41-4)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)
Xylene (CAS 1330-20-7)

US. Pennsylvania Worker and Community Right-to-Know Law

2-Methylbutane (CAS 78-78-4)
Ethylbenzene (CAS 100-41-4)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)
Xylene (CAS 1330-20-7)

US. Rhode Island RTK

2-Methylbutane (CAS 78-78-4)
Ethylbenzene (CAS 100-41-4)
n-Hexane (CAS 110-54-3)
Toluene (CAS 108-88-3)
Xylene (CAS 1330-20-7)

US. California Proposition 65

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

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Ethylbenzene (CAS 100-41-4)
Toluene (CAS 108-88-3)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	No
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	No
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	13-August-2015
Revision date	-
Version #	01
HMIS® ratings	Health: 2* Flammability: 4 Physical hazard: 0
NFPA ratings	
Disclaimer	Husqvarna Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

14. RUSTOLEUM MARKING PAINT - RED

Safety Data Sheet

RUST-OLEUM CORPORATION
* Trusted Quality Since 1921 *
www.rustoleum.com

1. Identification

Product Name:	ICWB LSPR 12PK SAFETY RED MARKING	**Revision Date:**	8/7/2018
Product Identifier:	203038	**Supercedes Date:**	7/9/2018
Recommended Use:	Marking Paint/Industrial Choice Water Based Aerosols		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA Rust-Oleum Canada (ROCA) 200 Confederation Parkway Concord, ON L4K 4T8 Canada Emergency Phone: 800-387-3625	**Manufacturer:**	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA
Preparer:	Regulatory Department		
Emergency Telephone:	24 Hour Hotline: 847-367-7700		

2. Hazard Identification

Classification

Symbol(s) of Product

Signal Word
Danger

Possible Hazards
31% of the mixture consists of ingredient(s) of unknown acute toxicity.

GHS HAZARD STATEMENTS

Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Compressed Gas	H280	Contains gas under pressure; may explode if heated.
Carcinogenicity, category 2	H351	Suspected of causing cancer.
STOT, repeated exposure, category 2	H373	May cause damage to organs through prolonged or repeated exposure.

GHS LABEL PRECAUTIONARY STATEMENTS

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.
P410+P403	Protect from sunlight. Store in a well-ventilated place.
P201	Obtain special instructions before use.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local, regional and national regulations.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P314	Get medical advice/attention if you feel unwell.

3. Composition / Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.%	GHS Symbols	GHS Statements
Propane	74-98-6	17	GHS04	H280
Naphtha, Petroleum, Hydrotreated Light	64742-49-0	9.7	GHS08	H304
n-Butane	106-97-8	8.0	GHS04	H280
n-Butyl Acetate	123-86-4	5.2	GHS02-GHS07	H226-336
Xylenes (o-, m-, p- isomers)	1330-20-7	4.6	GHS02-GHS07	H226-315-319-332
Hydrous Magnesium Silicate	14807-96-6	2.8	Not Available	Not Available
Titanium Dioxide	13463-67-7	1.7	Not Available	Not Available
Ethylbenzene	100-41-4	1.1	GHS02-GHS07-GHS08	H225-304-332-351-373
Crystalline Silica / Quartz	14808-60-7	0.1	Not Available	Not Available

4. First-Aid Measures

FIRST AID - EYE CONTACT: Immediately flush eyes with plenty of water for at least 15 minutes holding eyelids open. Get medical attention. Do NOT allow rubbing of eyes or keeping eyes closed.

FIRST AID - SKIN CONTACT: Wash skin with soap and water. Remove contaminated clothing. Get medical attention if irritation develops or persists.

FIRST AID - INHALATION: If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get immediate medical attention. Do NOT use mouth-to-mouth resuscitation.

FIRST AID - INGESTION: Aspiration hazard: Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. Get immediate medical attention. If swallowed, get medical attention.

5. Fire-Fighting Measures

EXTINGUISHING MEDIA: Alcohol Film Forming Foam, Carbon Dioxide, Dry Chemical, Dry Sand, Water Fog

UNUSUAL FIRE AND EXPLOSION HAZARDS: FLASH POINT IS LESS THAN 20°F. EXTREMELY FLAMMABLE LIQUID AND VAPOR!Water spray may be ineffective. Closed containers may explode when exposed to extreme heat. Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Perforation of the pressurized container may cause bursting of the can. Closed containers may explode when exposed to extreme heat due to buildup of steam. No unusual fire or explosion hazards noted.

SPECIAL FIREFIGHTING PROCEDURES: Evacuate area and fight fire from a safe distance. Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion. Use water spray to keep fire-exposed containers cool. Containers may explode when heated.

Special Fire and Explosion Hazard (Combustible Dust): No Information

6. Accidental Release Measures

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Remove all sources of ignition, ventilate area and remove with inert absorbent and non-sparking tools. Dispose of according to local, state (provincial) and federal regulations. Do not incinerate closed containers. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Ventilate area, isolate spilled material, and remove with inert absorbent. Dispose of contaminated absorbent, container, and unused contents in accordance with local, state, and federal regulations.

7. Handling and Storage

HANDLING: Wash thoroughly after handling. Wash hands before eating. Use only in a well-ventilated area. Follow all SDS and label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Avoid contact with eyes, skin and clothing.

