SECTION X Stability and Reactivity

Stability: Stable
Hazardous Polymerization: Will not occur
Conditions to Avoid (Stability:) None known
Incompatible Materials: None known
Hazardous Decomposition Products: None known; material is highly alkaline, avoid contact with acids.

SECTION XI Toxicological Information

Conditions Aggravated by Exposure: Eye disease, skin disorders, chronic respiratory conditions.
Ingredient(s) – Carcinogenicity:
Silica - Listed on the National Toxicology Program
Listed in the IARC Monographs
Crystalline silica is classified as a known human carcinogen.

SECTION XII Ecological Information

No information available

SECTION XIII Disposal

Dispose in accordance with applicable federal, state and local regulations.

SECTION XIV Transportation Information

Not regulated by Federal or State DOT

SECTION XV Regulatory Information

U. S. Federal Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

All ingredients of this product are listed or are excluded from listing under the U. S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

SARA Hazard Classes

Immediate Health Hazard
Chronic Health Hazard

SARA Section 313 Notification:
Does not contain any ingredient regulated under Section 313 of the Emergency Planning and Community Right-to-know Act of 1986 or 40CFR 372.

State Regulations:
California – Proposition 65: The chemicals noted above and contained in this product are known to the State of California to cause cancer, birth defects, or other reproductive harm.
Various other states – workplace hazard and/or hazardous substance.

SECTION XVI Other Information

Disclaimer

The information in this Material Safety Data Sheet is accurate to the best of Lyons knowledge or is obtained from sources believed by Lyons to be accurate, but no warranty is expressed or implied regarding the accuracy of the data or the results to be obtained from its use. Since job and other conditions of use vary widely and are outside Lyons control, Lyons assumes no responsibility for any injuries which may occur in connection with any use of this product or information.

While MSDS do not change often, if in doubt, please contact Lyons Manufacturing, Inc. at 214/381-8100 for the most recent version or visit our website at www.lyonsmanufacturing.com.

MATERIAL SAFETY DATA SHEET

PATCHCRETE Acrylic Polymer #1003

Date Issued: May 1, 2010 Date Revised: May 1, 2010

SECTION I Product and Company Identification

Trade Name: PATCHCRETE Acrylic Polymer #1003 - 1 Gallon Jug

Manufacturer:
Lyons Manufacturing, Inc.
8900 Forney Rd.
Dallas, TX 75227-4505

Telephone No. 214/381-8100
Fax No. 214/381-8158
Website: www.lyonsmanufacturing.com

Emergency Phone: 214/381-8100

SECTION II Composition/Information on Ingredients

Chemical Characteristic:
Polymeric dispersion of copolymers of acrylic ester in water

Ingredient Name:	CAS Number	Weight %
Water	7732-18-5	35-55%
Polyoxyethylene	9036-19-5	< 1.0%

SECTION III Hazards Identification

HMIS Rating

Health	1	0 = Minimum
Flammability	1	1 = Slight
Reactivity	0	2 = Moderate
Personal Protection	B	3 = Serious
		4 = Severe

Potential Health Effects: Note: Potential health effects may vary depending on duration and level of exposure and individual sensitivity. To reduce health hazards associated with this product, use personal protective gear and exposure control as indicated in Section 8.

Eye Contact:
(Acute) No acute toxic effects are expected.

Skin Contact:
(Acute) May cause slight skin irritation.

Ingestion:
Unlikely to occur. Swallowing small amounts of this during normal handling is not likely to cause harmful effects. Swallowing large amounts may be harmful.

Inhalation:
(Acute) No acute toxic respiratory tract effects are expected.

SECTION IV Emergency and First Aid Measures

Emergency Information: Get medical attention if irritation or other symptoms occur. Use personal protective gear and exposure control as indicated in Section 8.

Eye: Irrigate eyes thoroughly with water for at least 15 minutes. Consult a physician

Skin: Wash skin thoroughly with soap and water. Remove contaminated clothing.

Ingestion: Induce vomiting. If person is drowsy or unconscious, do not give anything by mouth. Consult a physician.

Inhalation: Remove to fresh air.

SECTION V Fire Fighting Measures

Flash point: N/A
Boiling Point: Approx. 100° C (212° F) at 1013 hPa
Fire and explosion Hazard: Material does not burn. Dried up material is combustible.
Extinguishing Media: Water fog, dry chemical or CO_2
Fire Fighting Instructions: Firefighters should wear full protective gear and self-contained breathing apparatus.

SECTION VI Accidental Release Measures

Precautions:
Wear personal protective gear and exposure control as indicated in Section 8.
Spilled liquid is source of slip hazard.
Containment:
Prevent spillage from reaching sewers or surface waters. Contain any fluid that runs out using suitable material (Earth, sand).
Cleanup Methods: Dried material can be removed and disposed of according to local/state/federal regulations. Absorb with liquid binding material and dispose of according to local/state/federal regulations.

SECTION VII Handling and Storage

Handling Precautions: Wear personal protective gear and exposure control as indicated in Section 8. Spilled liquid is source of slip hazard.
Storage: Keep container closed when not in use. Protect against freezing.

SECTION VIII Exposure Controls/Personal Protection

Eye/Face Protection: Use safety goggles or safety glasses with side shields.
Hand Protection: Avoid skin contact. Wear rubber or plastic gloves.
Skin Protection: Avoid skin contact. Wear long sleeved, body covering clothes.
Respiratory Protection: Not Normally.
Work/Hygienic Practices: Avoid contact with skin, eyes and clothing. Wash exposed areas thoroughly with soap and water after handling.
Engineering Controls: Have good general ventilation in area. Local exhaust is not necessary.
Other/General Protection:

SECTION IX Physical and Chemical Properties

Appearance:	White Liquid
Odor:	Slight
Chemical Type:	Mixture
Physical State:	Liquid
Solubility:	Partially soluble
pH Value:	9.0 - 10
Vapor Density:	Less than 1.0
Vapor Pressure:	23 mmHg@20° C
VOC Content:	0.24 g/l

SECTION X Stability and Reactivity

Stability: Stable
Hazardous Polymerization: Will not occur
Conditions to Avoid (Stability:) None known
Incompatible Materials: None known
Hazardous Decomposition Products: If stored and handled in accordance with standard industry practices and local regulations where applicable: none known.

SECTION XI Toxicological Information

Conditions Aggravated by Exposure: Unknown
Ingredient(s) – Carcinogenicity:
None classified by the IARC as a possible human carcinogen.
Acute Toxicity: Oral > 2000 mg/kg - rat
Experience with man: During manufacture and use: No information on damage to health.

SECTION XII Ecological Information

Elimination: Not readily biodegradable.

Ecotoxicological: No expected damaging effects to aquatic organisms. Adverse effects on water purification plants are not expected.

Prevent Material from entering surface waters and soil. Only introduce into water purification plants in dilute state. No environmental problems expected in handled in accordance with standard industry practices and local regulations where applicable.

SECTION XIII Disposal

Dispose in accordance with applicable federal, state and local regulations.

SECTION XIV Transportation Information

Not regulated by Federal or State DOT

Protect from Freezing during transport

SECTION XV Regulatory Information

U. S. Federal Regulations:

TSCA Inventory Status: All ingredients of this product are listed or are in compliance with the U. S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

SARA Section 313 Notification:
This material does not contain any SARA 313 chemical in above de minimus levels

State Regulations:
California – Proposition 65: This product does not contain any are chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

SECTION XVI Other Information

Disclaimer

The information in this Material Safety Data Sheet is accurate to the best of Lyons knowledge or is obtained from sources believed by Lyons to be accurate, but no warranty is expressed or implied regarding the accuracy of the data or the results to be obtained from its use. Since job and other conditions of use vary widely and are outside Lyons control, Lyons assumes no responsibility for any injuries which may occur in connection with any use of this product or information.

While MSDS do not change often, if in doubt, please contact Lyons Manufacturing, Inc. at 214/381-8100 for the most recent version or visit our website at www.lyonsmanufacturing.com.

Safety Data Sheet

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

1. Identification

Product Name:	SEM-R-O SSPR 24PK NEVERWET TOP COAT	**Revision Date:**	10/19/2015
Product Identifier:	274234	**Supercedes Date:**	New SDS
Product Use/Class:	Topcoat/Aerosols		
Supplier:	Rust-Oleum Corporation 11 Hawthorn Parkway Vernon Hills, IL 60061 USA	**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

GHS HAZARD STATEMENTS

Flammable Aerosol, category 1	H222	Extremely flammable aerosol.
Compressed Gas	H280	Contains gas under pressure; may explode if heated.
Eye Irritation, category 2	H319	Causes serious eye irritation.
STOT, single exposure, category 3, NE	H336	May cause drowsiness or dizziness.

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.
P261	Avoid breathing dust, fumes, gases, mists, vapors, or spray.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P410+P403	Protect from sunlight. Store in a well-ventilated place.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C / 122°F.

3. Composition/Information On Ingredients

HAZARDOUS SUBSTANCES

Chemical Name	CAS-No.	Wt.% Range	GHS Symbols	GHS Statements
Acetone	67-64-1	50-75	GHS02-GHS07	H225-319-336
Propane	74-98-6	10-25	GHS04	H280
n-Butane	106-97-8	2.5-10	GHS04	H280
Silicone Derived Proprietary Ingredient	PROPRIETARY	1.0-2.5	No Information	No Information

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: 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. If you experience difficulty in breathing, leave the area to obtain fresh air. If continued difficulty is experienced, get medical assistance immediately.

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 due to buildup of steam. 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. No unusual fire or explosion hazards noted.

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

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. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. 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. 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. Remove contaminated clothing and launder before reuse. Use only with adequate ventilation. Follow all MSDS/label precautions even after container is emptied because it may retain product residues. Avoid breathing fumes, vapors, or mist. Avoid contact with eyes, skin and clothing.

STORAGE: Store in a dry, well ventilated place. Keep container tightly closed when not in use. 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 NFPA Class I flammable liquids. Keep away from heat, sparks, flame and sources of ignition. Avoid excess heat. Product should be stored in tightly sealed containers and protected from heat, moisture, and foreign materials.

8. Exposure Controls/Personal Protection

Chemical Name	CAS-No.	Weight % Less Than	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING
Acetone	67-64-1	75.0	250 ppm	500 ppm	1000 ppm	N.E.
Propane	74-98-6	20.0	N.E.	N.E.	1000 ppm	N.E.
n-Butane	106-97-8	10.0	N.E.	1000 ppm	N.E.	N.E.
Silicone Derived Proprietary Ingredient	PROPRIETARY	5.0	N.E.	N.E.	N.E.	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. Provide general dilution of local exhaust ventilation in volume and pattern to keep TLV of hazardous ingredients below acceptable limits. Prevent build-up of vapors by opening all doors and windows to achieve cross-ventilation.

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 gloves to prevent prolonged skin contact. Nitrile or Neoprene gloves may afford adequate skin protection.

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

OTHER PROTECTIVE EQUIPMENT: 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.

9. Physical and Chemical Properties

Appearance:	Aerosolized Mist	**Physical State:**	Liquid
Odor:	Strong Acetone	**Odor Threshold:**	N.E.
Relative Density:	0.707	**pH:**	N.A.
Freeze Point, °C:	N.D.	**Viscosity:**	N.D.
Solubility in Water:	Partially	**Partition Coefficient, n-octanol/ water:**	N.D.
Decompostion Temp., °C:	N.D.		
Boiling Range, °C:	-24 - 260	**Explosive Limits, vol%:**	1.8 - 13.0
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 contact with strong acid and strong bases. 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: 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: Harmful if swallowed.

EFFECTS OF OVEREXPOSURE - CHRONIC HAZARDS: May cause central nervous system disorder (e.g., narcosis involving a

loss of coordination, weakness, fatigue, mental confusion, and blurred vision) and/or damage. High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis, and blurred vision) and/or damage. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system 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
67-64-1	Acetone	5800 mg/kg Rat	N.I.	50.1 mg/L Rat
74-98-6	Propane	N.I.	N.I.	658 mg/L Rat
106-97-8	n-Butane	N.I.	N.I.	658 mg/L Rat

N.I. - No Information

12. Ecological Information

ECOLOGICAL INFORMATION: 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.

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:

Fire Hazard, Pressure Hazard, Acute Health Hazard, Chronic Health Hazard

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:

No Sara 313 components exist in this product.

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:

No TSCA 12(b) components exist in this product.

16. Other Information

HMIS RATINGS

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

NFPA RATINGS

Health:	2	Flammability:	4	Instability	0

VOLATILE ORGANIC COMPOUNDS, g/L: 514

SDS REVISION DATE: 10/19/2015

REASON FOR REVISION:

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

Rust-Oleum Corporation 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. Rust-Oleum Corporation 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.

Safety Data Sheet THINNER 214

Safety Data Sheet dated 18/11/2002, version = M1

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Trade name : THINNER 214
Trade code : 10000214
Product type and use: 66
Supplier:
APSA S.p.A-Via Milano 150-20093 Cologno Monzese MI
Emergency telephone number of the company and/or of an authorised advisory centre:
APSA S.p.A. - Tel.: ++39 02 253751
North Europe Carboline Tel. +31.165585230
Braak 1, 4704 RJ Roosendaal, The Netherlands
South Europe Corroline France Tel. +33.160065566

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components within the meaning of EEC directive 67/548 and corresponding classification:
90% - 100% 5-methylhexan-2-one; isoamyl methyl ketone
N.67/548/EEC: 606-026-00-4 CAS: 110-12-3 EINECS: 203-737-8
Xn R10 R20
3% - 5% 2-methoxy-1-methylethyl acetate
N.67/548/EEC: 607-195-00-7 CAS: 108-65-6 EINECS: 203-603-9
Xi R10 R36

3. HAZARDS IDENTIFICATION

The product is a liquid that can catch fire at temperatures in excess of 21 C if exposed to an ignition source.
The product is harmful following acute exposure to it and poses a serious health threat if inhaled.

4. FIRST AID MEASURES

Contact with skin:
Immediately take off all contaminated clothing.
Areas of the body that have - or are only even suspected of having - come into contact with the toxin must be rinsed immediately with plenty of running water and possibly with soap.
Contact with eyes:
Wash immediately with water for at least 10 minutes.
Swallowing:
Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.
Administer petrolatum; administer neither milk nor animal or vegetable fats of any kind.
Inhalation:
Ventilate the premises. The patient is to be removed immediately from the contaminated premises to rest in a well ventilated area. CALL A PHYSICIAN.

5. FIRE-FIGHTING MEASURES

Recommended extinguishers:
In case of fire, use CO_2 or other dry fire-fighting equipment - chemical powders.
Risks arising from combustion:
Avoid inhaling the fumes.
Protective equipment:
Use protection for the respiratory tract.
Cool the containers exposed to the fire with water.

6. ACCIDENTAL RELEASE MEASURES

Measures for personal safety:
Use gloves and protective clothing.

Environmental measures:

Limit leakages with earth or sand.
Eliminate all unguarded flames and possible sources of ignition. Do not smoke.
If the product has escaped into a water course, into the drainage system, or has contaminated the ground or vegetation, notify the competent authorities.

Cleaning methods:

If the product is in a liquid form, stop it from entering the drainage system.
Recover the product for re-use if possible, or for elimination. The product might, where appropriate, be absorbed by inert material.
After the product has been recovered, rinse the area and materials involved with water.

7. HANDLING AND STORAGE

Handling precautions:

Avoid contact and inhalation of the vapours. See, too, paragraph 8 below.
Do not eat or drink while working.
Do not smoke while working.

Storage conditions:

Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.

Instructions as regards storage premises:

Cool and adequately ventilated.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Precautionary measures:

Give adequate ventilation to the premises where the product is stored and/or handled.

Respiratory protection:

Use adequate protective respiratory equipment.

Protection for hands:

Use protective gloves.

Eye protection:

Safety goggles.

Protection for skin:

Use clothing that provides comprehensive protection to the skin.

Exposure limit(s) (ACGIH):

5-methylhexan-2-one; isoamyl methyl ketone

TLV-TWA: 234 mg/m3, 50 ppm

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance and colour:	Liquid
Odour:	solvent
pH:	n.a.
Melting point:	n.a.
Boiling point:	>100
Flash point:	36 °C
Autoignition temperature:	n.d.
Vapour pressure:	n.d.
Solubility in water:	soluble
Lipid solubility:	n.d.
Vapour density:	n.d.

10. STABILITY AND REACTIVITY

Conditions to avoid:

Stable under normal conditions.

Substances to avoid:

Avoid contact with combustible materials. The product could catch fire.

Hazardous decomposition products:

Safety Data Sheet THINNER 214

11. TOXICOLOGICAL INFORMATION

The concentration of each substance should be borne in mind in assessing the toxicological effects deriving from the preparation.
Set out below is the toxicological information relating to the main substances in the preparation.
the product does not contain toxicologically relevant substances.