STORAGE: Keep containers tightly closed. Isolate from heat, electrical equipment, sparks and open flame. Contents under pressure. Do not store above 120 ° F. Store large quantities in buildings designed and protected for storage of flammable aerosols. Contents under pressure. Do not expose to heat or store above 120 ° F. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials. Store in a dry, well ventilated place. Keep container tightly closed when not in use. Keep away from heat, sparks, flame and sources of ignition. Avoid excess heat.

Advice on Safe Handling of Combustible Dust: No Information

8. Exposure Controls / Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Propane	74-98-6	20.0	N.E.	N.E.	1000 ppm	N.E.
Naphtha, Petroleum, Hydrotreated Light	64742-49-0	10.0	N.E.	N.E.	N.E.	N.E.
n-Butane	106-97-8	10.0	N.E.	1000 ppm	N.E.	N.E.
n-Butyl Acetate	123-86-4	10.0	50 ppm	150 ppm	150 ppm	N.E.
Xylenes (o-, m-, p- isomers)	1330-20-7	5.0	100 ppm	150 ppm	100 ppm	N.E.
Hydrous Magnesium Silicate	14807-96-6	5.0	2 mg/m3	N.E.	N.E.	N.E.
Titanium Dioxide	13463-67-7	5.0	10 mg/m3	N.E.	15 mg/m3	N.E.
Ethylbenzene	100-41-4	5.0	20 ppm	N.E.	100 ppm	N.E.
Crystalline Silica / Quartz	14808-60-7	1.0	0.025 mg/m3	N.E.	50 µg/m3	N.E.

PERSONAL PROTECTION

ENGINEERING CONTROLS: Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Use explosion-proof ventilation equipment. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits.

RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use. A NIOSH/MSHA approved air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SKIN PROTECTION: Use impervious gloves to prevent skin contact and absorption of this material through the skin. Nitrile or Neoprene gloves may afford adequate skin protection. Use gloves to prevent prolonged skin contact.

EYE PROTECTION: Use safety eyewear designed to protect against splash of liquids.

OTHER PROTECTIVE EQUIPMENT: Refer to safety supervisor or industrial hygienist for further information regarding personal protective equipment and its application. Refer to safety supervisor or industrial hygienist for further guidance regarding types of personal protective equipment and their applications.

HYGIENIC PRACTICES: Wash thoroughly with soap and water before eating, drinking or smoking. Remove contaminated clothing immediately and launder before reuse.

Engineering Measures for Combustible Dust: No Information

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	**Physical State:**	Liquid
Odor:	Solvent Like	**Odor Threshold:**	N.E.
Relative Density:	0.850	**pH:**	N.D.
Freeze Point, °C:	ND	**Viscosity:**	N.D.
Solubility in Water:	Miscible	**Partition Coefficient, n-octanol/water:**	N.D.
Decompostion Temp., °C:	N.D.		
Boiling Range, °C:	-37 - 537	**Explosive Limits, vol%:**	0.9 - 12.6
Flammability:	Supports Combustion	**Flash Point, °C:**	-96
Evaporation Rate:	Faster than Ether	**Auto-ignition Temp., °C:**	N.D.
Vapor Density:	Heavier than Air	**Vapor Pressure:**	N.D.

(See "Other information" Section for abbreviation legend)

10. Stability and Reactivity

CONDITIONS TO AVOID: Avoid temperatures above 120°F (49°C). Avoid all possible sources of ignition.

INCOMPATIBILITY: Incompatible with strong oxidizing agents, strong acids and strong alkalies.

HAZARDOUS DECOMPOSITION: By open flame, carbon monoxide and carbon dioxide. When heated to decomposition, it emits acrid smoke and irritating fumes. Contains solvents which may form carbon monoxide, carbon dioxide, and formaldehyde.

HAZARDOUS POLYMERIZATION: Will not occur under normal conditions.

STABILITY: This product is stable under normal storage conditions.

11. Toxicological Information

EFFECTS OF OVEREXPOSURE - EYE CONTACT: Causes Serious Eye Irritation

EFFECTS OF OVEREXPOSURE - SKIN CONTACT: Substance may cause slight skin irritation. Prolonged or repeated contact may cause skin irritation. May cause skin irritation. Allergic reactions are possible.

EFFECTS OF OVEREXPOSURE - INHALATION: Harmful if inhaled. High gas, vapor, mist or dust concentrations may be harmful if inhaled. Avoid breathing fumes, spray, vapors, or mist. High vapor concentrations are irritating to the eyes, nose, throat and lungs. Prolonged or excessive inhalation may cause respiratory tract irritation.

EFFECTS OF OVEREXPOSURE - INGESTION: Aspiration hazard if swallowed; can enter lungs and cause damage. Harmful if swallowed.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: Overexposure to xylene in laboratory animals has been associated with liver abnormalities, kidney, lung, spleen, eye and blood damage as well as reproductive disorders. Effects in humans, due to chronic overexposure, have included liver, cardiac abnormalities and nervous system damage. IARC lists Ethylbenzene as a possible human carcinogen (group 2B). Contains Titanium Dioxide. Titanium Dioxide is listed as a Group 2B-"Possibly carcinogenic to humans" by IARC. No significant exposure to Titanium Dioxide is thought to occur during the use of products in which Titanium Dioxide is bound to other materials, such as in paints during brush application or drying. Risk of overexposure depends on duration and level of exposure to dust from repeated sanding of surfaces or spray mist and the actual concentration of Titanium Dioxide in

the formula. (Ref: IARC Monograph, Vol. 93, 2010)May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage.

PRIMARY ROUTE(S) OF ENTRY: Eye Contact, Ingestion, Inhalation, Skin Absorption, Skin Contact

ACUTE TOXICITY VALUES

The acute effects of this product have not been tested. Data on individual components are tabulated below:

CAS-No.	Chemical Name	Oral LD50	Dermal LD50	Vapor LC50
64742-49-0	Naphtha, Petroleum, Hydrotreated Light	>5000 mg/kg Rat	>3160 mg/kg Rabbit	>4951 mg/L Rat
106-97-8	n-Butane	N.E.	N.E.	658 mg/L Rat
123-86-4	n-Butyl Acetate	10768 mg/kg Rat	>17600 mg/kg Rabbit	> 21 mg/L Rat
1330-20-7	Xylenes (o-, m-, p- isomers)	3500 mg/kg Rat	>4350 mg/kg Rabbit	29.08 mg/L Rat
14807-96-6	Hydrous Magnesium Silicate	6000	N.E.	30
13463-67-7	Titanium Dioxide	>10000 mg/kg Rat	2500 mg/kg	N.E.
100-41-4	Ethylbenzene	3500 mg/kg Rat	15400 mg/kg Rabbit	17.4 mg/L Rat
14808-60-7	Crystalline Silica / Quartz	5500 mg/kg Rat	5500	100 mg/L

N.E. - Not Established

12. Ecological Information

ECOLOGICAL INFORMATION: Product is a mixture of listed components. Product is a mixture of listed components.

13. Disposal Information

DISPOSAL INFORMATION: Dispose of material in accordance to local, state, and federal regulations and ordinances. Do not allow to enter waterways, wastewater, soil, storm drains or sewer systems. This product as supplied is a USEPA defined ignitable hazardous waste. Dispose of unusable product as a hazardous waste (D001) in accordance with local, state, and federal regulation. Do not incinerate closed containers.

14. Transport Information

	Domestic (USDOT)	International (IMDG)	Air (IATA)	TDG (Canada)
UN Number:	N.A.	1950	1950	N.A.
Proper Shipping Name:	Paint Products in Limited Quantities	Aerosols	Aerosols	Paint Products in Limited Quantities
Hazard Class:	N.A.	2.1	2.1	N.A.
Packing Group:	N.A.	N.A.	N.A.	N.A.
Limited Quantity:	Yes	Yes	Yes	Yes

15. Regulatory Information

U.S. Federal Regulations:

CERCLA - SARA Hazard Category

This product has been reviewed according to the EPA 'Hazard 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:

Gas under pressure, Carcinogenicity, Specific target organ toxicity (single or repeated exposure)

Sara Section 313:

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

Chemical Name	CAS-No.
Xylenes (o-, m-, p- isomers)	1330-20-7
Ethylbenzene	100-41-4

Toxic Substances Control Act:

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(b) if exported from the United States:

Chemical Name	CAS-No.
Castor oil, sulfated, sodium salt	68187-76-8

16. Other Information

HMIS RATINGS

Health: 2* **Flammability:** 4 **Physical Hazard:** 0 **Personal Protection:** X

NFPA RATINGS

Health: 2 **Flammability:** 4 **Instability** 0

Maximum Incremental Reactivity 0.85

SDS REVISION DATE: 8/7/2018

REASON FOR REVISION: Substance Hazard Threshold % Changed
Substance and/or Product Properties Changed in Section(s):
15 - Regulatory Information
Substance Regulatory CAS Number Changed
Substance Hazardous Flag Changed

Legend: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

The manufacturer believes, to the best of its knowledge, information and belief, the information contained herein to be accurate and reliable as of the date of this safety data sheet. However, because the conditions of handling, use, and storage of these materials are beyond our control, we assume no responsibility or liability for personal injury or property damage incurred by the use of these materials. The manufacturer makes no warranty, expressed or implied, regarding the accuracy or reliability of the data or results obtained from their use. All materials may present unknown hazards and should be used with caution. The information and recommendations in this material safety data sheet are offered for the users' consideration and examination. It is the responsibility of the user to determine the final suitability of this information and to comply with all applicable international, federal, state, and local laws and regulations.

15. ULTRAPLAN M20 PLUS

Safety Data Sheet
ULTRAPLAN M20 PLUS
Safety Data Sheet dated: 6/13/2017 - version 3
Date of first edition: 5/10/2015

1. IDENTIFICATION

Product identifier

Mixture identification:

Trade name: ULTRAPLAN M20 PLUS

Recommended use of the chemical and restrictions on use

Recommended use: Cement based levelling mortar

Restrictions on use: N.A.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company: MAPEI CORP. (USA and Puerto Rico)
1144 East Newport Center Drive
33442 - Deerfield Beach - FL - USA
Phone: 954-246-8888

Emergency 24 hour numbers:

(USA) CHEMTREC 1-800-424-9300
(Canada) CANUTEC 1-613-996-6666

2. HAZARD(S) IDENTIFICATION

Classification of the chemical

Skin Irrit. 2	Causes skin irritation.
Eye Dam. 1	Causes serious eye damage.
Skin Sens. 1	May cause an allergic skin reaction.
Carc. 1A	May cause cancer if inhaled.
STOT RE 1	Causes damage to organs through prolonged or repeated exposure if inhaled.