12. ECOLOGICAL INFORMATION

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

13. DISPOSAL CONSIDERATIONS

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

ONU Number: 2302- 5methylhexan2one
Classification: 3,III

15. REGULATORY INFORMATION

Classification CEE
Symbols:
Xn Harmful
R Phrases:
R10 Flammable.
R20 Harmful by inhalation.
S Phrases:
S23 Do not breathe gas/fumes/vapour/spray.
S43 In case of fire, use CO_2 or other dry fire-fighting equipment - chemical powders.
S51 Use only in well-ventilated areas.
S24/25 Avoid contact with skin and eyes.
Contents:
5-methylhexan-2-one; isoamyl methyl ketone

Italy DPR 303/56, group of substances:
None

Italy DPR 203/88, classes of substances:
Class III 95.0 %

Where applicable, refer to the following regulatory provisions :
Ministerial circulars 46 e 61 (Aromatic amines).
Law 136/83 (Biodegradability of detergents).
Presidential Decree D.P.R. 175/88 (Seveso Directive), Appendices II°, III° e IV°.

16. OTHER INFORMATION

Main bibliographic sources:
NIOSH - Registry of toxic effects of chemical substances (1983)
I.N.R.S. - Fiche Toxicologique
The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.
It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.
This MSDS cancels and replaces any preceding release.
Text of R phrases referred to under heading 2:
R10 Flammable.
R20 Harmful by inhalation.
R36 Irritating to eyes.

MATERIAL SAFETY DATA SHEET

Product Identity / Trade Name: Grinding and Cutting Wheels, Resinoid (Type 1, Type 27, Type 28, Type 29) Cup Wheels (Type 11) Cones and Plugs (Type 16, Type 17 and Type 18), Mounted Points, UA-MTX, UA-GFX, A36F, A54F.

Manufacturer: United Abrasives, Inc.
P.O. Box 75, Route 66, Willimantic, CT 06226

MSDS Date of Preparation: November 3, 2000

Information Phone: (860) 456-7131 Emergency Phone: (860) 456-7131

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2. COMPOSITION:

Hazardous Component	CAS #	OSHA PEL	ACGIH TLV	%
Aluminum Oxide	1344-28-1	15 mg/m3*	10 mg/m3	0-70
and/or Silicon Carbide	409-21-2	15 mg/m3*	10 mg/m3	0-70
and/or Zirconium Oxide	1314-23-4	5 mg/m3	5 mg/m3	0-30
and/or Cubitron	N/A	None Established	None Established	0-20
and/or Titanium Dioxide	13463-67-7	15 mg/m3*	10 mg/m3	0-5
Cured Phenolic Resin	N/A	None Established	None Established	5-20
and/or Woven Fiberglass	N/A	15 mg/m3*	5 mg/m3**	0-20
and/or Calcium Carbonate	1317-65-3	15 mg/m3*	10 mg/m3	0-2
and/or Calcium Oxide	1305-78-8	5 mg/m3	2 mg/m3	0-5
and/or Barium Sulfate	7727-43-7	15 mg/m3*	10 mg/m3	0-5
and/or Sulfur	7704-34-9	None Established	None Established	0-5
and/or Zinc Sulfide	1314-98-3	None Established	None Established	0-5
and/or Magnesium Oxide	1309-48-4	15 mg/m3*	10 mg/m3	0-5
and/or Iron Oxide	1309-37-1	5 mg/m3	5 mg/m3	0-5
and/or Graphite	7782-42-5	15 mg/m3*	2 mg/m3**	0-5
and/or Iron Pyrite	12068-85-8	None Established	None Established	0-20
and//or Carbon Black	1333-86-4	3.5 mg/m3	3.5 mg/m3	0-3
and/or Cryolite (as fluorides)	15096-52-3	2.5 mg/m3	2.5 mg/m3	1-10
and/or Potassium Fluoroborate (as fluorides)	14075-53-7	2.5 mg/m3	2.5 mg/m3	0-5

*Total Dust **Respirable Particulate

The Permissible Exposure Limits (PEL) reported above are the pre-1989 limits that were reinstated by OSHA following a decision by the 11th Circuit Court of Appeals. These PELs are being enforced by Federal OSHA. Be aware that more restrictive exposure limits may be enforced by some states. United Abrasives Inc. recommends that the lower exposure limits be observed as reasonable worker protection.

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3. HEALTH HAZARD DATA:

Acute Effects of Overexposure: Dust may cause eye and respiratory irritation. Dust particles may cause abrasive injury to the eyes.

Chronic Effects Of Overexposure: Long-term overexposure to respirable dust may cause lung damage (fibrosis) with symptoms of coughing, shortness of breath and diminished breathing capacity. Chronic effects may be aggravated by smoking. Prolonged exposure to elevated noise levels during operations may affect hearing. A greater hazard, in

most cases, is the exposure to the dust/fumes from the material or paint/coatings being ground. Most of the dust generated during grinding is from the base material being ground and the potential hazard from this exposure must be evaluated.

Medical Conditions Aggravated by Exposure: Chronic respiratory disease.

Primary Route(s) of Exposure: Inhalation

Listed Carcinogen: None of the components is listed as a carcinogen or potential carcinogen by OSHA, NTP or IARC.

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4. FIRST AID:

Ingestion: If grinding dust is swallowed, seek medical attention.
Inhalation: If overexposed to grinding dust, remove victim to fresh air and get medical attention.
Eye Contact: Flush eyes thoroughly with water, holding open eyelids. Get medical attention if irritation persists. Obtain immediate medical attention for foreign body in the eye.
Skin Contact: Wash dust from skin with soap and water.

---

5. FIRE AND EXPLOSION HAZARD DATA:

Flash Point: Non-Combustible Flammable Limits: LEL: N/A UEL: N/A

Extinguishing Media: Use any media that is appropriate for the surrounding fire.
Special Firefighting Procedures: None needed.
Unusual Fire and Explosion Hazards: This product is not combustible, however, consideration must be given to the potential fire/explosion hazards from the base material being processed. Many materials create flammable/explosive dusts or turnings when machined or ground.
Hazardous Combustion Products: None known.

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6. ACCIDENTAL RELEASE MEASURES:

Pick up, sweep up or vacuum and place in a container disposal. Minimize generation of dust. Notify authorities as required by local, state and federal regulations.

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7. HANDLING AND STORAGE:

Recommended Work Practices: Use only with adequate ventilation. Avoid breathing dust. Wash thoroughly after handling and use, especially before eating, drinking or smoking. Refer to ANSI B7.1, Safety Requirements for the Use, Care and Protection of Abrasive Wheels for additional information.
Storage: Store in accordance with ANSI B7.1. Protect abrasive wheels from damage.

---

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

Ventilation: Use local exhaust or general ventilation as required to minimize exposure to dust and maintain the concentration of contaminants below the TLVs.

Respiratory Protection: Use NIOSH approved respirator if exposure limits are exceeded or where dust exposures are excessive. Selection of respiratory protection depends on the contaminant type, form and concentration. Select and use respirators in accordance with OSHA 1910.134 and good industrial hygiene practice.
Gloves: Cloth or leather gloves recommended.
Eye Protection: Safety goggles or face shield.
Other: Protective clothing as needed to prevent contamination of personal clothing. Hearing protection may be required for grinding operations

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9. PHYSICAL AND CHEMICAL PROPERTIES:

Boiling Point: N/A
Vapor Pressure: (mm Hg) N/A
Solubility in Water: Insoluble
Vapor Density: (Air = 1) N/A
Specific Gravity: N/A
Evaporation Rate: N/A
Melting Point: N/A
Appearance and Odor: Solid wheel, black, brown or reddish color.

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10. STABILITY AND REACTIVITY DATA:

Stability: Stable
Reactivity/Incompatibility (Materials or conditions to avoid): None known.
Hazardous Decomposition Products: Dust from grinding could contain ingredients listed in Section 2 and other, potentially more hazardous components of the base material being ground or coatings applied to the base material.
Hazardous Polymerization: Will not occur.

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11. TOXICOLOGICAL DATA:

No toxicity data is available for this product.

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12. ECOLOGICAL DATA:

No ecological data is available for this product.

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13. DISPOSAL:

Follow all applicable Federal, State and Local Regulations.

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14. TRANSPORTATION DATA:

This product is not regulated for transportation.

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15. ENVIRONMENTAL REGULATORY DATA:

SARA Section 311/312 Hazard Categories: N/A
SARA Section 313:

Some products contain the following toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372 (Toxic Chemical Release Reporting:

Zinc Sulfide 1314-98-3 0-5%
(Only in Type 29 Challenger Flexible Grinding/Blending Wheels)

California Proposition 65: This is not known to contain chemicals regulated under the California Safe Drinking Water and Toxic Enforcement Act of 1986.

Canadian WHMIS Classification: Not a controlled product. This product meets the definition of a "manufactured article" under the WHMIS regulations.

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16. OTHER INFORMATION:

NFPA Hazard Rating: Health: 1 Fire: 0 Reactivity: 0

Date Previous Revision: 11/22/97
Date This Revision: 11/3/00
Revision Summary: Section 2: Revised exposure limits.

Prepared By: Denese A. Deeds, CIH IH&SC Inc., Woodbridge, CT 06525

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The preceding information is believed to be correct and current as of the date of preparation of this Material Safety Data Sheet. Since the use of this information and the conditions of use of this product are not within the control of United Abrasives, Inc., it is the users obligation to assure safe use of this product.

SAFETY DATA SHEET

Rugasol® C

BUILDING TRUST

Section 1. Identification

GHS product identifier : Rugasol® C

Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Not applicable.

Supplier/Manufacturer

Sika Australia Pty. Ltd.
55 Elizabeth Street
(Locked Bag 482 BDC)
Wetherill Park, NSW 2164
Australia

Telephone no.: +61 2 9725 11 45

Fax no. +61 2 9725 33 30

Emergency telephone number : +61 1800 033 111

Section 2. Hazards identification

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials and food and drink.

Disposal : Not applicable.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

CAS number/other identifiers

CAS number : Not applicable.

EC number : Mixture.

Product code : 608807-1

Ingredient name	%	CAS number
4-chloro-3-methylphenol	<10%	59-50-7

Section 3. Composition/information on ingredients

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.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Skin contact : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. 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. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

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

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Section 5. Fire-fighting measures

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. 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).

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Yellow.

Odour : Characteristic.

Odour threshold : Not available.

Section 9. Physical and chemical properties

pH	: 6.5 to 8.5
Melting point	: Not available.
Boiling point	: 100°C (212°F)
Flash point	: Closed cup: Not applicable.
Burning time	: Not applicable.
Burning rate	: Not applicable.
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not applicable.
Vapour pressure	: Not applicable.
Vapour density	: Not available.
Density	: ~1.08 g/cm³ [21°C (69.8°F)]
Solubility	: Soluble in the following materials: water
Solubility in water	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not applicable.
Decomposition temperature	: Not available.
SADT	: Not available.
Viscosity	: Not available.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

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 : No specific data.

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

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
4-chloro-3-methylphenol	LD50 Dermal LD50 Oral	Rat Rat	1100 mg/kg 500 mg/kg	- -

Irritation/Corrosion

Not available.

Sensitisation

Section 11. Toxicological information

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : No known significant effects or critical hazards.

Section 11. Toxicological information

Carcinogenicity : No known significant effects or critical hazards.

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

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
4-chloro-3-methylphenol	0.477	8.511380382	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

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

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Regulation	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADG	Not available.		Not available.	-		-
ADR	Not available.		Not available.	-		-
IMDG	Not available.		Not available.	-		-
IATA	Not available.		Not available.	-		-

PG* : Packing group

Section 15. Regulatory information

Safety, health and environmental regulations specific for the product : No known specific national and/or regional regulations applicable to this product (including its ingredients).

Standard Uniform Schedule of Medicine and Poisons

6

Control of Scheduled Carcinogenic Substances

Not available.

No listed substance

Australia inventory (AICS) : All components are listed or exempted.

EU Classification : Not classified.

HCS Classification : Irritating material

Section 16. Other information

History

Date of printing : 23.05.2014.

Date of issue/Date of revision : 23.05.2014.

Date of previous issue : 23.05.2014.

Version : 1.01

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

Material Safety Data Sheets are updated frequently. Please ensure that you have a current copy. MSDS may be obtained from the following website: aus.sika.com

Section 16. Other information

The information contained in this Safety Data Sheet corresponds to our level of knowledge at the time of publication. All warranties are excluded. Our most current General Sales Conditions shall apply. Please consult the product data sheet prior to any use and processing.

1. IDENTIFICATION

1.1. PRODUCT IDENTIFIER USED ON LABEL:

Finished Product Item Number	Customer Item Number	LABEL DESCRIPTION ACTUAL	BRAND
SM5802EE		ECHO POWERBLEND X EXTENDED LIFE OIL	ECHO
SMGR33EC	6450005	ECHO POWER BLEND X	ECHO
SMGR01EC	6450025	ECHO POWER BLEND X	ECHO
SMGR07EC	6450002	ECHO POWER BLEND X	ECHO
SM5101EC	X6972270101/99988800086	ECHO POWER BLEND X	ECHO
SM5905EC	6450250	ECHO BAR & CHAIN OIL	ECHO
SM5818ER	6450114	ECHO POWER BLEND X HIGH PERFORMANCE 2 STROKE ENGINE	ECHO
SM5818EG	6450103	ECHO POWER BLEND X	ECHO
SM5238EC	99988800088	ECHO POWER BLEND X	ECHO
SM5218EC	X6972270201/99988800085	ECHO POWER BLEND X	ECHO
SMGR25EC	X6974100202	ECHO POWER BLEND X	ECHO
SMGR02EC	6450001	ECHO POWER BLEND X	ECHO
SMGR29EC	6450000	ECHO POWERBLEND X	ECHO
SM5818EE	6450102	ECHO POWER BLEND X LOW SMOKE	ECHO
SM5818EC	6450100/6450099	ECHO POWER BLEND X	ECHO
SM5818EM	6450060	ECHO POWER BLEND X	ECHO
SMGR34EE		ECHO POWERBLEND X	ECHO
SM5906EC	6450050	ECHO POWER BLEND X	ECHO
SM5906EM	6450062	ECHO POWER BLEND X	ECHO
SM5943EE	6450116	ECHO POWER BLEND X	ECHO
SMGR33EK	6450118	ECHO POWERBLEND X	ECHO
SMGR34ER	6450109	ECHO POWER BLEND X	ECHO
SM5926EC	6450006	ECHO POWERBLEND X XTENDED LIFE OIL	ECHO
SMGR34EE		ECHO POWER BLEND X	ECHO
SMGR34EC	6450108	ECHO POWER BLEND X	ECHO
SMGR12EC	99988800089	ECHO POWER BLEND X	ECHO
SMGR34EK	6450119	ECHO POWERBLEND X	ECHO
SM5834EM	6450061	ECHO POWER BLEND X	ECHO

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Finished Product Item Number	Customer Item Number	LABEL DESCRIPTION ACTUAL	BRAND
SMGR34EG	6450115	ECHO POWER BLEND X	ECHO
SM5955EC	6452750	ECHO POWER BLEND X	ECHO

1.2. **RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE;**

1.2.1. PETROLEUM LUBRICATING OIL

1.2.2. NO OTHER USES RECOMMENDED

1.3. **NAME, ADDRESS, AND TELEPHONE NUMBER OF THE CHEMICAL MANUFACTURER, IMPORTER, OR OTHER RESPONSIBLE PARTY:**

1.3.1.

Spectrum Lubricants Corporation

500 Industrial Park Drive
Selmer, TN 38375-3276
United States of America

Product Information

MSDS Requests: (800) 264-6457 or +17316454972
Technical Information: (800) 264-6457 or +17316454972
General Information: vswedley@spectrumcorporation.com

1.4. **EMERGENCY PHONE NUMBER:**

1.4.1.