Label elements

Pictograms and Signal Words

Danger

Hazard statements:

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H350.A	May cause cancer if inhaled.
H372.A	Causes damage to organs through prolonged or repeated exposure if inhaled.

Precautionary statements:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260.B	Do not breathe dust.
P264.2	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/protective clothing/eye protection/face protection.
P302+P352.A	IF ON SKIN: Wash with plenty of water.
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.B	Immediately call a doctor.
P314	Get medical advice/attention if you feel unwell.
P321.A	Specific treatment (see supplementary instructions on this label).
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501.A	Dispose of contents/container in accordance with applicable regulations.

Ingredient(s) with unknown acute toxicity:

None

Hazards not otherwise classified identified during the classification process:

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

N.A.

Mixtures

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

List of components

Quantity	Name	Ident. Numb.	Classification
25-50 %	Silica Sand	CAS:14808-60-7	Carc. 1A, H350; STOT RE 1, H372
2.5-5 %	Portland cement	CAS:65997-15-1	STOT SE 3, H335; Eye Dam. 1, H318; Skin Sens. 1, H317; Skin Corr. 1A, H314
< 0,1 %	Lithium carbonate	CAS:554-13-2	Acute Tox. 4, H302; Eye Irrit. 2A, H319

4. FIRST AID MEASURES

Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

Obtain medical attention if skin related symptoms persist.

Remove contaminated clothing immediately and dispose of safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

Most important symptoms/effects, acute and delayed

Eye irritation

Eye damages

Skin Irritation

Erythema

Indication of any immediate medical attention and special treatment needed

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

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO_2).

Unsuitable extinguishing media:

None in particular.

Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.

Hazardous combustion products: N.A.
Explosive properties: N.A.
Oxidizing properties: N.A.

Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.
Provide adequate ventilation.
Use appropriate respiratory protection.
See protective measures under point 7 and 8.

Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand
Wash with plenty of water.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.
Exercise the greatest care when handling or opening the container.
Use localized ventilation system.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contamined clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.

Conditions for safe storage, including any incompatibilities

Storage temperature: N.A.
Incompatible materials:
None in particular.
Instructions as regards storage premises:
Adequately ventilated premises.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

List of components with OEL value

Component	OEL Type	Country	Ceiling	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Behaviour	Note
Silica Sand	ACGIH			0,025					A2 - Suspected Human Carcinogen;lung cancer;pulmonary fibrosis;
Portland cement	OSHA			15					
	OSHA			5					
	ACGIH			1					A4 - Not Classifiable as a Human Carcinogen;pulmonary function;respiratory symptoms;asthma;

Appropriate engineering controls: N.A.

Individual protection measures

Eye protection:
Use close fitting safety goggles, don't use eye lens.
Protection for skin:
Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.
Protection for hands:
Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.
Respiratory protection:
Use adequate protective respiratory equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid
Appearance and colour: Powder grey
Odour: Cement like
Odour threshold: N.A.
pH in Water Dispersion: 12.00
Melting point / freezing point: N.A.
Initial boiling point and boiling range: N.A.
Flash point: Not Applicable
Evaporation rate: N.A.
Upper/lower flammability or explosive limits: N.A.
Vapour density: N.A.
Vapour pressure: N.A.
Relative density: 2.15 g/cm3
Solubility in water: Soluble
Solubility in oil: N.A.
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Viscosity: N.A.
Explosive properties: N.A.
Oxidizing properties: N.A.
Solid/gas flammability: N.A.

Other information

Substance groups relevant properties: N.A.
Miscibility: N.A.
Fat Solubility: N.A.
Conductivity: N.A.

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10. STABILITY AND REACTIVITY

Reactivity

Stable under normal conditions

Chemical stability

Data not Available.

Possibility of hazardous reactions

None.

Conditions to avoid

Stable under normal conditions.

Incompatible materials

None in particular.

Hazardous decomposition products

None.

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11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Toxicological information of the mixture:

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Toxicological information on main components of the mixture:

Silica Sand	a) acute toxicity	LD50 Oral Rat = 500 mg/kg
Lithium carbonate	a) acute toxicity	LC50 Inhalation Rat > 217 mg/l 4h
		LD50 Oral Rat = 525 mg/kg

If not differently specified, the information required in the regulation and listed below must be considered as N.A.

a) acute toxicity

b) skin corrosion/irritation

c) serious eye damage/irritation

d) respiratory or skin sensitisation

e) germ cell mutagenicity

f) carcinogenicity

g) reproductive toxicity

h) STOT-single exposure

i) STOT-repeated exposure

j) aspiration hazard

Substance(s) listed on the IARC Monographs:

Silica Sand Group 1

Substance(s) listed as OSHA Carcinogen(s):

Silica Sand

Substance(s) listed as NIOSH Carcinogen(s):

Silica Sand

Substance(s) listed on the NTP report on Carcinogens:

Silica Sand

12. ECOLOGICAL INFORMATION

Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of components with eco-toxicological properties

Quantity	Component	Ident. Numb.	Ecotox Infos
25-50 %	Silica Sand	CAS: 14808-60-7	a) Aquatic acute toxicity : LC50 carp > 10000,00000 mg/L 72h

Persistence and degradability

N.A.

Bioaccumulative potential

N.A.

Mobility in soil

N.A.