Emergency Response
North America: CHEMTREC (800) 424-9300 after 5:00pm CST Or +17035273887
Health Emergency
USA: (800) 264-6457 or +17316454972

2. HAZARD(S) IDENTIFICATION

2.1. **CLASSIFICATION OF THE CHEMICAL IN ACCORDANCE WITH PARAGRAPH (d) of §1910.1200:**
- 2.1.1. Acute Inhalation Category 4
- 2.1.2. Eye Irritant Category 2
- 2.1.3. Skin Corrosion/Irritation Category 2
- 2.1.4. Flammable Liquid Category 4

2.2. **Signal Word:**
- 2.2.1. Warning

2.3. **Symbol:**

2.4. **Hazard Statements:**
- 2.4.1. Harmful if Inhaled
- 2.4.2. Causes serious eye irritation
- 2.4.3. Causes skin irritation
- 2.4.4. Combustible Liquid

2.5. **Precautionary Statements:**
- 2.5.1. Prevention:
  - 2.5.1.1. Avoid breathing mist or spray.
  - 2.5.1.2. Use only outdoors or in a well-ventilated area.
  - 2.5.1.3. Wear eye/face protection
  - 2.5.1.4. Wear protective gloves
  - 2.5.1.5. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- 2.5.2. Response:
  - 2.5.2.1. If inhaled: Remove person to fresh air and keep comfortable for breathing.
  - 2.5.2.2. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical advice/attention.
  - 2.5.2.3. If on skin: wash with plenty of water, if irritation or rash occurs get medical advice/attention. Take off contaminated clothing and wash it before reuse.
  - 2.5.2.4. Call a poison center/doctor if you feel unwell.
  - 2.5.2.5. In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO_2) to extinguish flames.
- 2.5.3. Storage:
  - 2.5.3.1. Store in well-ventilated place.
- 2.5.4. Disposal:
  - 2.5.4.1. Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Composition/ information on ingredients

3.1. **The chemical name and concentration (exact percentage) or concentration ranges of all ingredients which are classified as health hazards in accordance with paragraph (d) of §1910.1200**

3.1.1.

COMPONENTS	CAS Number	EU Number	Concentration (%)	Hazard Statements (see Section 16)
Distillates (petroleum), hydrotreated light	64742-47-8	265-149-8	10-30	H226, H304, H315,
Solvent-dewaxed heavy paraffinic distillates	64742-65-0	265-169-7	40-50	H315, H332
Polyiosbutylene	9003-29-6	Not available	40-70	H315, H319, H332

4. FIRST AID MEASURES

4.1.

Skin:	Wash skin with soap and warm water. Wash clothing before re-use.
Eye:	If splashed into eyes flush eyes with clear water for several minutes.
Inhalation:	Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell
Ingestion:	If ingested, do not induce vomiting. Call a physician.

5. FIRE FIGHTING MEASURES

5.1. **Flash Point:** 176°F (80°C)

5.2. **Protective Equipment/Fire Fighting Instructions:**

5.2.1. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus.

5.3. **Extinguishing Media:**

5.3.1. Use water fog, foam, dry chemical or carbon dioxide (CO_2) to extinguish flames.

5.4. **Special Firefighting Procedures:**

5.4.1. Cool exposed containers with water spray.

5.5. **Unusual Fire and Explosion Hazards:**

5.5.1. Pressure increase in over heated closed containers. Cool containers with water spray.

6. ACCIDENTAL RELEASE MEASURES

6.1. **Spill Procedures:**

6.1.1. Remove ignition sources. Recover Liquid. Add absorbent to spill area. Ventilate confined spaces. Advise authorities if product enters sewers, etc.

6.2. **Waste Disposal:**

6.2.1. Assure conformity with applicable disposal regulations. Dispose of absorbed material at approved waste site

6.3. **Precautionary Measures:**

6.3.1. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Wash thoroughly after handling.

6.3.2. Avoid contaminating soil or releasing this material into sewage and drainage systems and bodies of water.

7. HANDLING AND STORAGE

7.1. **HANDLING**

7.1.1. Empty containers retain product residue (solid, liquid, and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty containers should be completely drained, properly closed, and promptly returned to a drum re-conditioner or disposed of properly.

7.2. **STORAGE**

7.2.1. Keep container closed when not in use. Do not store with strong oxidizing agents. Do not store at elevated temperatures.

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1. **Component Exposure Limits:**

8.1.1. **SYNTHETIC ENGINE OIL 5mg/m3 (oil mist) ACGIH TLV OSHA PEL**

COMPONENTS	ACGIH TLV	OSHA PEL
Distillates (petroleum), hydrotreated light	5mg/m³ (oil mist) TWA	5mg/m³ (oil mist) TWA
Solvent-dewaxed heavy paraffinic distillates	5mg/m³ (oil mist) TWA	5mg/m³ (oil mist) TWA
Polyisobutylene	5mg/m³ (oil mist) TWA	5mg/m³ (oil mist) TWA

8.2. **Engineering Controls:**

8.2.1. Ventilate as needed to comply with exposure limit

8.3. **Eye Protection:**

8.3.1. Use goggles/face shield to avoid eye contact

8.4. **Glove Protection:**

8.4.1. Use impervious gloves to avoid repeated/prolonged skin contact.

8.5. **Work/Hygienic Practices:**

8.5.1. If clothing becomes contaminated, change to fresh clean clothing. Do not wear until thoroughly laundered.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. **Appearance/Odor:**	Green colored liquid with mild hydrocarbon odor.	9.2. **Odor Threshold:**	No data available
9.3. **pH:**	No data available	9.4. **Boiling Point:**	Wide range
9.5. **Melting Point:**	No data available	9.6. **Solubility (H_20):**	Negligible
9.7. **Specific Gravity:**	0.8707 @ 15.6°C	9.8. **Density:**	7.251 lbs/gal
9.9. **Octanol/H_20 Coeff.:**	No data available	9.10. **Evaporation Rate (BUAC=1):**	<1
9.11. **Molecular Weight:**	No data available	9.12. **Decompostion Temp:**	No data available
9.13. **Auto Ignition:**	No data available	9.14. **Lower Flammability Limit:**	No data available
9.15. **Flash Point:**	176°F (80°C)	9.16. **Upper Flammability Limit:**	No data available
9.17. **Vapor Density (Air=1):**	>1	9.18. **Vapor Pressure:**	<1mmHg @ 20°C
9.19. **VOC:**	135g/L	9.20. **Flammability Class:**	Combustible liquid
9.21. **Viscosity @ 40°C**	77cSt (77 mm^2/s)	9.22. **Viscosity @ 100°C**	10.4cSt (10.4 mm^2/s)

10.STABILITY AND REACTIVITY

10.1. **Reactivity:**

10.1.1. Material does not pose a significant reactivity hazard.

10.2. **Chemical Stability:**

10.2.1. Stable

10.3. **Incompatibility/Conditions to avoid:**

10.3.1. Avoid strong oxidants

10.4. **Possibility of Hazardous Reactions:**

10.4.1. Will not undergo hazardous polymerization.

10.5. **Hazardous Decomposition Products:**

10.5.1. Partial burning produces fumes, smoke and carbon monoxide

11. TOXICOLOGY INFORMATION

11.1. **Likely Routes of Exposure:**

11.1.1. Ingestion, Inhalation, Eye contact, Skin contact.

11.2. **Acute Effects:**

11.2.1. Inhalation: Harmful if inhaled. May cause respiratory irritation.

11.2.2. Eye Contact: Causes serious eye irritation.

11.2.3. Skin Contact: Causes Skin irritation.

11.2.4. Ingestion: Expected to be low ingestion hazard.

11.3. **Component Data/ Analysis**

COMPONENTS	Oral (LD50) (Rat)	Inhalation (LC50) (Rat)	Dermal (LD50) (Rabbit)
Distillates (petroleum), hydrotreated light	>5000 mg/kg	2.18 mg/l (4hr)	>2000 mg/kg
Solvent-dewaxed heavy paraffinic distillates	>5000 mg/kg	2.18 mg/l (4hr)	>2000 mg/kg
Polyisobutylene	>5000 mg/kg	5.53 mg/l (4hr)	>2000 mg/kg

11.4. **Sensitization:**

11.4.1. None known.

11.5. **Carcinogenicity:**

11.5.1. None greater than 0.1%.

11.6. **Mutagenicity:**

11.6.1. None known.

11.7. **Reproductive Toxicity:**

11.7.1. None known.

11.8. **Teratogenicity:**

11.8.1. None known.

12.ECOLOGICAL INFORMATION

12.1. **Ecotoxicity**

12.1.1. An environmental fate analysis is not available for this specific product. Plants and animals may experience harmful or fatal effects when coated with petroleum products. Petroleum-based (mineral) lubricating oils normally will float on water. In stagnant or slow-flowing waterways, an oil layer can cover a large surface area. As a result, this oil layer might limit or eliminate natural atmospheric oxygen transport into the water. With time, if not removed, oxygen depletion in the waterway may be sufficient to cause a fish kill or create an anaerobic environment.

12.2. **Environmental Fate**

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

13. DISPOSAL CONSIDERATIONS

13.1. **Waste Disposal:**
13.1.1. Assure conformity with applicable disposal regulations. Dispose of absorbed material at approved waste site.

14.TRANSPORTATION INFORMATION

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

14.1. **ROAD AND RAIL**
14.1.1. DOT: NOT REGULATED
14.2. **VESSEL**
14.2.1. IMDG: NOT REGULATED
14.3. **AIR**
14.3.1. IATA: NOT REGULATED

15.REGULATORY INFORMATION

15.1. **TSCA Inventory**
15.1.1. This product and/or its components are listed on the Toxic Substances Control Act (TSCA) inventory.
15.2. **SARA 302/304 Emergency Planning and Notification**
15.2.1. No components were identified.
15.3. **SARA 311/312 Hazard Identification**
15.3.1. Acute (Immediate) Health Hazard
15.4. **SARA 313 Toxic Chemical Notification and Release Reporting**
15.4.1. : No components were identified.
15.5. **CERCLA**
15.5.1. No components were identified.
15.6. **Clean Water Act (CWA)**
15.6.1. This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.
15.7. **California Proposition 65:**
15.7.1. The product does not contain chemicals known to the state of California to cause cancer, birth defects, or any other reproductive harm.
15.8. **New Jersey Right-to-Know Label**
15.8.1. Petroleum Oil

16.OTHER INFORMATION

16.1.

HAZARD RANKINGS			
HMIS		NFPA	
HEALTH HAZARD	1	HEALTH HAZARD	1
FIRE HAZARD	2	FIRE HAZARD	2
PHYSICAL HAZARD	0	INSTABILITY/REACTIVITY	0
Personal Protection	B		

Components Hazard Statements	
H226	Flammable liquid and vapor.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled

16.2. **Date of preparation:** 12/18/2013

16.3. **MANUFACTURER DISCLAIMER:**

16.3.1. ***The data presented herein is based upon tests and information, which we believe to be reliable. However, users should make their own investigations to determine the suitability of the information for their particular purpose.***

1. Identification

Product identifier ZRC and Galvilite Cold Galvanizing Compounds - Aerosol

Other means of identification

Product code 10000, 20010

Recommended use Corrosion protection of iron and steel.

Recommended restrictions None known.

Manufacturer / Importer / Supplier / Distributor information

Supplier/Manufacturer ZRC Worldwide

Address 145 Enterprise Drive, Marshfield, MA 02050

Telephone 781-319-0400

Emergency telephone (CHEMTREC) 703-527-3887 CCN15781

2. Hazard(s) identification

Physical hazards	Flammable aerosols	Category 1
Health hazards	Serious eye damage/eye irritation	Category 2
	Specific target organ toxicity, single exposure	Category 3 narcotic effects

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Extremely flammable aerosol. Causes serious eye irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Pressurized container: Do not pierce or burn, even after use. Avoid breathing gas. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear eye/face protection.

Response If eye irritation persists: Get medical advice/attention.

Storage Store in a well-ventilated place. Keep container tightly closed. Store locked up. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

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

Hazard(s) not otherwise classified (HNOC) Not classified.

Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 1
	Hazardous to the aquatic environment, long-term hazard	Category 1

Supplemental information

Hazard symbol

Hazard statement Very toxic to aquatic life. Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Avoid release to the environment.

Response Collect spillage.

3. Composition/information on ingredients

Mixtures

Zinc	7440-66-6	40 - < 50
Acetone	67-64-1	20 - < 30
Propane	74-98-6	5 - 15
Methyl Ethyl Ketone	78-93-3	5 - 10
Stoddard solvent	8052-41-3	5 - < 10
N-Butane	106-97-8	3 - 8
Zinc oxide	1314-13-2	1 - < 3
Other components below reportable levels		3 - < 5

4. First-aid measures

Inhalation Move to fresh air. Get medical attention if any discomfort continues.

Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.

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. If eye irritation persists: Get medical advice/attention.

Ingestion Rinse mouth. Get medical attention if any discomfort continues.

Most important symptoms/effects, acute and delayed Causes serious eye irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically.

General information In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

5. Fire-fighting measures

Suitable extinguishing media Dry chemicals. Foam. Class B fire extinguisher.

Unsuitable extinguishing media Water. Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical Contents under pressure. Pressurized container may explode when exposed to heat or flame.

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 Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Water runoff can cause environmental damage.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate personal protective equipment. 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 Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do so without risk. Collect spillage. Scoop up used absorbent into drums or other appropriate container. Prevent product from entering drains. For waste disposal, see Section 13 of the SDS.

Environmental precautions Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Do not taste or swallow. Avoid breathing gas. Avoid contact with eyes. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

including any incompatibilities 50 C/122 F. Do not puncture, incinerate or crush. Keep away from heat, sparks and open flame.

8. Exposure controls/personal protection

Occupational exposure limits

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

Components	Type	Value	Form
Acetone (CAS 67-64-1)	PEL	2400 mg/m3	
		1000 ppm	
Methyl Ethyl Ketone (CAS 78-93-3)	PEL	590 mg/m3	
		200 ppm	
Propane (CAS 74-98-6)	PEL	1800 mg/m3	
		1000 ppm	
Stoddard solvent (CAS 8052-41-3)	PEL	2900 mg/m3	
		500 ppm	
Zinc oxide (CAS 1314-13-2)	PEL	5 mg/m3	Respirable fraction.
		5 mg/m3	Fume.
		15 mg/m3	Total dust.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Acetone (CAS 67-64-1)	STEL	750 ppm	
	TWA	500 ppm	
Methyl Ethyl Ketone (CAS 78-93-3)	STEL	300 ppm	
	TWA	200 ppm	
N-Butane (CAS 106-97-8)	STEL	1000 ppm	
Stoddard solvent (CAS 8052-41-3)	TWA	100 ppm	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Respirable fraction.
	TWA	2 mg/m3	Respirable fraction.

US NIOSH Pocket Guide to Chemical Hazards: Ceiling Limit Value and Time Period (if specified)

Components	Type	Value	Form
Stoddard solvent (CAS 8052-41-3)	Ceiling	1800 mg/m3	
Zinc oxide (CAS 1314-13-2)	Ceiling	15 mg/m3	Dust.

US NIOSH Pocket Guide to Chemical Hazards: Recommended exposure limit (REL)

Components	Type	Value	Form
Acetone (CAS 67-64-1)	TWA	590 mg/m3	
		250 ppm	
Methyl Ethyl Ketone (CAS 78-93-3)	TWA	590 mg/m3	
		200 ppm	
N-Butane (CAS 106-97-8)	TWA	1900 mg/m3	
		800 ppm	
Propane (CAS 74-98-6)	TWA	1800 mg/m3	
		1000 ppm	
Stoddard solvent (CAS 8052-41-3)	TWA	350 mg/m3	
Zinc oxide (CAS 1314-13-2)	TWA	5 mg/m3	Fume.
		5 mg/m3	Dust.

US NIOSH Pocket Guide to Chemical Hazards: Short Term Exposure Limit (STEL)

Components	Type	Value	Form
Methyl Ethyl Ketone (CAS 78-93-3)	STEL	885 mg/m3	
		300 ppm	
Zinc oxide (CAS 1314-13-2)	STEL	10 mg/m3	Fume.

ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Acetone (CAS 67-64-1)	50 mg/l	Acetone	Urine	*
Methyl Ethyl Ketone (CAS 78-93-3)	2 mg/l	MEK	Urine	*

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

Exposure guidelines

US - California OELs: Skin designation

Methyl Ethyl Ketone (CAS 78-93-3) Can be absorbed through the skin.

Appropriate engineering controls 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. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Avoid contact with eyes. Wear safety glasses with side shields (or goggles). Eye wash fountain and emergency showers are recommended.

Skin protection

Hand protection For prolonged or repeated skin contact use suitable protective gloves. Neoprene gloves are recommended.

Other Wear appropriate chemical resistant clothing.

Respiratory protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations When using, do not eat, drink or 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 Gray liquid.

Physical state Gas.

Form Aerosol. Aerosol- Pressurized Liquid.

Color Gray.

Odor Hydrocarbon.

Odor threshold Not available.

pH Not available.

Melting point/freezing point Not available.

Initial boiling point and boiling range 395.6 °F (202 °C)

Flash point < 19.4 °F (< -7.0 °C) Tag Open Cup

Evaporation rate > 1 BuAc (n-Butyl acetate=1)

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%) 1.1

Flammability limit - upper (%) 12.8

Explosive limit - lower (%) Not available.

Explosive limit - upper (%) Not available.

Vapor pressure 50 mm Hg (21°C / 70°F)

Vapor density > 1 (24°C / 77°F)

Relative density 1.2

Solubility(ies) Slightly soluble in water.

Partition coefficient (n-octanol/water) Not available.

Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Bulk density	10.01 lb/gal
VOC (Weight %)	< 30 %

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 temperatures exceeding the flash point.
Incompatible materials	Avoid contact with acids and alkalies. Strong oxidizing agents. Water.
Hazardous decomposition products	Zinc oxides. CO, CO2, Various hydrocarbon gases. Contact with acids will release flammable hydrogen gas.

11. Toxicological information

Information on likely routes of exposure

Ingestion	May cause discomfort if swallowed.
Inhalation	Vapors may cause drowsiness and dizziness.
Skin contact	Prolonged or repeated contact may dry skin and cause irritation.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Causes serious eye irritation. Symptoms include itching, burning, redness, and tearing of eyes. Vapors may cause drowsiness and dizziness.

Information on toxicological effects

Acute toxicity May cause discomfort if swallowed.

Components	Species	Test Results
Acetone (CAS 67-64-1)		
Acute		
Dermal		
LD50	Rabbit	20 ml/kg
Inhalation		
LC50	Rat	50 mg/l, 8 Hours
Oral		
LD50	Rat	5800 mg/kg
Methyl Ethyl Ketone (CAS 78-93-3)		
Acute		
Dermal		
LD50	Rabbit	> 8000 mg/kg
Inhalation		
LC50	Rat	11700 mg/l, 4 Hours
Oral		
LD50	Rat	2300 - 3500 mg/kg
N-Butane (CAS 106-97-8)		
Acute		
Inhalation		
LC50	Mouse	680 mg/l, 2 Hours
	Rat	658 mg/l, 4 Hours
Propane (CAS 74-98-6)		
Acute		
Inhalation		
LC50	Rat	> 1442 mg/l, 15 Minutes

· Stoddard solvent (CAS 8052-41-3)

Acute

Dermal

LD50	Rabbit	> 2000 mg/kg

Inhalation

LC50	Rat	> 5.2 mg/l, 4 hours

Oral

LD50	Rat	> 5000 mg/kg

Skin corrosion/irritation Not classified.

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory sensitization Not classified.

Skin sensitization Not classified.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. Not classifiable as to carcinogenicity to humans.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not classified.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

Components		Species	Test Results
Acetone (CAS 67-64-1)			
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	> 100 mg/l, 96 hours
		Rainbow trout,donaldson trout (Oncorhynchus mykiss)	4740 - 6330 mg/l, 96 hours
Methyl Ethyl Ketone (CAS 78-93-3)			
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	4025 - 6440 mg/l, 48 hours
Fish	LC50	Sheepshead minnow (Cyprinodon variegatus)	> 400 mg/l, 96 hours
Zinc (CAS 7440-66-6)			
Aquatic			
Crustacea	LC50	Daphnia magna	0.068 mg/l, 48 hours
Fish	LC50	Bony fish superclass (Osteichthyes)	0.52 - 3.59 mg/l, 96 hours
Zinc oxide (CAS 1314-13-2)			
Aquatic			
Crustacea	LC50	Water flea (Daphnia magna)	0.098 mg/l, 48 Hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available for this product.

Partition coefficient n-octanol / water (log Kow)

Acetone (CAS 67-64-1)	-0.24
Methyl Ethyl Ketone (CAS 78-93-3)	0.29
Propane (CAS 74-98-6)	2.36
N-Butane (CAS 106-97-8)	2.89
Stoddard solvent (CAS 8052-41-3)	3.16 - 7.15

Mobility in soil Not 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.

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. This material and its container must be disposed of as hazardous waste. 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.
Hazardous waste code	D001: Waste Flammable material with a flash point <140 F D003: Waste Reactive material

US RCRA Hazardous Waste U List: Reference

Acetone (CAS 67-64-1)	U002
Methyl Ethyl Ketone (CAS 78-93-3)	U159

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.

14. Transport information

DOT

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	2.1
Subsidiary class(es)	-
Packing group	Not available.
Environmental hazards	
Marine pollutant	Yes
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	2.1
Subsidiary class(es)	-
Packaging group	Not available.
Environmental hazards	Yes
Labels required	Not available.
ERG Code	10L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number	UN1950
UN proper shipping name	AEROSOLS, flammable
Transport hazard class(es)	2.1
Subsidiary class(es)	-
Packaging group	Not available.
Environmental hazards	
Marine pollutant	Yes
Labels required	Not available.
EmS	Not available.
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 applicable.
General information	Limited Quantity exemption may apply.

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.

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

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)	LISTED
Methyl Ethyl Ketone (CAS 78-93-3)	LISTED

Propane (CAS 74-98-6)	LISTED
Zinc (CAS 7440-66-6)	LISTED
Zinc oxide (CAS 1314-13-2)	LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

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

SARA 302 Extremely hazardous substance
No

SARA 311/312 Hazardous chemical
No

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Zinc	7440-66-6	40 - < 50
Zinc oxide	1314-13-2	1 - < 3

Other federal regulations

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

Not regulated.

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

N-Butane (CAS 106-97-8)
Propane (CAS 74-98-6)

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

Acetone (CAS 67-64-1)	6532
Methyl Ethyl Ketone (CAS 78-93-3)	6714

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

Acetone (CAS 67-64-1)	35 % weight/volumn
Methyl Ethyl Ketone (CAS 78-93-3)	35 % weight/volumn

DEA Exempt Chemical Mixtures Code Number

Acetone (CAS 67-64-1)	6532
Methyl Ethyl Ketone (CAS 78-93-3)	6714

Food and Drug Administration (FDA)
Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Acetone (CAS 67-64-1)
Methyl Ethyl Ketone (CAS 78-93-3)
N-Butane (CAS 106-97-8)
Propane (CAS 74-98-6)
Stoddard solvent (CAS 8052-41-3)
Zinc (CAS 7440-66-6)
Zinc oxide (CAS 1314-13-2)

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

N-Butane (CAS 106-97-8)	500 lbs
Propane (CAS 74-98-6)	500 lbs
Zinc (CAS 7440-66-6)	500 lbs
Zinc oxide (CAS 1314-13-2)	500 lbs

US. Pennsylvania RTK - Hazardous Substances

Acetone (CAS 67-64-1)
Methyl Ethyl Ketone (CAS 78-93-3)
N-Butane (CAS 106-97-8)
Propane (CAS 74-98-6)
Stoddard solvent (CAS 8052-41-3)
Zinc (CAS 7440-66-6)
Zinc oxide (CAS 1314-13-2)

US. Rhode Island RTK

Acetone (CAS 67-64-1)
Methyl Ethyl Ketone (CAS 78-93-3)
N-Butane (CAS 106-97-8)

Zinc (CAS 7440-66-6)
Zinc oxide (CAS 1314-13-2)

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

Not listed.

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)	Yes
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	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
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 14-December-2013

Revision date 17-January-2014

Version # 02

NFPA Ratings

Disclaimer The information in the sheet was written based on the best knowledge and experience currently available.

Safety Data Sheet

Section 1 – Identification of the Mixture and of the Company

Product Identification

Primary Identifier(s) Used on the Label
Berryman *BRAKE PARTS CLEANER*
Product Synonym(s)
blend "5C-4"
Product Number(s)
1420

Relevant Identified Uses and Uses Advised Against

Recommended Uses
brake and brake-related parts cleaning
Uses Advised Against
not for use in some applications or states

Manufacturer/Supplier Details

Berryman Products, Inc.
3800 E Randol Mill Rd
Arlington, TX 76011
(800) 433-1704 (USA/Canada)
(817) 640-2376 (international)
www.BerrymanProducts.com

Emergency 24-Hour Telephone Number(s) – InfoTrac, Inc.

(800) 535-5053 (USA/Canada)
(352) 323-3500 (international)

Section 2 – Hazards Identification

Classification of the Substance or Mixture (29 CFR 1910.1200)

Physical Hazards
Compressed Gas
Health Hazards
Acute Oral – Category 4
Skin Irritant – Category 2
Eye Irritant – Category 2A
Carcinogen – Category 1B
Developmental – Category 2
Specific Target Organ Toxicity - Single Exposure – Category 3 (respiratory tract irritant and narcotic effects)
Specific Target Organ Toxicity - Repeated Exposure – Category 2 (blood/blood system, central nervous system, liver)
Aspiration Hazard – Category 1
Environmental Hazard - Chronic – Category 3

Allocation of Label Elements

Chemical Identity
Berryman *BRAKE PARTS CLEANER*
Pictograms

Signal Word
DANGER
Hazard Statements
H280 – Contains gas under pressure; may explode if heated.
H302 – Harmful if swallowed.
H304 – May be fatal if swallowed and enters airways.
H315 – Causes skin irritation.
H319 – Causes serious eye irritation.
H321 – Specific treatment (see supplemental first aid instructions this label/document).
H335 – May cause respiratory irritation.
H336 – May cause drowsiness or dizziness.
H350 – May cause cancer.
H361d – Suspected of damaging the unborn child.
H373 – May cause damage to blood/blood system, central nervous system, or liver through prolonged or repeated exposure.
H412 – Harmful to aquatic life with long-lasting effects.
Prevention Precautionary Statements
P101 – Keep out of reach of children.
P102 – Read label before use.
P201 – Obtain special instructions before use.
P202 – Do not handle until all safety precautions have been read and understood.
P251 – Do not pierce or burn, even after use.
P260 – Do not breathe fumes, gas, mist, vapor, or spray.
P264 – Wash thoroughly after handling.
P270 – Do not eat, drink or smoke when using this product.
P271 – Use only outdoors or in a well-ventilated area.
P273 – Avoid release to the environment.
P280 – Wear protective gloves, protective clothing, and eye or face protection.
Response Precautionary Statements
P312 – Call POISON CONTROL CENTER, hospital emergency room, or doctor if you feel unwell.
P314 – Get medical advice/attention if you feel unwell.
P321 – Specific treatment available in this document in "Section 4 – First Aid Measures."
P330 – Rinse mouth.
P331 – Do NOT induce vomiting.
P391 – Collect spillage.
P301/P310 – IF SWALLOWED: Immediately call POISON CONTROL CENTER, hospital emergency room, or doctor.
P302/P352 – IF ON SKIN: Wash with plenty of or shower.
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.
P332/P313 – If skin irritation occurs, get medical advice/attention.
P337/P313 – If eye irritation persists, get medical advice/attention.
P362/364 – Take off contaminated clothing and launder before reuse.
Storage Precautionary Statements
P405 – Store locked-up.
P410/P412 – Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C).
Disposal Precautionary Statements
P501 – Dispose of contents/container in accordance with local, regional, national, and international regulations, as applicable.

Hazards Not Otherwise Classified
none known

Ingredients of unknown acute toxicity
none

Section 3 – Composition/Information on Ingredients

Component	CAS RN	Weight
Methylene Chloride	75-09-2	60-70%
Toluene	108-88-3	15-25%
Perchloroethylene	127-18-4	10-15%
Carbon Dioxide	124-38-9	2-5%

Section 4 – First Aid Measures

Description of First Aid Measures

Ingestion

Immediately call poison control center, hospital emergency room, or doctor. Do NOT induce vomiting. Rinse mouth. Drink 1-2 glasses of milk or water.

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

Skin Contact

Wash with plenty of soap and water or shower.

Inhalation

Remove person to fresh air and keep comfortable. If experiencing respiratory symptoms or if breathing is difficult, administer oxygen and call poison control center, hospital emergency room, or doctor.

Most Important Symptoms and Effects

Acute/Immediate

respiratory tract irritation; headache and lightheadedness; narcotic effects, including dizziness, drowsiness, and loss of coordination; nausea and vomiting

Delayed

drying, cracking, or defatting of the skin

Indications of Need for Immediate Medical Attention and Specific Treatment Required

Indications of Need for Immediate Medical Attention

In the event of shortness of breath, difficulty breathing, spontaneous vomiting, or loss of consciousness, seek immediate medical attention.

Specific Treatment and Notes to Physician

Avoid administration of sympathomimetic drugs, such as epinephrine. If performing lavage, endotracheal and/or esophageal control is recommended. If spontaneous vomiting occurs, keep head below hips to avoid aspiration.

Section 5 – Firefighting Measures

Fire Extinguishing Media

Support for Combustion

Product does not support combustion.

Suitable Extinguishing Media

water fog, dry chemical, alcohol-resistant foam, or carbon dioxide

Unsuitable Extinguishing Media

water jet/spray (may cause fire to spread)

Special Hazards/Considerations

Combustion Products

Combustion in the presence of air may yield hydrocarbons; chlorinated hydrocarbons; organic oxygenates; oxides of carbon and chlorine; phosgene; and hydrochloric acid/hydrogen chloride gas.

Special Protective Equipment and Precautions for Firefighters

Special Protective Equipment

Firefighters should employ SCBA and full protective gear, including shield, as product is comprised of low-boiling solvents and may vent, rupture, or explode violently at elevated temperatures.

Precautions and Procedures

Pressurized container—may burst if heated. Vapors heavier than air. Remove product from area if safe to do so. Use water spray to cool nearby containers.

Section 6 – Accidental Release Measures

Personal and Environmental Precautions

Personal Precautions

Do not handle until all safety precautions have been read and understood. Do not breathe fumes, gas, mist, vapor, or spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, and eye or face protection.

Environmental Precautions

Avoid release to the environment. Prevent contamination of ground water.

Materials and Methods for Containment

Small Spills

Use socks/absorbent mini-booms or other inert barrier if necessary to contain small spills.

Large Spills

Use large socks/absorbent booms or other inert barrier to form dam/dike in order to contain large spills and prevent further loss.

Materials and Methods for Cleanup

Small Spills

Remove source from area if safe to do so. Use granular sorbent, gel sorbent, vermiculite, cat litter, dirt/earth, pads/rolls, or pillows to absorb spilled material. Remediate affected area as necessary.

Large Spills

Keep upwind from spill. Remove source from area if safe to do so. Use mechanical transfer equipment to recover spilled material. Use granular sorbent, gel sorbent, vermiculite, cat litter, dirt/earth, pads/rolls, or pillows to absorb residual material. Remediate affected area as necessary.

Section 7 – Handling and Storage

Precautions for Safe Handling

Personal Precautions

Do not handle until all safety precautions have been read and understood. Do not breathe fumes, gas, mist, vapor, or spray. Use only outdoors or in a well-ventilated area. Wear protective gloves, protective clothing, and eye or face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

Environmental Precautions

Do not pierce or burn, even after use. Avoid release to the environment.

Conditions and Considerations for Safe Storage

Protect from sunlight. Do not expose to temperatures exceeding 122°F (50°C). Store locked-up. Store according to NFPA Aerosol Level 1 recommendations.

Section 8 – Exposure Controls/Personal Protection

Component	CAS RN	OSHA PEL	ACGIH TLV
Methylene Chloride	75-09-2	25 ppm	50 ppm
Toluene	108-88-3	200 ppm	20 ppm
Perchloroethylene	127-18-4	100 ppm	25 ppm
Carbon Dioxide	124-38-9	5000 ppm	5000 ppm

Exposure Controls

Appropriate Engineering Controls

This product contains methylene chloride and must be used in accordance with §29 CFR 1910.1052. If practical, use outside with positive cross-ventilation in order to reduce accumulation of vapor and minimize exposure.

PPE Overview

Hand Protection

Use of chemical-resistant gloves (butyl rubber, EVAL, neoprene, nitrile/Buna-N, PVA, or Viton) is recommended.

Eye Protection

Use of safety glasses with wrap-around lens or goggles is recommended.

Respiratory Protection

If necessary, use respiratory protection sufficient to reduce exposure to permissible limits.

Additional Protection

For industrial settings, access to a chemical safety shower with eye wash station is strongly recommended.

Section 9 – Physical and Chemical Properties

Information on Basic Physical and Chemical Properties

Physical State

liquid

Appearance

clear, colorless

Odor

mild, solvent

Odor Threshold

1.6 ppm

pH

not relevant

Freezing Point
< -8°F
Boiling Range
104 - 250°F
Flash Point and Method
none by closed-cup tester
Explosion Limits in Air
8.2 - 16.2% by volume (composite)
Evaporation Rate
5.2 (n-Butyl Acetate=1.0)
Vapor Pressure, as supplied
80-120 PSI (typical)
Vapor Density
>1.0
Specific Gravity
1.212 at 68°F
Density
10.10 lb/gal at 68°F
Water Solubility
not soluble
n-Octanol/Water Partition Coefficient (log P_{ow})
1.8 (composite)
Viscosity
0.5 cSt at 68°F
Volatility
100% by weight
Auto-ignition temperature
880°F (composite)
Decomposition temperature
unknown

Other Information

VOC Content
21% by weight (EPA Method 24)
21% by weight (consumer products)
VOC Composite Partial Pressure, PPC
4.7 mm of Hg at 68°F

Section 10 – Stability and Reactivity

Chemical Stability under Normal Conditions of Use

Chemical Stability
Stable under normal conditions of use. May contain the following stabilizer(s): 2-methyl-2-butene ("amylene") and/or butylene oxide
Conditions Affording Instability
none known

Reactivity

not expected

Possibility of Hazardous Reactions

none known

Conditions to Avoid

Avoid direct sunlight and excessive temperatures. Do not puncture, incinerate, or crush. Keep away from heat, sparks, open flames, and hot surfaces. No smoking. If practical, avoid temperatures exceeding flash point.

Incompatible Materials

strong acids; oxidizers; reducing agents; amines; vinyl compounds; and powered zinc, aluminum, magnesium, potassium, and sodium

Hazardous Decomposition Products

hydrochloric acid/hydrogen chloride gas and phosgene

Section 11 – Toxicological Information

Likely Routes of Exposure
ingestion, skin contact, eye contact, inhalation

Symptoms Related to Physical, Chemical, and Toxicological Characteristics
Ingestion
Large Quantity
gastrointestinal disturbances, including upset stomach, cramping, nausea, vomiting, and diarrhea
Small Quantity/Incidental Contact
gastrointestinal disturbances, including upset stomach, cramping, nausea, and vomiting
Skin Contact
moderate irritation
Eye Contact
blurred vision, moderate eye irritation
Inhalation
respiratory tract irritation; headache, lightheadedness; narcotic effects, including dizziness, drowsiness, and loss of coordination; nausea and vomiting

Immediate, Delayed, and Chronic Effects

SHORT-TERM EXPOSURE

Potential Immediate Effects
Ingestion
gastrointestinal disturbances, nausea and vomiting
Skin Contact
drying of the skin
Eye Contact
blurred vision, temporary corneal damage
Inhalation
shortness of breath or difficulty breathing, headache, dizziness, nausea and vomiting, drowsiness, fatigue, loss of consciousness, death
Potential Delayed Effects
Ingestion
aspiration pneumonitis, cyanosis, coma, death
Skin Contact
defatting of the skin, drying and cracking of the skin, aggravation of pre-existing skin conditions
Eye Contact
temporary corneal damage
Inhalation
nausea and vomiting, fatigue

LONG-TERM EXPOSURE

Potential Immediate Effects
none known
Potential Delayed Effects
brain/central nervous system (CNS) effects, liver damage
Potential Chronic Health Effects
Carcinogenicity
International Agency for Research on Cancer (IARC) Monographs
Group 2A – Probable Human Carcinogen (Perchloroethylene)
Group 2B – Possible Human Carcinogen (Methylene Chloride)
National Toxicology Program (NTP) Report on Carcinogens
Reasonably Anticipated to Be a Human Carcinogen (Methylene Chloride, Perchloroethylene)
Mutagenicity / Genetic Toxicity
not suspected of being a human mutagen / genetic toxicant
Teratogenicity
not suspected of being a human teratogen
Developmental Effects
possible developmental toxicant (Toluene)
Fertility Effects
not suspected of being a reproductive/fertility toxicant
Effects on Lactation
not suspected of affecting lactation

SPECIFIC TARGET ORGAN TOXICITY (STOT)

Single Exposure
central nervous system (narcotic effects); respiratory tract (irritation)
Repeated Exposure
blood/blood system, brain/central nervous system, and liver effects

Numerical Measures of Acute Toxicity
Oral (Rat)
LD_{50}: 1310 mg/kg (derived)
Dermal (Rabbit)
LD_{50}: 2670 mg/kg (derived)
Inhalation (Rat)
LC_{50}: 42 mg/L (derived)

Additional Toxicological Information
Skin Irritation/Corrosion (Rabbit)
skin irritant
Serious Eye Damage/Irritation (Rabbit)
eye irritant
Respiratory Sensitization
unknown frequency of respiratory sensitization
Skin Sensitization
unknown frequency of skin sensitization
Aspiration Hazard
known aspiration hazard

Section 12 – Ecological Information

General Ecological Assessment/Overview
Harmful to animal life. Harmful to aquatic life with long-lasting effects. Very mobile in soils which may lead to contamination of groundwater.

Aquatic Toxicity
Vertebrates (Fish)
Acute Toxicity
LC_{50}: 29 mg/L (derived)
Chronic Toxicity
NOEC: 6.1 mg/L (derived)
Invertebrates (Water Flea)
Acute Toxicity
LC_{50}: 12 mg/L (derived)
Chronic Toxicity
NOEC: 0.7 mg/L (derived)
Aquatic Plants (Freshwater Algae)
Acute Toxicity
EC_{50}: 7.7 mg/L (derived)
Chronic Toxicity
NOEC: 550 mg/L (derived)

Terrestrial Toxicity
Invertebrate (Earthworm)
LC_{50}: not available

Persistence and Degradability
Persistence
very persistent (Perchloroethylene)
Degradability
non-rapidly degradable

Bioaccumulative Potential
Bioaccumulation Potential Assessment
does not bioaccumulate
Bioaccumulation Factor
90 (Toluene)

Mobility in Soils

Mobility in Soils Assessment
very mobile in soils—may contaminate groundwater
Soil Organic Carbon/Water Partition Coefficient (log K_{OC})
1.8 (composite)

Results of PBT and vPvB Assessment
not a persistent, bioaccumulative, toxic chemical (PBT); not very persistent and very bioaccumulative (vPvB)

Other Adverse Effects
none known

Section 13 – Disposal Considerations

General Assessment/Overview
Dispose of waste in accordance with all applicable regulations. Harmful to animal life—do not pour on ground. Marine Pollutant. Toxic to aquatic life with long-lasting effects—do not pour into waterways. Contains aggressive solvents, which may dissolve PVC pipes and fittings—do not pour down drain.

RCRA Hazardous Waste Code(s) (40 CFR 261.20-33)
Based on this material as-supplied, used or unwanted product may be subject to RCRA regulations and classified as
F001 – spent halogenated solvent used in degreasing

Section 14 – Transportation Information

Transportation by Ground – US Department of Transportation
Shipping Description
UN1950, Aerosols, 2.2 (6.1)
Exemption Eligibility
When shipped by ground, this product may be eligible for a "Limited Quantity" exception per §49 CFR 173.306.

Transportation by Air – ICAO/IATA
Shipping Description
UN1950, Aerosols, 2.2 (6.1)
Exemption Eligibility
When shipped by air, this product may be eligible for a "Limited Quantity" exception.

Transportation by Water – IMO/IMDG
Shipping Description
UN1950, Aerosols, 2.2 (6.1), Marine Pollutant (Tetrachloroethylene)
Exemption Eligibility
When shipped by water, this product may be eligible for a "Limited Quantity" exception.

Section 15 – Regulatory Information

Safety, Health, and Environmental Regulations/Legislation

UNITED STATES – SELECT FEDERAL REGULATIONS

Environmental Protection Agency (EPA)
Toxic Substances Control Act (TSCA) (15 USC 2601, et seq.)
All chemicals known to be present in this product are either listed on the TSCA inventory or are not required to be.
SARA Title III (42 USC 9601, et seq.)
Section 302 – Extremely Hazardous Substances (40 CFR 355)
none
Section 304 – Emergency Release Notification (40 CFR 302.4)
Methylene Chloride, Toluene, Perchloroethylene
Section 311/312 – Hazard Categorization (40 CFR 370.40)
acute toxicity, chronic toxicity, fire hazard, sudden release of pressure
Section 313 – Toxic Chemicals (40 CFR 372.65)
Methylene Chloride, Toluene, Perchloroethylene
Clean Air Act (42 USC ch. 85 § 7401 et seq.)
Section 112 – Hazardous Air Pollutants
Methylene Chloride, Toluene, Perchloroethylene
Section 183(e) – Commercial and Consumer Products – VOC Limit and Category (40 CFR 59 subpart C)
not regulated as a "Brake Cleaner"

Occupational Safety & Health Administration (OSHA)

Hazard Communication Standard

This safety data sheet (SDS) is provided for compliance with applicable regulations of the Hazard Communication Standard of 2012 (HCS/HAZCOM 2012) found in §29 CFR 1910.1200. Federal law requires persons receiving this document to study it carefully, become aware of the hazards of this product, and notify all employees, visitors, agents, and contractors of the information contained herein.

Specifically Regulated Substances

This product contains methylene chloride and must be used in accordance with §29 CFR 1910.1052.

Consumer Product Safety Commission

Federal Hazardous Substances Act

This product is regulated under the Federal Hazardous Substances Act, is subject to the labeling requirements of 16 CFR 1500, and must include at minimum the following cautionary statements: DANGER: Harmful or fatal if swallowed. Vapor harmful. Eye and skin irritant. Contents under pressure. Keep out of the reach of children.

UNITED STATES – SELECT REGIONAL CONSIDERATIONS

Ozone Transport Commission (OTC) – Model Rule VOC Limit and Category

10% as "Brake Cleaner" (does not comply)

Lake Michigan Air Directors Consortium (LADCO) – Model Rule VOC Limit and Category

45% as "Brake Cleaner" (complies)

UNITED STATES – SELECT STATE REGULATIONS

California

Air Resources Board (ARB/CARB)

Regulation for Reducing Emissions from Consumer Products – VOC Limit and Category

10% as "Brake Cleaner" (does not comply)

Massachusetts

"Right-to-Know" Legislation – Substance List (105 CMR 670.000)

Dichloromethane, Toluene, Perchloroethylene, Carbon Dioxide

New Jersey

"Right-to-Know" Legislation – Hazardous Substance List (34:5A-1 et seq.)

Methylene Chloride, Toluene, Perchloroethylene, Carbon Dioxide

Pennsylvania

"Right-to-Know" Legislation – Hazardous Substance List (Chapter 323)

Dichloromethane, Methylbenzene, Tetrachloroethene, Carbon Dioxide

INTERNATIONAL – SELECT REGULATIONS

Canada

Environment Canada – Domestic Substances List (DSL)

All chemicals known to be present in this product are listed on the DSL.

China

Ministry of Environmental Protection – Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)

All chemicals known to be present in this product are listed on the IECSC.

European Union

European Chemical Agency – European Inventory of Existing Chemical Substances (EINECS)

All chemicals known to be present in this product are listed on the EINECS.

Chemical Safety Assessment

has not been conducted on product, as-supplied

Section 16 – Other Information

Hazardous Materials Information System (HMIS)

Health	* 2
Flammability	0
Reactivity	0
Protective Equipment	X

Hazard Index

Least - 0
Slight - 1
Moderate - 2
High - 3
Extreme - 4

Index of Abbreviations

ACGIH – American Council of Governmental and Industrial Hygienists
CAS RN – Chemical Abstracts Service Registry Number
EC_{50} – Median Effective Concentration
IATA – International Air Transport Association
ICAO – International Civil Aviation Organization
IMDG – International Maritime Dangerous Goods
IMO – International Maritime Organization
LC_{50} – Median Lethal Concentration
LD_{50} – Median Lethal Dose
N/A – Not Applicable
NE – Not Established
NOEC – No Observable Exposure Concentration
PEL – Permissible Exposure Limit (as required by OSHA)
TLV – Threshold Limit Value (as recommended by ACGIH)
VOC – Volatile Organic Compound

Relevant Dates and Applicability

Date of Issuance
May 28, 2015
Date of Previous Revision
not applicable—initial Safety Data Sheet
Primary Revision Change(s)
not applicable
Document Applicability
This safety data sheet only applies to part number 1420 manufactured on or after January 1, 2015.

Document Author

Dan Nowlan

Legal Disclaimer

The information contained in this document is, to the best of Berryman Products, Inc.'s knowledge, complete and accurate but is not warranted. All materials may present unknown hazards and should be used with caution. It is the responsibility of the user to evaluate the information in a prudent manner and to use it in a manner consistent with its intended purpose. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

MATERIAL SAFETY DATA SHEET

WARREN UNILUBE, INC.

CARQUEST PREMIUM SAE 80W-90 GEAR OIL

Revision Date: May 17, 2013

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: CARQUEST Premium SAE 80W-90 Gear Oil (all containers)
Synonyms: Gear Oil
Product Use: Multi-purpose hypoid gear lubricant for use in passenger cars, trucks and off-highway vehicles.
Chemical Family: Blend

Manufacturer: Warren Unilube, Inc.
915 E. Jefferson Ave.
West Memphis, AR 72301
Phone: 1-800-428-9380
Fax: 870-732-7851

CHEMTREC NUMBER
Domestic: 800-424-9300
International: 703-527-3887

EMERGENCY TELEPHONE NUMBER:
(800) 428-9284
MSDS Prepared by: Warren Oil Company, Inc.
WHMIS (Canada): THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.

SECTION 2: COMPOSITION/INFORMATION AND INGREDIENTS

Chemical Ingredient	
Base Lubricating Oils	90 - 94%
Proprietary Additives	<10%

The base lubricating oils contains <3% (w/w) DMSO extract, as measured by IP346.

SECTION 3: HAZARD IDENTIFICATION

EMERGENCY OVERVIEW: *Oil mist, if generated.*

	HMIS Hazard Rating	NFPA Hazard Rating
H	1	0
F	1	1
R	0	0

US OSHA HAZARD COMMUNICATION STANDARD: Product assessed in accordance with OSHA 29 CFR

1910.1200 and determined not to be hazardous.
WHMIS (Canada): THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.
There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to the health or the environment and hence require reporting in this section.

Potential Health Effects:
Inhalation: Vapor pressure is very low. Vapor inhalation under ambient conditions is normally not a problem.
Eye Contact: Expected to be minor eye irritant.
Skin Contact: Repeated or prolonged skin contact may cause dermatitis.
Ingestion: Not expected to be acutely toxic.
Chronic: None known.

SECTION 4: FIRST AID MEASURES

Inhalation: Remove to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. If breathing is difficult give oxygen. Get medical attention.
Eye Contact: Flush eyes with large amounts of water, for at least 15 minutes, until irritation subsides. If irritation persists, get medical attention.
Skin Contact: No treatment is necessary under ordinary circumstances. Remove contaminated clothing. Wash contaminated area thoroughly with soap and water. If redness or irritation occurs and persists, seek medical attention. If product is injected into or under the skin, or into any part of the body, regardless of the appearance of the wound or its size, the individual should seek immediate medical attention.
Ingestion: If swallowed, DO NOT induce vomiting. If victim exhibits signs of lung aspiration such as coughing or chocking, seek immediate medical attention.

SECTION 5: FIRE-FIGHTING MEASURES

Flammability: NFPA Class-IIIB combustible material.
Flashpoint (method): Typical >360°F / >182°C (ASTM D-92)
Special Properties: This material can burn but will not readily ignite. This material will release vapors when heated above the flash point temperature that can ignite when exposed to a source of ignition. In enclosed spaces, heated vapor can ignite with explosive force. Mists or sprays may burn at temperatures below the flash point.
Autoignition Temperature: No Data Available
Extinguishing Media: Use dry chemical, foam, carbon dioxide or water fog. Carbon dioxide and inert gas can displace oxygen. Use caution when applying carbon dioxide or inert gas in confined spaces.
Fire-Fighting Instructions: Dense smoke may be generated while burning. Carbon monoxide, carbon dioxide, and other oxides may be generated as products of combustion. Avoid breathing smoke and vapor.
Fire-Fighting Equipment: Wear self-contained breathing apparatus and protective clothing. Water may be used to cool containers exposed to heat or flame.
Hazardous Combustion By-products: Carbon monoxide, carbon dioxide, aldehydes, ketones, and combustion products of sulfur and nitrogen.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill/Leak Procedures: Remove sources of ignition. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Take up small spills with absorbent pads. Large spills may be taken up with pump or vacuum.

SECTION 7: HANDLING AND STORAGE

Storage Temperature: Ambient
Storage Pressure: Atmospheric
General: Keep container closed. Store in a cool, well-ventilated place. Keep away from heat, sparks and flame. Empty containers may contain residues.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

A: General Product Information

If oil mists are generated, observe the OSHA exposure limit of 5 mg/m3. The following are recommended exposure limits for hydrogen sulfide: OSHA PEL 8H TWA 10ppm; 14mg/m3, Ceiling 20 ppm and ACGIH 8H TWA 10ppm; 14mg/m3.

B: Component Exposure Limits

No information is available.

Engineering Controls

Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces. If product is heated above 70 C (155 F) in the presence of water, hydrogen sulfide vapors may be released. Ventilation should be sufficient to keep hydrogen sulfide levels below recommended exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Wear safety glasses. Wear chemical goggles or faceshield if splash or mist occurs.

Personal Protective Equipment: Skin

Use impervious gloves for prolonged contact. Wear oil-impervious garments if contact is unavoidable.

Personal Protective Equipment: Respiratory

If mist is generated (heating, spraying) and engineering controls are not sufficient, wear approved organic vapor respirator suitable for oil mist.