Other adverse effects

N.A.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Any disposal practice must be in compliance with local, state and federal laws and regulations (contact local or state environmental agency for specific rules). Do not dump into sewers, any body of water or onto the ground.

Waste must be handled in accordance with all federal, state, provincial, and local regulations. Consult authorities before disposal.

14. TRANSPORT INFORMATION

UN number

ADR-UN number: N/A

DOT-UN Number: N/A

IATA-Un number: N/A

IMDG-Un number: N/A

UN proper shipping name

ADR-Shipping Name: N/A

DOT-Proper Shipping Name: N/A

IATA-Technical name: N/A

IMDG-Technical name: N/A

Transport hazard class(es)

ADR-Class: N/A

DOT-Hazard Class: N/A

IATA-Class: N/A

IMDG-Class: N/A

Packing group

ADR-Packing Group: N/A

DOT-Packing group: N/A

IATA-Packing group: N/A

IMDG-Packing group: N/A

Environmental hazards

Marine pollutant: No

Environmental Pollutant: N.A.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

N.A.

Special precautions

Department of Transportation (DOT):

DOT-Special Provision(s): N/A

DOT-Label(s): N/A

DOT-Symbol: N/A

DOT-Cargo Aircraft: N/A

DOT-Passenger Aircraft: N/A

DOT-Bulk: N/A

DOT-Non-Bulk: N/A

Road and Rail (ADR-RID):

ADR-Label: N/A

ADR-Hazard identification number: N/A

ADR-Transport category (Tunnel restriction code): N/A

Air (IATA):

IATA-Passenger Aircraft: N/A

IATA-Cargo Aircraft: N/A

IATA-Label: N/A

IATA-Subrisk: N/A

IATA-Erg: N/A

IATA-Special Provisions: N/A

Sea (IMDG):

IMDG-Stowage Code: N/A

IMDG-Stowage Note: N/A

IMDG-Subrisk: N/A

IMDG-Special Provisions: N/A

IMDG-Page: N/A

IMDG-Label: N/A

IMDG-EMS: N/A

IMDG-MFAG: N/A

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15. REGULATORY INFORMATION

USA - Federal regulations

TSCA - Toxic Substances Control Act

TSCA inventory:

All the components are listed on the TSCA inventory

TSCA listed substances:

Silica Sand	is listed in TSCA	Section 8b
Portland cement	is listed in TSCA	Section 8b
Lithium carbonate	is listed in TSCA	Section 8b

SARA - Superfund Amendments and Reauthorization Act

Section 302 - Extremely Hazardous Substances:

no substances listed

Section 304 - Hazardous substances:

no substances listed

Section 313 - Toxic chemical list:

Lithium carbonate

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA:

no substances listed

CAA - Clean Air Act

CAA listed substances:

no substances listed

CWA - Clean Water Act

CWA listed substances:

no substances listed

USA - State specific regulations

California Proposition 65

Substance(s) listed under California Proposition 65:

Silica Sand	Listed as carcinogen
Lithium carbonate	Listed as reproductive toxicant

Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:

Silica Sand

Portland cement

Lithium carbonate

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

Silica Sand

Portland cement

New Jersey Right to know

Substance(s) listed under New Jersey Right to know:

Silica Sand

Portland cement

Lithium carbonate

Canada - Federal regulations

DSL - Domestic Substances List

DSL Inventory:

All the substances are listed in the DSL.

NDSL - Non Domestic Substances List

NDSL Inventory:

no substances listed

NPRI - National Pollutant Release Inventory

Substances listed in NPRI:

no substances listed

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16. OTHER INFORMATION

Code	Description
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H350	May cause cancer .
H350.A	May cause cancer if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure .
H372.A	Causes damage to organs through prolonged or repeated exposure if inhaled.

Safety Data Sheet dated: 6/13/2017 - version 3

Product code: 1849

Additional classification information

NFPA

HMIS Health: 2 = Moderate

HMIS Health - Is health hazard chronic?: Yes

HMIS Flammability: 0 = Not Combustible

HMIS Reactivity: 0 = Minimal

HMIS P.P.E.: Safety glasses, gloves, dust respirator

NFPA Health: 2 = Moderate

NFPA Flammability: 0 = Not Combustible

NFPA Reactivity: 0 = Minimal

NFPA Special Risk: NONE

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

CLP: Classification, Labeling, Packaging.

EINECS: European Inventory of Existing Commercial Chemical Substances.

INCI: International Nomenclature of Cosmetic Ingredients.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

GefStoffVO: Ordinance on Hazardous Substances, Germany.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

DNEL: Derived No Effect Level.

PNEC: Predicted No Effect Concentration.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

WGK: German Water Hazard Class.

KSt: Explosion coefficient.

*** Sheet model entirely changed in compliance to regulatory update.**

16. PLANIPREP SC

Safety Data Sheet
PLANIPREP SC
Safety Data Sheet dated: 5/11/2016 - version 2
Date of first edition: 5/26/2015

1. IDENTIFICATION

Product identifier

Mixture identification:

Trade name: PLANIPREP SC

Recommended use of the chemical and restrictions on use

Recommended use: Skim coat

Restrictions on use: N.A.