Personal Protective Equipment: General

Use good hygiene when handling petroleum product. Launder contaminated clothing before reuse. Excessive misting may cause slippery floors - wear appropriate footwear. Eye wash fountains are recommended.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Viscous liquid
Vapor Density: > 1 (air =1.0)
Vapor Pressure: Not available
Evaporation rate: Not available
Boiling Point: Not available
Melting/Freezing Point: Not available
pH: Not available
Coefficient of Water/Oil Distribution: Not available
Solubility in Water: Insoluble
Specific Gravity: 0.90
Flashpoint (method): Typical >400°F / >204°C (ASTM D-92)
Odor: Typical petroleum
Color: Light amber
Odor Threshold: Not available

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Yes
Conditions to Avoid: Avoid formation of mists, keep away from extreme heat, sparks, and open flame.
Incompatibility: This product may react with strong oxidizing agents.
Hazardous Decomposition: Decomposition of this product may yield oxides of boron, calcium, magnesium, nitrogen, phosphorus, sulfur including hydrogen sulfide and zinc as well as carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.
Hazardous Polymerization: Hazardous polymerization will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Oral Toxicity (rats): Practically non-toxic (LD50: greater than 5000 mg/kg.)
Dermal Toxicity (rabbits): Practically non-toxic (LD50: greater than 2000 mg/kg.)
Inhalation Toxicity (rats): Practically non-toxic (LC50: greater than 5 mg/l).
Eye Irritation (rabbits): Practically non-irritating. (Draize score: greater than 6 but 15 or less.)
Skin Irritation (rabbits): Practically non-irritating. (Primary Irritation Index: greater than 0.5 but less than 3.)
Carcinogenicity
A: General Product Information: No data available on the product as a whole. Note that USED oils tend to contain higher amounts of the cancer-causing aromatics, which have been linked to scrotal and lung cancer in humans.
B: Component Carcinogenicity: None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity: No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Regulatory Information: All disposals must comply with federal, state and local requirements.

SECTION 14: TRANSPORTATION INFORMATION

US DOT Information: Not regulated as a hazardous material
Hazard Class: Not classified
UN/UA#: Not classified
Packing Group: Not classified
Required Label (s): None
IMO/IMDG Shipping Description: Not regulated as dangerous goods for transport.
ICA/IATA Shipping Description: Not regulated as dangerous goods for transport.
International Transportation Regulations: Not regulated as dangerous goods.
Canada: Transportation (TDG): Not regulated. Shipping Name: None, UN Number: None, Class Description: None,
PIN Number: None.
THIS PRODUCT IS NOT A WHMIS CONTROLLED SUBSTANCE.
DSL/NDSL Status: This product and /or all components are listed on the Domestic Substances List, as required under the Canadian Environmental Protection Act.

SECTION 15: REGULATORY INFORMATION

TSCA: This material is in compliance with the Toxic Substances control Act (15 USC 2601-2629) and is listed in the TSCA Inventory.

SARA 302/304: This product does not contain reportable quantities of any "extremely hazardous substances" listed pursuant to Title II of the

Hazard Categories for SARA 311/312 Reporting:

Health	Immediate (Acute)	No
Health	Delayed (Chronic)	No
Physical	Fire	No
Physical	Sudden Release of Pressure	No
Physical	Reactive	No
Physical	Nuisance Mist/Dust Only	No

SARA 313 Toxic Release Inventory: This material contains no chemicals subject to the supplier notification requirements of SARA 313.

CERCLA: This product does not contain any "hazardous substances" listed under the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) in 40 CFR Part 302, Table 30.24.

Clean Water Act / Oil Pollution Act: This product contains petroleum distillates and may be subject to regulation by Section 311 of the Clean Water Act and the Oil Pollution Act. Releases of the product into or leading to surface waters must be reported to the National Response Center at 1-800-424-8802.

NEW JERSEY RTK CLASSIFICATION: Under the New Jersey Right-to-Know Act L. 1983 Chapter 315 N.J.S.A. 34:5A-1 et. seq., the product is to be identified as follows: Petroleum Oil (Gear Oil)

CALIFORNIA PROPOSITION 65 WARNING:
Chemicals known to the State of California to cause cancer, birth defects or other reproductive harm may be found in petroleum products. Although it is possible to sufficiently refine the petroleum products to remove the potential for cancer, we are advising that one or more of the listed chemicals may be present in some detectable quantities. Read and follow directions and use care when handling these petroleum products.

Other state regulations may apply.

WHMIS (Canada): Not controlled under WHMIS.

SARA Hazardous Substances

Ingredient	CAS No.	%, wt	Sec 313	Sec 302	RQ, lb	TPQ, lb
None						

Key: Sec 313 = Toxic Chemicals, Section 313
Sec 302 = Extremely Hazardous Substances (EHS)
RQ = Reportable Quantity of EHS
TPQ = Threshold Planning Quantity of EHS

Section 16 - Other Information

Revision Information

THIS INFORMATION RELATES ONLY TO THE SPECIFIC MATERIAL DESIGNATED AND MAY NOT BE VALID FOR SUCH MATERIAL USED IN COMBINATION WITH ANY OTHER MATERIALS OR IN ANY PROCESS. SUCH INFORMATION IS TO THE BEST OF THIS COMPANY'S KNOWLEDGE AND BELIEVED ACCURATE AND RELIABLE AS OF THE DATE INDICATED. HOWEVER, NO REPRESENTATION, WARRANTY OR GUARANTEE IS MAKE AS TO THE ACCURACY, RELIABILITY OR COMPLETENESS. IT IS THE USER'S RESPONSIBILITY TO SATISFY HIMSELF AS TO THE SUITABLENESS AND COMPLETENESS OF SUCH INFORMATION FOR HIS OWN PARTICULAR USE.

Vulcan Materials Company

SAFETY DATA SHEET

Effective Date: 10/28/2015

Aggregate Blended Sand

1. Identification

Product name:
Aggregate Blended Sand

Other means of identification/Synonyms/Common Names:
Brooklyn Maryland Sand, Edsall Road Sand, Concrete Sand, Fine Aggregate

Recommended use:
Aggregate blended sand is used as a construction material.
AGGREGATE BLENDED SAND MUST NOT BE USED AS AN ABRASIVE BLASTING AGENT.

Recommended restrictions:
None Known

Manufacturer/Contact info:
Vulcan Materials Company and its subsidiaries and affiliates
1200 Urban Center Drive
Birmingham, AL 35242

General Phone Number:
1.866.401.5424

Emergency Phone Number:
1.866.401.5424 (3E Company, 24hours/day, 7 Days/week)

Website:
www.vulcanmaterials.com

2. Hazard(s) Identification

Physical hazards:
Not Classified

Health hazards:
Carcinogenicity-Category 1A
Specific target organ toxicity, repeated exposure- Category 2

Signal word:

Danger

Hazard statement:
May Cause Cancer (Inhalation).
Causes damage to organs (lungs, respiratory system) through prolonged or repeated exposure (inhalation)

Precautionary statement:

Prevention

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Use personal protective equipment as required. Wear protective gloves, protective clothing, eye protection, and face protection.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.

Response

- If exposed or concerned get medical advice/attention.

Disposal

- Dispose of contents/container in accordance with all local, regional, national, and international regulations.

Supplemental information:
Respirable Crystalline Silica may cause cancer. Aggregate blended sand is a naturally occurring mineral complex that contains varying quantities of quartz (crystalline silica). Aggregate blended sand may be subjected to various natural or mechanical forces that produce small particles (dust) which may contain respirable crystalline silica (particles less than

10 micrometers in aerodynamic diameter). Repeated inhalation of respirable crystalline silica (quartz) may cause lung cancer according to IARC, NTP; ACGIH states that it is a suspected cause of cancer. Other forms of RCS (e.g., tridymite and cristobalite) may also be present or formed under certain industrial processes.

3. Composition/information on ingredients

Chemical name	CAS number	%
Natural Sand	None	60-90
Granite	None	0-10
Traprock	None	10-40
Quartz (crystalline silica)	14808-60-7	>1

4. First-aid measures

Inhalation:
Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or if breathing is difficult.

Eyes:
Immediately flush eye(s) with plenty of clean water for at least 15 minutes, while holding the eyelid(s) open. Occasionally lift the eyelid(s) to ensure thorough rinsing. Beyond flushing, do not attempt to remove material from eye(s). Contact a physician if irritation persists or later develops.

Skin:
Wash affected areas thoroughly with mild soap and fresh water. Contact a physician if irritation persists.

Ingestion:
If person is conscious do not induce vomiting. Give large quantity of water and get medical attention. Never attempt to make an unconscious person drink.

Most important symptoms/effects, acute and delayed:
Dust may irritate the eyes, skin, and respiratory tract. Breathing silica-containing dust for prolonged periods in the workplace can cause lung damage and a lung disease called silicosis. Symptoms of silicosis may include (but are not limited to) shortness of breath, difficulty breathing with or without exertion; coughing; diminished work capacity; diminished chest expansion; reduction of lung volume; right heart enlargement and/or failure.

Indication of immediate medical attention and special treatment needed:
Not all individuals with silicosis will exhibit symptoms of the disease. However, silicosis can be progressive, and symptoms can appear at any time, even years after exposures have ceased. Persons with silicosis have an increased risk of pulmonary tuberculosis infection.
For emergencies contact 3E Company at 1.866.401.5424 (24 hours/day, 7 days/week).

5. Fire-fighting measures

Suitable extinguishing media:
This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media:
None known.

Specific hazards arising from the chemical:
Contact with powerful oxidizing agents may cause fire and/or explosions (see section 10 of SDS).

Special protective equipment and precautions for firefighters:
Use protective equipment appropriate for surrounding materials.

Fire-fighting equipment/instructions:
No unusual fire or explosion hazards noted. Not a combustible dust.

Specific methods:
The presence of this material in a fire does not hinder the use of any standard extinguishing medium. Use extinguishing medium for surrounding fire.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Persons involved in cleanup processes should first observe precautions (as appropriate) identified in Section 8 of this

SDS. **For emergencies, contact 3E Company at 1-866-401-5424 (24 hours/day, 7 days/week).**

Environmental precautions:

Prevent from entering into sewers or drainage systems where it can harden and clog flow.

Methods and materials for containment and cleaning up:

Spilled material, where dust is generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Do not dry sweep or use compressed air for clean-up. Wetting of spilled material and/or use of respiratory protective equipment may be necessary.

7. Handling and storage

Precautions for safe handling:

Respirable crystalline silica-containing dust may be generated during processing, handling, and storage. Use personal protection and controls identified in Section 8 of this SDS as appropriate.

AGGREGATE BLENDED SAND MUST NOT BE USED AS AN ABRASIVE BLASTING AGENT.

Conditions for safe storage, including any incompatibilities:

Do not store near food, beverages, or smoking materials.

8. Exposure controls/personal protection

Legend:

NE = Not Established; PEL = Permissible Exposure Limit; TLV = Threshold Limit Value; REL = Recommended Exposure Limit; OSHA = Occupational Safety and Health Administration; MSHA = Mine Safety and Health Administration; NIOSH = National Institute for Occupational Safety and Health; ACGIH = American Conference of Governmental Industrial Hygienists

Component	OSHA/MSHA PEL	ACGIH TLV	NIOSH REL
Particulates not otherwise classified	15 □ □□□ (total dust) 5 □ □□□ (respirable fraction)	10 mg/m3 (inhalable fraction) 3 mg/m3 (respirable fraction)	NE
Respirable dust containing silica	10 □ □□□÷ (% silica + 2)	Use Respirable Silica TLV	Use Respirable Silica REL
Total dust containing silica	OSHA: 30 □ □□□÷ (% silica + 2) MSHA: 30 □ □□□ ÷ (% silica + 3)	NE	NE
Respirable Crystalline Silica (quartz)	NE - Use respirable dust PEL	0.025 □ □□□	0.05 □ □□□
Respirable Tridymite and Cristobalite (other forms of crystalline silica)	1/2 of OSHA and MSHA respirable dust PEL	0.025 □ □□□	0.05 □ □□□

Exposure Guidelines:

Respirable dust and quartz levels should be monitored regularly to determine worker exposure levels. Exposure levels in excess of allowable exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee workstations.

Engineering Controls:

Activities that generate dust require the use of general ventilation, local exhaust and/or wet suppression methods to maintain exposures below allowable exposure limits.

Eye Protection:

Safety glasses with side shields should be worn as minimum protection. Dust goggles should be worn when excessively (visible) dusty conditions are present or are anticipated.

Skin Protection (Protective Gloves/Clothing):

Use gloves to provide hand protection from abrasion. In dusty conditions, use long sleeve shirts. Wash work clothes after each use.

Respiratory Protection:

All respirators must be NIOSH-approved for the exposure levels present (See NIOSH Respirator Selection Guide). The need for respiratory protection should be evaluated by a qualified safety and health professional. Activities that generate dust require the use of an appropriate dust respirator where dust levels exceed or are likely to exceed allowable exposure limits. For respirable silica levels that exceed or are likely to exceed an 8 hr Time Weighted Average (TWA) of 0.5 □ □□□, a high efficiency particulate filter respirator must be worn at a minimum; however, if respirable

silica levels exceed or are likely to exceed an 8 hr TWA of 5.0 □ □□ □ a positive pressure, full face respirator or equivalent is required. Respirator use must comply with applicable MSHA (42 CFR 84) or OSHA (29 CFR 1910.134) standards, which include provisions for a user training program, respirator inspection, repair and cleaning, respirator fit testing, medical surveillance and other requirements.

9. Physical and chemical properties

Appearance:
Angular or round multicolored particles.

Odor: No odor.	**PH:** 7-9	**Decomposition temperature:** Not applicable
Melting point/freezing point: Not applicable	**Initial boiling point and boiling range:** Not applicable	**Flash point:** Non-combustible
Evaporation rate: Not applicable	**Flammability:** Not applicable	**Upper/lower flammability or explosive limits:** Not applicable
Vapor pressure: Not applicable	**Relative density:** Not applicable	**Solubility:** 0
Partition coefficient: n-octanol/water. Not applicable	**Autoignition temperature:** Not applicable	**Specific Gravity (H2O = 1):** 2.65 - 2.70

10. Stability and reactivity

Reactivity:
Not reactive under normal use.

Chemical stability:
Stable under normal temperatures and pressures.

Possibility of hazardous reactions:
None under normal use.

Conditions to avoid (e.g., static discharge, shock or vibration):
Contact with incompatible materials should be avoided (see below). See Sections 5 and 7 for additional information.

Incompatible materials:
Silica ignites on contact with fluorine and is incompatible with acids, aluminum, 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. Silica dissolves readily in hydrofluoric acid producing a corrosive gas – silicon tetrafluoride.

Hazardous decomposition products:
Silica-containing respirable dust particles may be generated. When heated, quartz is slowly transformed into tridymite (above 860°C/1580°F) and cristobalite (above 1470°C/2678°F). Both tridymite and cristobalite are other forms of crystalline silica.

11. Toxicological information

Primary Routes of Exposure:
Inhalation and contact with the eyes and skin.

Symptoms related to the physical, chemical, toxicological characteristics
Inhalation:
Dusts may irritate the nose, throat and respiratory tract by mechanical abrasion. Coughing sneezing and shortness of breath may occur.
Symptoms of silicosis caused by chronic exposure to dust may include (but are not limited to) shortness of breath, difficulty breathing with or without exertion; coughing; diminished work capacity; diminished chest expansion; reduction of lung volume; right heart enlargement and/or failure. Persons with silicosis have an increased risk of pulmonary tuberculosis infection.

Eye Contact:
Dust particles can scratch the eye causing tearing, redness, a stinging or burning feeling, or swelling of the eyes with blurred vision.

Skin Contact:
Dust particles can scratch and irritate the skin with redness, an itching or burning feeling, swelling of the skin, and/or rash.

Ingestion:
Expected to be practically non-toxic. Ingestion of large amounts may cause gastrointestinal irritation including nausea, vomiting, diarrhea, and blockage.

Medical Conditions Aggravated by Exposure:
Irritated or broken skin increases chance of contact dermatitis. Pre-existing medical conditions that may be aggravated by exposure include disorders of the eye, skin and lung (including asthma and other breathing disorders). Smoking tobacco will impair the ability of the lungs to clear themselves of dust.

Delayed and immediate effects and also chronic effects from short- and long-term exposure:
Prolonged overexposure to respirable dusts in excess of allowable exposure limits can cause inflammation of the lungs leading to possible fibrotic changes, a medical condition known as pneumoconiosis.
Prolonged and repeated inhalation of respirable crystalline silica-containing dust in excess of allowable exposure limits may cause a chronic form of silicosis, an incurable lung disease that may result in permanent lung damage or death. Chronic silicosis generally occurs after 10 years or more of overexposure; a more accelerated type of silicosis may occur between 5 and 10 years of higher levels of exposure. In early stages of silicosis, not all individuals will exhibit symptoms (signs) of the disease. However, silicosis can be progressive, and symptoms can appear at any time, even years after exposure has ceased.
Repeated overexposures to very high levels of respirable crystalline silica for periods as short as six months may cause acute silicosis. Acute silicosis is a rapidly progressive, incurable lung disease that is typically fatal. Symptoms include (but are not limited to): shortness of breath, cough, fever, weight loss, and chest pain.
Respirable dust containing newly broken silica particles has been shown to be more hazardous to animals in laboratory tests than respirable dust containing older silica particles of similar size. Respirable silica particles which had aged for sixty days or more showed less lung injury in animals than equal exposures of respirable dust containing newly broken particles of silica.
There are reports in the literature suggesting that excessive crystalline silica exposure may be associated with autoimmune disorders and other adverse health effects involving the kidney. In particular, the incidence of scleroderma (thickening of the skin caused by swelling and thickening of fibrous tissue) appears to be higher in silicotic individuals. To date, the evidence does not conclusively determine a causal relationship between silica exposure and these adverse health effects.

Carcinogenicity:
Epidemiology studies on the association between crystalline silica exposure and lung cancer have had both positive and negative results. There is some speculation that the source and type of crystalline silica may play a role. Studies of persons with silicosis indicate an increased risk of developing lung cancer, a risk that increases with the level and duration of exposure. It is not clear whether lung cancer develops in non-silicotic patients. Several studies of silicotics do not account for lung cancer confounders, especially smoking, which have been shown to increase the risk of developing lung disorders, including emphysema and lung cancer.
In October 1996, an IARC Working Group designated respirable crystalline silica as carcinogenic (Group 1). In 2012, an IARC Working Group re-affirmed that inhalation of crystalline silica was a known human carcinogen. The NTP's Report on Carcinogens, 9th edition, lists respirable crystalline silica as a "known human carcinogen." In the year 2000, the American Conference of Governmental Industrial Hygienists (ACGIH) listed respirable crystalline silica (quartz) as a suspected human carcinogen (A-2). These classifications are based on sufficient evidence of carcinogenicity in certain experimental animals and on selected epidemiological studies of workers exposed to crystalline silica.

Additional information on toxicological-effects:
Acute toxicity: Not classified

Skin corrosion/irritation: Not classified

Serious eye damage/eye irritation: Not classified

Respiratory sensitization: Not classified.

Skin sensitization: Not classified.

Germ cell Mutagenicity: Not classified

Carcinogenicity: May cause cancer (Inhalation).

Reproductive toxicity: Not classified

Specific target organ toxicity - single exposure: Not classified

Specific target organ- toxicity – repeated exposure: Causes damage to organs (lungs, respiratory system) through prolonged or repeated exposure (inhalation)

Aspiration toxicity: Not classified (not applicable- solid material)

12. Ecological information

Ecotoxicity (aquatic and terrestrial, where available):
Not determined

Persistence and degradability:
Not determined

Bioaccumulative potential.
Not determined

Mobility in soil.
Not determined

Other adverse effects.
Not determined

13. Disposal considerations

Safe handling and disposal of waste:
Place contaminated materials in appropriate containers and dispose of in a manner consistent with applicable federal, state, and local regulations. Prevent from entering drainage, sewer systems, and unintended bodies of water. It is the responsibility of the user to determine, at the time of disposal, whether product meets criteria for hazardous waste. Product uses, transformations, mixture and processes, may render the resulting material hazardous.

14. Transport information

UN Number:
Not regulated.

UN Proper shipping name:
Not regulated.

Transport Hazard class:
Not applicable.

Packing group, if applicable:
Not applicable.

Marine pollutant (Yes/No):
Not applicable.

15. Regulatory information

Toxic Substances Control Act (TSCA):
The components in this product are listed on the TSCA Inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):
Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act.

Superfund Amendments and Reauthorization Act of 1986 (SARA), Title III:

Section 302 extremely hazardous substances: None

Section 311/312 hazard categories: Delayed Health

Section 313 reportable ingredients at or above de minimus concentrations: None

California Proposition 65:

This product contains a chemical (crystalline silica) known to the State of California to cause cancer.

State Regulatory Lists:

Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list or all state regulations. Therefore, the user should review the components listed in Section 2 and consult state or local authorities for specific regulations that apply.

16. Other information

Disclaimer

NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.

Vulcan Materials Company and its subsidiaries and affiliates ("Vulcan") believe the information contained herein is accurate; however, Vulcan makes no guarantees with respect to such accuracy and assumes no liability whatsoever in connection with the use of any information contained herein by any party. The provision of the information contained herein is not intended to be, and should not be construed as, legal advice or as ensuring compliance with any federal, state, or local laws, rules or regulations. Any party using any information contained herein should review all applicable laws, rules and regulations prior to use.

Issue date:

10/27/2015

Revision date:

10/27/2015

Vulcan Materials Company and its subsidiaries and affiliates
1200 Urban Center Drive
Birmingham, AL 35242

Vulcan
Materials Company

Dear Customer/Contractor:

Please find attached a safety data sheet (SDS) for the product that you purchased from Vulcan Materials Company or one of its subsidiaries or affiliates ("Vulcan"). This is a revised SDS and replaces any previous versions of the material safety data sheet (MSDS) for this product. This SDS is provided to you as required by the Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard (29 CFR 1910.1200), the Mine Safety and Health Administration's (MSHA) Hazard Communication Standard (30 CFR Part 47), and/or any applicable state Right-to-Know laws.

It is the responsibility of your company to communicate this information to your employees, customers, and contractors who may use or come in contact with this product. Further, if you distribute this product, Vulcan requests, and applicable laws may require, that you forward this SDS to your customers.

Please direct this information to the person responsible for safety and health compliance at your company. If you have questions about the SDS, please contact Vulcan at 1200 Urban Center Drive, Birmingham, AL 35242 or 1-866-401-5424.

If you need additional copies of this or any other Vulcan SDS or a Spanish language version, you can obtain them at www.vulcanmaterials.com or by calling 1-866-401-5424.

La MSDS puede obtenerse en www.vulcanmaterials.com o llamando al 1-866-401-5424.

Sincerely,

Occupational Health Office

Vulcan Materials Company

MATERIAL SAFETY DATA SHEET

CITRI-KING®

Oro Agri, Inc.
Emergency Phone: Chemtrec 800-424-9300 Effective Date: January 17, 2006

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: CITRI-KING®
PRODUCT DESCRIPTION: CITRI-KING is an adjuvant to improve tank mix efficacy via improved coverage of moisture and improved penetration of tank mix into plant and insect follicle and waxy surfaces.

COMPANY IDENTIFICATION:
Oro Agri, Inc.
990 Trophy Club Dr.
Trophy Club, TX 76262

2. COMPOSITION/INGREDIENT INFORMATION

A hazard evaluation has identified one or more hazardous ingredient(s) under OSHA's Hazard Communication Rule, 29 CFR 1910.1200. Their identity is being claimed a trade secret. Consult Section 3 for the nature of the hazard(s).

3. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! Causes substantial but temporary eye irritation. Harmful if inhaled or absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin or breathing spray mist. Wear protective eyewear/goggles, long-sleeved shirt, long pants, shoes, socks and waterproof gloves when applying this product. Do not allow children or pets to contact treated area until sprays have dried.

Primary Route(s) of Exposure: Eye, Skin, and Inhalation

Effects from Overexposure: Causes substantial eye irritation when product enters the eye. Prolonged inhalation of mist or vapor may cause nausea, dizziness, light-headedness, vomiting or unconsciousness depending on the length of exposure and the first aid action given.

Symptoms of Exposure: A review of available data does not identify any symptoms from exposure not previously mentioned.

Aggravation of Existing Conditions: A review of available data does not identify any worsening of existing conditions.

4. FIRST AID

If in eyes:	• Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If inhaled:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.
If on skin or clothing:	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.

NOTE TO PHYSICIAN:

Based on individual reactions of the patient, the physician's judgment should be used to control symptoms and clinical condition. If unconscious, having trouble breathing or in convulsions, do not induce vomiting or give water.

5. FIRE FIGHTING MEASURES

Flash Point:	>200°F (>93°C)
Extinguishing Media:	Use dry chemical, foam, carbon dioxide or another extinguishing agent suitable for Class B fires. Use water to cool containers exposed to fire. For large fires, use water spray or fog, thoroughly drenching the burning material.
Unusual Fire & Explosion Hazards:	May evolve CO, CO_2 and SO_x under fire conditions.
NFPA 704M/HMIS Rating:	Health - 1 Flammability - 0 Reactivity - 0 Other - 0

6. ACCIDENTAL RELEASE MEASURES

Small liquid spills:	Contain with absorbent material, such as clay, soil or any commercially available absorbent. Shovel reclaimed liquid and absorbent into recovery or salvage drums for disposal. Refer to CERCLA in Section 15.
Large liquid spills:	Dike to prevent further movement and reclaim into recovery or salvage drums or tank truck for disposal. Refer to CERCLA in Section 15. For large indoor spills, evacuate employees and ventilate area. Those responsible for control and recovery should wear the protective equipment specified in Section 8.

7. HANDLING AND STORAGE

Avoid contact with skin or breathing spray mist. Wear protective eyewear/goggles, long-sleeved shirt, long pants, shoes, socks and waterproof gloves when applying this product. Do not allow children or pets to contact treated area until sprays have dried.

Keep container closed when not in use. Avoid temperatures below 34°F (5°C) and above 100°F (40°C).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: Because of the low volatility and toxicity of this product, respiratory protection is not typically necessary. If significant vapors are generated, use either a chemical cartridge respirator or supplied air.

For large spills, entry into large tanks, vessels or enclosed small spaces with inadequate ventilation, a positive pressure, self-contained breathing apparatus is recommended.

Ventilation: General ventilation is recommended.

Protective Equipment: Use impermeable gloves and chemical splash goggles when attaching feeding equipment, performing maintenance or handling this product. Examples of impermeable gloves available on the market are neoprene, nitrile, PVC, natural rubber, viton and butyl (NOTE: compatibility studies have not been performed). The availability of an eye wash fountain and safety shower is recommended. If clothing is contaminated, remove clothing and thoroughly wash the affected area. Launder contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Blue/Green
Form:	Liquid
Odor:	Light citrus
Density:	8.5 lbs./gal.
Solubility in Water:	Complete
pH (Neat):	7.0-8.0 (ASTM D-70)
Boiling Point:	>200°F (>93°C) @ 760 mm Hg (calculated)
Flash Point:	>200°F (>93°C)
Freeze Point:	27°F (-3°C)
Wt.% Volatile:	Less than 5%
Volatile Organic Compound (VOC):	0.37 lbs./gal. (EPA Method 24)

These physical properties are typical values for this product and should not be considered as guarantees of any specific lot.

10. STABILITY AND REACTIVITY

Incompatibility: Avoid contact with strong oxidizers (e.g., Ferric Chloride) which can generate heat and release toxic fumes.

Thermal Decomposition Products: In the event of combustion, CO, CO_2, and SO_x may be formed. Do not breathe smoke or fumes. Wear suitable protective equipment.

11. TOXICOLOGICAL INFORMATION

Acute Oral Toxicity:	Rat: LD_{50} > 5000 mg/kg
Acute Dermal Toxicity:	Rabbit: LD_{50} > 2000 mg/kg
Acute Inhalation Toxicity:	Rat: LC_{50} >1.51 mg/L (NOTE: Product is a liquid)
Eye Irritation:	Rabbit: Primary eye irritant
Skin Irritation:	Rabbit: Not an irritant
Dermal Sensitization:	Guinea Pig: Non-sensitizing

CARCINOGENICITY:

ACGIH:	Not Listed
IARC:	Not Listed
NTP:	Not Listed
OSHA:	Not Listed
CA Prop 65:	Not Listed

12. ECOLOGICAL INFORMATION

Environmental Hazard and Exposure Characterization: Environmental toxicity data is not available for the formulated product.

If released into the environment, see Section 13 for disposal and the CERCLA heading in Section 15 for reporting.

13. DISPOSAL CONSIDERATIONS

As a non-hazardous liquid waste, this product should be solidified with stabilizing agents (such as sand, fly ash, or cement) so that no free liquid remains before disposal to an industrial waste landfill.

Containers should be disposed of by rinsing thoroughly and then offering for recycling or reconditioning or puncture and dispose of in a sanitary landfill, by incinerating, or if allowed by state and local authorities by burning. If burned, stay out of smoke.

14. TRANSPORTATION INFORMATION

Not regulated by DOT.

15. REGULATORY INFORMATION

FEDERAL REGULATIONS

OSHA HAZARD COMMUNICATION STANDARD STATUS: Regulated	
SARA Title III – Section 302 Extremely Hazardous Substances - Not listed	
SARA Title III – Section 311 Hazardous Categories -	Immediate
SARA Title III – Section 312 Threshold Planning Quantity -	10,000 lbs.
SARA Title III – Section 313 Reportable Ingredients -	Not Listed
CERCLA –	Not Listed

STATE REGULATIONS

California Proposition 65: Not Listed.

Michigan Critical Materials: Not Listed.

16. OTHER INFORMATION

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

DISCLAIMER:

This product material safety data sheet provides health and safety information. The product is to be used in applications consistent with our product literature. Individuals handling this product should be informed of the recommended safety precautions and should have access to this information. For any other uses, exposures

should be evaluated so that appropriate handling practices and training programs can be established to ensure safe workplace operations. Please consult your local sales representative for any further information.

This MSDS does not replace or modify the product label. It provides important health, safety, and environmental information for individuals handling large quantities of the product in activities generally other than product use. Conversely, the product label provides information for product use.

The information in this MSDS is believed to be correct as of the date hereof. The company makes no representations as to the completeness or accuracy thereof. The company is in no way responsible for damages of any kind from the use of, or reliance upon this information.

FOR EMERGENCY SPILL OR FIRST AID INFORMATION ONLY:

In case of emergency call:	**CHEMTREC (1-800-424-9300)**
For non-emergencies dial:	**CHEMTREC (1-800-262-8200)**
International Calls:	**CHEMTREC (703-527-3887) collect calls accepted**
For all other inquiries:	**ORO AGRI, Inc. (817-491-2057)**

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AIRCO®

Date:	4/5/96	MSDS No.:	US-M650A
Supersedes:		2/10/94	
Trade Name:		Airco Easy Arc 7018 MR	
Sizes:		All	

MATERIAL SAFETY DATA SHEET

For Welding Consumables and Related Products

Conforms to Hazard Communication Standard 29CFR 1910.1200 Rev. October 1988

SECTION I - IDENTIFICATION

Manufacturer/ Supplier:

The Lincoln Electric Company
22801 St. Clair Avenue
Cleveland, OH 44117-1199
(216) 481-8100

Product Type: Covered Electrode

Classification: AWS E7018

SECTION II - HAZARDOUS MATERIALS (1)

IMPORTANT!

This section covers the materials from which this product is manufactured. The fumes and gases produced during welding with the normal use of this product are covered by Section V; see it for industrial hygiene information.
CAS Number shown is representative for the ingredients listed. All ingredients listed may not be present in all sizes.
(1) The term 'hazardous' in 'Hazardous Materials' should be interpreted as a term required and defined in the Hazards Communication Standard and does not necessarily imply the existence of any hazard.

Ingredients:	CAS No.	Wt.%	TLV mg/m³	PEL mg/m³
Iron	7439-89-6	15	10*	10*
Limestone and/or calcium carbonate	1317-65-3	10	10	15
Fluorides (as F)	7789-75-5	< 5	2.5	2.5
Silicates and other binders	1344-09-8	< 5	10*	10*
Manganese and/or manganese alloys and compounds (as Mn)***	7439-96-5	< 5	0.2	1.0(c)
Titanium dioxides (as Ti)***	13463-67-7	< 5	10	10
Silicon and/or silicon alloys and compounds (as Si)	7440-21-3	1	10*	10*
Mineral silicates	1332-58-7	1	5**	5**
Aluminum oxide and/or Bauxite***	1344-28-1	0.5	10	10
Zinc and/or zinc oxides***	1314-13-2	< 0.5	10	10
Carbon steel core wire	7439-89-6	55	10*	10*

Supplemental Information: (*) Not listed. Nuisance value maximum is 10 milligrams per cubic meter. PEL value for iron oxide is 10 mg/m³. TLV value for iron oxide is 5 milligrams per cubic meter. (**) As respirable dust.

(***) Subject to the reporting requirements of Sections 311, 312, and 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40CFR 370 and 372.

(c) Values are for manganese fume. STEL (Short Term Exposure Limit) is 3.0 milligrams per cubic meter.

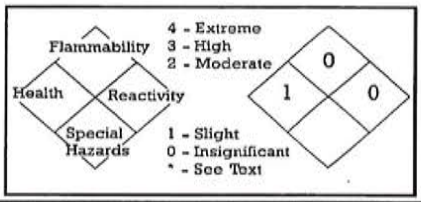
SECTION III - FIRE AND EXPLOSION HAZARD DATA

Non Flammable; Welding arc and sparks can ignite combustibles and flammable products. See Z49.1 referenced in Section VI.