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Company: MAPEI CORP. (USA and Puerto Rico)
1144 East Newport Center Drive
33442 - Deerfield Beach - FL - USA
Phone: 954-246-8888

Emergency 24 hour numbers:

(USA) CHEMTREC 1-800-424-9300
(Canada) CANUTEC 1-613-996-6666

2. HAZARD(S) IDENTIFICATION

Classification of the chemical

Skin Corr. 1A	Causes severe skin burns and eye damage.
Eye Dam. 1	Causes serious eye damage.
Skin Sens. 1	May cause an allergic skin reaction.
Carc. 1A	May cause cancer if inhaled.

Label elements

Symbols:

Danger

Code	Description
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H350.A	May cause cancer if inhaled.

Code	Description
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260.B	Do not breathe dust.
P264.2	Wash skin thoroughly after handling.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P302+P352.A	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep 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.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P310.B	Immediately call a doctor.
P321.A	Specific treatment (see supplementary instructions on this label).

P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501.A	Dispose of contents/container in accordance with applicable regulations.

Ingredient(s) with unknown acute toxicity:

None

Hazards not otherwise classified identified during the classification process:

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

N.A.

Mixtures

Hazardous components within the meaning of 29 CFR 1910.1200 and related classification:

List of components

Quantity	Name	Ident. Numb.	Classification
5-10 %	Portland cement	CAS:65997-15-1	STOT SE 3, H335; Eye Dam. 1, H318; Skin Sens. 1, H317; Skin Corr. 1A, H314
2.5-5 %	Slags, ferrous metal, blast furnace	CAS:65996-69-2	Skin Irrit. 2, H315; Eye Dam. 1, H318
0.25-0.49 %	Silica Sand	CAS:14808-60-7	Carc. 1A, H350; STOT RE 1, H372

4. FIRST AID MEASURES

Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

Obtain medical attention if skin related symptoms persist.

Remove contaminated clothing immediately and dispose of safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an opthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

Most important symptoms/effects, acute and delayed

Eye irritation

Eye damages

Skin Irritation

Erythema

Indication of any immediate medical attention and special treatment needed

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

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO_2).

Unsuitable extinguishing media:

None in particular.

Specific hazards arising from the chemical

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products: N.A.

Explosive properties: N.A.

Oxidizing properties: N.A.

Special protective equipment and precautions for fire-fighters

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove persons to safety.

See protective measures under point 7 and 8.

Methods and material for containment and cleaning up

Suitable material for taking up: absorbing material, organic, sand

Wash with plenty of water.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes, inhalation of vapours and mists.

Exercise the greatest care when handling or opening the container.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contamined clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

Conditions for safe storage, including any incompatibilities

Storage temperature: N.A.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

List of components with OEL value

Component	OEL Type Country	Ceiling	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Behaviour	Note
Portland cement	OSHA		15					
	OSHA		5					
	ACGIH		1					A4 - Not Classifiable as a Human Carcinogen;pulmonary function;respiratory symptoms;asthma;
Silica Sand	ACGIH		0,025					A2 - Suspected Human Carcinogen;lung cancer;pulmonary fibrosis;

Appropriate engineering controls: N.A.

Individual protection measures

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Use adequate protective respiratory equipment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state: Solid

Appearance and colour: Powder whitish

Odour: Cement like

Odour threshold: N.A.

pH in Water Dispersion: 11.50

Melting point / freezing point: N.A.

Initial boiling point and boiling range: N.A.

Flash point: Not Applicable

Evaporation rate: N.A.

Upper/lower flammability or explosive limits: N.A.

Vapour density: N.A.

Vapour pressure: N.A.

Relative density: N.A.
Solubility in water: Dispersible
Solubility in oil: N.A.
Partition coefficient (n-octanol/water): N.A.
Auto-ignition temperature: N.A.
Decomposition temperature: N.A.
Viscosity: N.A.
Explosive properties: N.A.
Oxidizing properties: N.A.
Solid/gas flammability: N.A.

Other information

Substance groups relevant properties: N.A.
Miscibility: N.A.
Fat Solubility: N.A.
Conductivity: N.A.

10. STABILITY AND REACTIVITY

Reactivity

Stable under normal conditions

Chemical stability

Data not Available.

Possibility of hazardous reactions

None.

Conditions to avoid

Stable under normal conditions.

Incompatible materials

None in particular.

Hazardous decomposition products

None.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Toxicological information of the mixture:

There is no toxicological data available on the mixture. Consider the individual concentration of each component to assess toxicological effects resulting from exposure to the mixture.

Toxicological information on main components of the mixture:

Silica Sand	a) acute toxicity	LD50 Oral Rat = 500mg/kg

If not differently specified, the information required in the regulation and listed below must be considered as N.A.

a) acute toxicity
b) skin corrosion/irritation
c) serious eye damage/irritation
d) respiratory or skin sensitisation
e) germ cell mutagenicity
f) carcinogenicity
g) reproductive toxicity
h) STOT-single exposure
i) STOT-repeated exposure
j) aspiration hazard

Substance(s) listed on the IARC Monographs:

Silica Sand Group 1

Substance(s) listed as OSHA Carcinogen(s):

Silica Sand

Substance(s) listed as NIOSH Carcinogen(s):

Silica Sand

Substance(s) listed on the NTP report on Carcinogens:

Silica Sand

12. ECOLOGICAL INFORMATION

Toxicity

Adopt good working practices, so that the product is not released into the environment.

Eco-Toxicological Information:

List of components with eco-toxicological properties

Quantity	Component	Ident. Numb.	Ecotox Infos
0.25-0.49 %	Silica Sand	CAS: 14808-60-7	LC50 a) Aquatic acute toxicity carp> 10000,00000mg/L 72h

Persistence and degradability

N.A.

Bioaccumulative potential

N.A.

Mobility in soil

N.A.

Other adverse effects

N.A.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste must be handled in accordance with all federal, state, provincial, and local regulations. Consult authorities before disposal.

14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

UN number

ADR-UN number: N.A.
DOT-UN Number: N.A.
IATA-Un number: N.A.
IMDG-Un number: N.A.

UN proper shipping name

ADR-Shipping Name: N.A.
DOT-Proper Shipping Name: N.A.
IATA-Technical name: N.A.
IMDG-Technical name: N.A.

Transport hazard class(es)

ADR-Class: N.A.
DOT-Hazard Class: N.A.
IATA-Class: N.A.
IMDG-Class: N.A.

Packing group

ADR-Packing Group: N.A.
DOT-Packing group: N.A.
IATA-Packing group: N.A.
IMDG-Packing group: N.A.

Environmental hazards

Marine pollutant: No
Environmental Pollutant: N.A.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

N.A.

Special precautions

Department of Transportation (DOT):

N.A.

Road and Rail (ADR-RID):

N.A.

Air (IATA):

N.A.

Sea (IMDG):

N.A.

15. REGULATORY INFORMATION

USA - Federal regulations

TSCA - Toxic Substances Control Act

TSCA Inventory:

All the components are listed on the TSCA inventory

TSCA listed substances:

Portland cement	is listed in TSCA	Section 8b
Slags, ferrous metal, blast furnace	is listed in TSCA	Section 8b
Silica Sand	is listed in TSCA	Section 8b

SARA - Superfund Amendments and Reauthorization Act

Section 302 - Extremely Hazardous Substances:

no substances listed

Section 304 - Hazardous substances:

no substances listed

Section 313 - Toxic chemical list:

no substances listed

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

Substance(s) listed under CERCLA:

no substances listed

CAA - Clean Air Act

CAA listed substances:

no substances listed

CWA - Clean Water Act

CWA listed substances:

no substances listed

USA - State specific regulations

California Proposition 65

Substance(s) listed under California Proposition 65:

Silica Sand	Listed as carcinogen

Massachusetts Right to know

Substance(s) listed under Massachusetts Right to know:

Portland cement

Silica Sand

Pennsylvania Right to know

Substance(s) listed under Pennsylvania Right to know:

Portland cement

Silica Sand

New Jersey Right to know

Substance(s) listed under New Jersey Right to know:

Portland cement

Silica Sand

Canada- Federal regulations

DSL - Domestic Substances List

DSL Inventory:

All the substances are listed in the DSL.

NDSL - Non Domestic Substances List

NDSL Inventory:

no substances listed

NPRI - National Pollutant Release Inventory

Substances listed in NPRI:

no substances listed

16. OTHER INFORMATION

Code	Description
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H350	May cause cancer .
H350.A	May cause cancer if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure .

Safety Data Sheet dated: 5/11/2016 - version 2

Product code: 2762

Additional classification information

NFPA

HMIS Health: 2 = Moderate

HMIS Health - Is health hazard chronic?: Yes

HMIS Flammability: 0 = Not Combustible

HMIS Reactivity: 0 = Minimal

HMIS P.P.E.: Safety glasses, gloves, dust respirator

NFPA Health: 2 = Moderate

NFPA Flammability: 0 = Not Combustible

NFPA Reactivity: 0 = Minimal

NFPA Special Risk: N.A.

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Legend to abbreviations and acronyms used in the safety data sheet:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

CLP: Classification, Labeling, Packaging.

EINECS: European Inventory of Existing Commercial Chemical Substances.

INCI: International Nomenclature of Cosmetic Ingredients.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

GefStoffVO: Ordinance on Hazardous Substances, Germany.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

DNEL: Derived No Effect Level.

PNEC: Predicted No Effect Concentration.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.
WGK: German Water Hazard Class.
KSt: Explosion coefficient.

Paragraphs modified from the previous revision:

- 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING
- 2. HAZARDS IDENTIFICATION
- 3. COMPOSITION/INFORMATION ON INGREDIENTS
- 9. PHYSICAL AND CHEMICAL PROPERTIES
- 11. TOXICOLOGICAL INFORMATION
- 12. ECOLOGICAL INFORMATION
- 15. REGULATORY INFORMATION
- 16. OTHER INFORMATION

17. XCEL SURFACES - BUBBLE GUM RELEASE

MATERIAL SAFTEY DATA SHEET

NAME OF PRODUCT: **BUBBLE GUM RELEASE**
MSDS DATE: 07/07/2010

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **Bubble Gum Release**
SYNONYMS:
PRODUCT CODES: XS- 013

MANUFACTURER:	Xcel Surfaces
ADDRESS:	3750 W. Indian School Road Phoenix, AZ 85019
EMERGENCY PHONE:	800-644-9131
CHEMTREC PHONE:	800-424-9300
OTHER CALLS:	602-636-6720
FAX PHONE:	602-636-6724
CHEMICAL NAME:	
CHEMICAL FORMULA:	
PREPARED BY:	Xcel Surfaces

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT:	CAS NO.	% WT
Aliphatic Hydrocarbons	8052-41-3	93.29
Bubble Gum Fragrance	704-0385	

VOL
REPORTABLE

	ppm	mg/m3
OSHA PEL-TWA:		
OSHA PEL STEL :	N/A	N/A
OSHA PEL CEILING:		
ACGIH TLV-TWA:		
ACGIH TLV STEL:	N/A	N/A
ACGIH TLV CEILING:		

SECTION 3: HEALTH HAZARDS DATA

POTENTIAL HEALTH EFFECTS

EYES: May cause mild irritation. Symptoms include stinging, tearing and redness.

SKIN: May cause mild skin irritation. Symptoms include redness, itching or burning

INGESTION: Swallowing is not likely to be harmful.

INHALATION: May cause headache, nausea and irritation of the nose, throat or lungs.

SECTION 4: FIRST AID MEASURES

EYES: Flush eyes with water while holding eyelids open. If symptoms persist or any visual difficulty seek medical attention.

SKIN: Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist seek medical attention.

INGESTION: First aid is not normally required. If symptoms persist seek medical attention.

INHALATION: Move into fresh air. If symptoms persist seek medical attention. If breathing is difficult administer oxygen, seek immediate medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, UPPER: N/D
(% BY VOLUME) LOWER:

FLASH POINT:
F: 120°F

AUTOIGNITION TEMPERATURE:
F:

NFPA HAZARD CLASSIFICATION
HEALTH: 1 **FLAMMABILITY:** 2 **REACTIVITY:** 0
OTHER:

HMIS HAZARD CLASSIFICATION
HEALTH: 1 **FLAMMABILITY:** 2 **REACTIVITY:** 0
PROTECTION: 1

SECTION 5: FIRE-FIGHTING MEASURES CONTUNITED

EXTINGUISHING MEDIA: Use foam, carbon dioxide or chemical fire fighting apparatus.

SPECIAL FIRE FIGHTING PROCEDURES:

UNUSUAL FIRE AND EXPLOSION HAZARDS: No Special fire hazards are known to be associated with this product.

HAZARDOUS DECOMPOSITION PRODUCTS:

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Steps to be taken in case material is spilled or released: Eliminate all sources if ignition. Ventilate area. Soak up spill with absorbent floor material and shovel into container. Seal and remove containers.

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Precaution to be taken in handling and storage: Keep away from any source of ignition. Store in original container. Keep tightly closed. Store in cool dry area. Do not allow to freeze. Do not reuse container for other purposes.

OTHER PRECAUTIONS: Keep out of reach of Children.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: No Specific controls needed

VENTILATION: Allow fresh air flow.

RESPIRATORY PROTECTION: Approved NIOSH respirator

EYE PROTECTION: Safety splash goggles in compliance with OSHA regulations.

SKIN PROTECTION: Gloves should be worn to prevent skin contact along with impervious clothing and shoes.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Facilities storing or utilizing this material should be equipped with eyewash station.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Yellowish Tint

ODOR: Bubble gum

PHYSICAL STATE: Liquid

PH AS SUPPLIED:
PH (Other):
BOILING POINT:
F: 315°F
C:
MELTING POINT: N/D
F:
C:
FREEZING POINT: N/D
F:
C:
VAPOR PRESSURE (mmHg):
@

VAPOR DENSITY (AIR = 1): Heavier than air
Heavier than air

SPECIFIC GRAVITY (H2O = 1):
@ 0.80

EVAPORATION RATE: 14.4

SOLUBILITY IN WATER: Insoluble

PERCENT SOLIDS BY WEIGHT: N/D

PERCENT VOLATILE:

VOLATILE ORGANIC COMPOUNDS (VOC): 6.25lb/gl

WITH WATER: **LBS/GAL** N/D
WITHOUT WATER: **LBS/GAL**

MOLECULAR WEIGHT:

VISCOSITY: N/D

SECTION 10: STABILITY AND REACTIVITY

CONDITIONS TO AVOID (STABILITY): Excessive Heat and possible Ignition sources

INCOMPATIBILITY (MATERIAL TO AVOID): Oxidizing agents, Acids

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Decomposition may yield carbon monoxide and carbon dioxide

HAZARDOUS POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID (POLYMERIZATION):

SECTION 11: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Dispose of in accordance with all applicable federal, state; local regulations.

SECTION 12: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION: Not regulated for transport.
CLASS: 55

SECTION 13: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA: All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substance Control Act Chemical substance inventory.

CERCLA : (40CFR302.4) Release of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Enviromental Response, Compensation and Liability Act or to Reauthorization Act Title III Section 304

SARA TITLE III: Section 311/312 Categorizations (40CFR370): This product is not a hazardous chemical under 29CFR 1910.1200 and therefore is not covered by Title III of SARA.

HAZARD CATEGORIES: This product is considered non- hazardous under OSHA Hazard Communication Standard (29CFR1910.1200)

313 REPORTABLE INGREDIENTS: This product does not contain a chemical which is listed in Section 313 at or above minumums concentrations.

SECTION 14: OTHER INFORMATION

DISCLAIMER: The information contained herein is based on the data available to Xcel and is believed to be correct. However, Xcel Surfaces makes no warranty, expressed or implied regarding the accuracy of this data or the results to be obtained from the use there of Xcel Surfaces assumes no responsibility for injury for the use of the products described herein.