(CONTINUED ON SIDE TWO)

Product: Airco Easy Arc 7018 MR

Date: 4/5/96



SECTION IV - HEALTH HAZARD DATA

Threshold Limit Value: The ACGIH recommended general limit for Welding Fume NOC - (Not Otherwise Classified) is 5 mg/m^3. ACGIH-1987-88 preface states that the TLV-TWA should be used as guides in the control of health hazards and should not be used as fine lines between safe and dangerous concentrations. See Section V for specific fume constituents which may modify this TLV. Threshold Limit Values are figures published by the American Conference of Government Industrial Hygienists. Units are milligrams per cubic meter of air.

Effects of Overexposure: Electric arc welding may create one or more of the following health hazards:
Fumes and Gases can be dangerous to your health. Common entry is by inhalation. Other possible routes are skin contact and ingestion.

Short-term (acute) overexposure to welding fumes may result in discomfort such as metal fume fever, dizziness, nausea, or dryness or irritation of nose, throat, or eyes. May aggravate pre-existing respiratory problems (e.g. asthma, emphysema). Exposure to extremely high levels of fluorides can cause abdominal pain, diarrhea, muscular weakness, and convulsions. In extreme cases it can cause loss of consciousness and death.

Long-term (chronic) overexposure to welding fumes can lead to siderosis (iron deposits in lung) and may affect pulmonary function. Manganese overexposure can affect the central nervous system, resulting in impaired speech and movement. Bronchitis and some lung fibrosis have been reported. Repeated exposure to fluorides may cause excessive calcification of the bone and calcification of ligaments of the ribs, pelvis and spinal column. May cause skin rash.

Arc Rays can injure eyes and burn skin. *Skin cancer has been reported.*
Electric Shock can kill. If welding must be performed in damp locations or with wet clothing, on metal structures or when in cramped positions such as sitting, kneeling or lying, if there is a high risk of unavoidable or accidental contact with workpiece, use the following equipment: Semiautomatic DC Welder, DC Manual (Stick) Welder, or AC Welder with Reduced Voltage Control.

Emergency and First Aid Procedures: Call for medical aid. Employ first aid techniques recommended by the American Red Cross.
IF BREATHING IS DIFFICULT give oxygen. IF NOT BREATHING employ CPR (Cardiopulmonary Resuscitation) techniques.
IN CASE OF ELECTRICAL SHOCK, turn off power and follow recommended treatment. In all cases call a physician.

SECTION V - REACTIVITY DATA

Hazardous Decomposition Products: Welding fumes and gases cannot be classified simply. The composition and quantity of both are dependent upon the metal being welded, the process, procedure and electrodes used.

Other conditions which also influence the composition and quantity of the fumes and gases to which workers may be exposed include: coatings on the metal being welded (such as paint, plating, or galvanizing), the number of welders and the volume of the worker area, the quality and amount of ventilation, the position of the welder's head with respect to the fume plume, as well as the presence of contaminants in the atmosphere (such as chlorinated hydrocarbon vapors from cleaning and degreasing activities.)

When the electrode is consumed, the fume and gas decomposition products generated are different in percent and form from the ingredients listed in Section II. Decomposition products of normal operation include those originating from the volatilization, reaction, or oxidation of the materials shown in Section II, plus those from the base metal and coating, etc., as noted above.

Reasonably expected fume constituents of this product would include: Primarily iron oxide and fluorides; secondarily complex oxides of manganese, potassium, silicon, sodium and zinc.

Maximum fume exposure guideline for this product (based on manganese content) is 4.0 milligrams per cubic meter.

Gaseous reaction products may include carbon monoxide and carbon dioxide. Ozone and nitrogen oxides may be formed by the radiation from the arc.

Determine the composition and quantity of fumes and gases to which workers are exposed by taking an air sample from inside the welder's helmet if worn or in the worker's breathing zone. Improve ventilation if exposures are not below limits. See ANSI/AWS F1.1, F1.2, F1.4, and F1.5, available from the American Welding Society, 550 N.W. LeJeune Road, Miami, FL 33126.

SECTION VI AND VII
CONTROL MEASURES AND PRECAUTIONS FOR SAFE HANDLING AND USE

Read and understand the manufacturer's instruction and the precautionary label on the product. Request Lincoln Safety Publication E205. See American National Standard Z49.1, 'Safety In Welding and Cutting' published by the American Welding Society, 550 N.W. LeJeune Road, Miami, FL, 33126 and OSHA Publication 2206 (29CFR1910), U.S. Government Printing Office, Washington, D.C. 20402 for more details on many of the following:

Ventilation: Use enough ventilation, local exhaust at the arc, or both to keep the fumes and gases from the worker's breathing zone and the general area. Train the welder to keep his head out of the fumes. *Keep exposure as low as possible.*

Respiratory Protection: Use respirable fume respirator or air supplied respirator when welding in confined space or general work area when local exhaust or ventilation does not keep exposure below TLV.

Eye Protection: Wear helmet or use face shield with filter lens shade number 12 or darker. Shield others by providing screens and flash goggles.

Protective Clothing: Wear hand, head, and body protection which help to prevent injury from radiation, sparks and electrical shock. See Z49.1. At a minimum this includes welder's gloves and a protective face shield, and may include arm protectors, aprons, hats, shoulder protection, as well as dark substantial clothing. Train the welder not to permit electrically live parts or electrodes to contact skin . . . or clothing or gloves if they are wet. Insulate from work and ground.

Disposal Information: Discard any product, residue, disposable container, or liner as ordinary waste in an environmentally acceptable manner according to Federal, State and Local Regulations unless otherwise noted.

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Identification of substance / preparation
Product identifier : Agglomerated flux (SAW)
Product name : FX 761, FX 780, FX781, FX 782, FX 839, FX 8500, FX860, FX 888, FX 960, FX 980, FX 995N, FX 998N, LW 610, LW 610-F, LW 642, LW 642-F, P223, P230, P240, AS-96-S, FX 880M, FX 842-H, MIL 800H, LW 700, FX708GB, FXWTX, TATA0412

1.2 Use of substance / preparation
Use of substance/preparation : Submerged Arc Welding
Main use category : Industrial use – Professional use
Industrial category : Welding

1.3 Company / undertaking identification
Supplier : Lincoln Electric Europe B.V.
Nieuwe Dukenburgseweg 20
6534AD Nijmegen
The Netherlands
Company role : Producer - Supplier
Company telephone number : +31 243 522 911
Web : www.lincolnelectric.eu

2. HAZARDS IDENTIFICATION

2.1 Classification and General Hazards
Submerged arc fluxes mentioned in this MSDS do not contain nickel. They are not classified as hazardous to health and environment according to present regulation.

2.2 Label elements
Submerged Arc fluxes in this product form do not require labeling under current chemical product classification and labeling regulations, if they are not classified as hazardous to health and environment

2.3 Other hazards
Processes which generate particulates during welding can cause hazards to health or environmental effects and they may cause an allergic reaction on contact with skin or by inhalation. The submerged arc fluxes do not meet the criteria for PBT or vPvB in accordance with Annex XIII.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance / Preparation
For information on each substance in the submerged arc fluxes, see 3.2.

3.2 Mixture
The substances in the preparation are as follows (see section 15. Regulatory Information for text applicable H-phrases):

Ingredient	CAS nr	EINICS nr	Hazard statements	Concentration Max weight%
Bauxite	1344-28-1	215-691-6	N.A.	45
Rutile	1317-80-2	215-282-2	N.A.	35
Magnesite	1309-48-4	215-171-9	N.A.	35
Quartz	14808-60-7	238-878-4	H332; H373	30
Zircon	12036-23-6	234-843-2	N.A.	30
Fluorspar	7789-75-5	14542-23-5	N.A.	25
Silicate	1312-76-1	215-199-1	H315; H319; H335	25
Manganese ore	1317-35-7	215-266-5	N.A.	20
Wollastonite	13983-17-0	237-772-5	N.A.	10
Si and/or Si-alloys and compounds (as Si)	7440-21-3	231-130-8	N.A.	5
Mn and/or Mn-alloys and compounds (as Mn)	7439-96-5	231-105-1	N.A.	5
Calciumcarbonate	1317-65-3	215-279-6	N.A.	5

4. FIRST AID MEASURES

Submerged arc fluxes in themselves or particles from the electrode are not judged as acute toxic. An average content in the air of a single substance at the level of the limit considered, with current knowledge, generally not present any risk of

injury or discomfort. It is nevertheless important to strive to keep all air pollutants as low as possible during the exposure limit.
A particularly important situation is that if someone is exposed to multiple air pollutants simultaneously or exposed to air pollution related to heavy work. There is no indication of immediate medical attention or special treatment for the submerged arc fluxes

General	: Show this safety data sheet to the doctor on duty
Inhalation	: When breathing is difficult, provide fresh air and contact physician
Skin contact	: For skin burns from arc radiation, seek medical attention.
Eye contact	: For radiation burns due to arc flash, seek medical attention.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media
The submerged arc fluxes are non-combustible as a solid. Where metal dust or powder is involved, cover with dry sand, chemical powder, or other dry inert material to minimize the risk of explosion.

5.2 Advice for fire-fighter
Use ordinary safety equipment.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Not applicable to submerged arc fluxes in solid form. In particulate form, wear personal protective equipment as specified in Section 8. Avoid contact with the skin. Do not inhale dust.

6.2 Environmental precautions
Collect powder using a vacuum cleaner or by gentle sweeping to keep dust away from drains, surface and ground water. Prevent particulates from entering watercourses or drains. Avoid formation of dust clouds.

6.3 Methods and material for containment and cleaning up
Collect powder using a vacuum cleaner or by gentle sweeping.

6.4 Reference to other sections
See also section 8.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
No special precautions necessary for submerged arc fluxes in solid form other than normal physical handling techniques. Extraction should be used when working with particulate material (dust, fumes, mist). Avoid prolonged inhalation of dust. Wear gloves to avoid contact with skin (see Section 8).
Do not to eat, drink or smoke in work areas and wash hands / shower when leaving the working areas.

7.2 Conditions for safe storage, including any incompatibilities
Store in a dry environment.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Read and understand the "Recommendations for Exposure Scenarios, Risk Management Measures and to identify Operational Conditions under which metals, alloys and metallic articles may be safely welded", available from your supplier.
Welding/Brazing produces fumes which can affect human health and the environment. Fumes are a varying mixture of airborne gases and fine particles which, if inhaled or swallowed, constitute a health hazard. The degree of risk will depend on the composition of the fume, concentration of the fume and duration of exposure. The fume composition is dependent upon the material being worked, the process and consumables being used, coatings on the work such as paint, galvanizing or plating, oil or contaminants from cleaning and degreasing activities. A systematic approach to the assessment of exposure is necessary, taking into account the particular circumstances for the operator and ancillary worker that can be exposed.

Considering the emission of fumes when welding, brazing or cutting of metals, it is recommended to
1- Arrange risk management measures through applying general information and guidelines provided by this exposure scenario and
2- Using the information provided in this MSDS.

The employer shall ensure that the risk from welding fumes to the safety and health of workers is eliminated or reduced to a minimum. The following principle shall be applied:

1- Select the applicable process/material combinations with the lowest class, whenever possible.
2- Set welding process with the lowest emission parameter.
3- Apply the relevant collective protective measure in accordance with class number. In general, the use of PPE is taken into account after all other measures is applied.
4- Wear the relevant personal protective equipment in accordance with the duty cycle.

In addition, compliance with the National Regulations regarding the exposure to welding fumes of welders and related personnel shall be verified.

8.1. Control parameters
MAC, PEL, TLV values vary per element as well as per country. Check your national limit values.

8.2 Exposure control
Always check the applicability of any protective equipment with your supplier.

8.2.1 Eye/face protection
Always wear eye protection when handling dusts and other particulates, egg safety glasses with side protection, safety goggles or visor.

8.2.2 Skin protection
Always wear protective clothing when handling dusts and other particulates.

8.2.3 Hand protection
Wear hand protection, egg leather gloves when handling the SAW process to avoid cuts. Always wear disposable nitrile or vinyl gloves when handling particulate material to avoid skin contact. Where necessary wear the disposable gloves under work gloves to protect against both types of hazard.

8.2.4 Respiratory protection
Submerged arc fluxes delivered in solid form give no health risk through inhalation. Extraction should be used when working with particulate material (dust, fumes, mist). In case of prolonged or frequent exposure to particulates, wear particle filter mask (like for instance P3).

8.2.5 General hygiene measures
Wash hands well with soap and water after handling dusty materials. Wash contaminated clothing to avoid secondary contamination or contamination of other personnel.

8.2.6 Thermal hazards
Ensure adequate ventilation to keep levels of air-borne particles below occupational exposure limits given above. Working areas should be provided with extraction. Factories should be kept clean to avoid any unnecessary contamination.

8.2.7 Environmental exposure control
Avoid letting dust and fumes entering the outside air.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	: Agglomerated grains
Odor	: Odorless
Melting- / freezing point	: 1200 -1500°C
Density	: 1.0 - 1.5 kg/dm^3

Note: These are typical values and do not constitute a specification.

9.2 Other information
No other physical or chemical parameters are necessary for submerged arc fluxes.

10. STABILITY/REACTIVITY

10.1 Reactivity
Submerged arc fluxes are stable. Any reaction should not take place under normal circumstances.

10.2 Chemical stability
Submerged arc fluxes are stable under normal conditions.

10.3 Possibility of hazardous reactions
See section 8

10.4 Conditions to avoid
No special conditions need to be avoided for submerged arc fluxes, however keep dust and fumes from entering the environment.

10.5 Incompatible materials
Contact with acids can generate explosive gasses, egg hydrogen.

10.6 Hazardous decomposition products
Submerged arc fluxes rods are stable under normal conditions

11. TOXICOLOGICAL INFORMATION

11.1 General
Inhalation of welding fumes, dust and gases can be hazardous for health.

11.2 Chronic toxicity
Overexposure to welding fumes and dust may affect pulmonary function. Welding fumes and dust may contain chromium, and nickel compounds which are suspected of being cancer causing agents.

11.2 Acute toxicity
Overexposure to welding fumes and dust may result in symptoms like dizziness, nausea, dryness or irritation of the nose, throat or eyes.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Submerged arc fluxes may contain metals which are considered to be toxic towards aquatic organisms.

12.2 Persistence and degradability
Submerged arc fluxes consist of elements that cannot degrade any further in the environment.

12.3 Mobility in soil
Submerged arc fluxes are not soluble in water or soil. Particles formed by working welding rods can be transported in the air.

12.4 Results of PBT and vPvB assessment
No chemical safety report is required for the submerged arc fluxes. Neither the submerged arc fluxes in itself or the substances that it consist of, meet the criteria for PBT or vPvB in accordance with REACH, Annex XIII.

12.5 Other adverse effects
In massive form, submerged arc fluxes present no hazards to the aquatic environment. Particles and ions can, never the less, enter the aquatic compartment by means of dusts or smoke, or by liberation due to erosion thereby introducing iron or heavy metals into the ground or water.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Non-contaminated waste from production and submerged arc fluxes are recyclable. The unused product is not classified as hazardous waste. Dispose in accordance with appropriate government regulations.
Any residues of finely divided product (particles, dust, fumes) may be are regarded as Hazardous Waste, depending on local regulations.

13.2 EU and Local legislation
The recommendations given are considered appropriate for safe disposal. However, local regulations may be more stringent and these must be complied with. EURAL CODE : 120113

14. TRANSPORT INFORMATION

14.1 UN number
Submerged arc fluxes are not classified as dangerous goods for transport and have no UN number.

14.2 UN proper shipping name
Submerged arc fluxes are not classified as dangerous goods for transport and have no UN proper shipping name

14.3 Transport hazard class(es)
Submerged arc fluxes are not classified as dangerous goods for transport.

14.4 Packing group
There are no any special precautions with which a user should or must comply or be aware of in connection with transport or conveyance either within or outside his premises.

14.5 Environmental hazards
Submerged arc fluxes are not environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID and ADN) and/or a marine pollutant according to the IMDG Code.

14.6 Special precautions for user
There are no any special precautions which a user should or must comply or be aware of in connection with transport or conveyance either within or outside his premises of the welding rods.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Submerged arc fluxes in massive form are not subject to MARPOL73/78 and the IBC Code.

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
Prepared according to EU Directives 2015/830. Classifications mentioned in section 3 concerns substances in their crushed form. Welding electrodes in massive form do not require labeling under current chemical product classification and labeling regulations, if they are not classified as hazardous to health and environment. Welding electrodes in particulate form egg dust, fumes, mist may cause an allergic reaction on contact with skin or if inhaled.

15.2 Chemical Safety Assessment
No chemical safety assessment has been carried out for the product.

15.3 Full text of H-phrases used in Section 3
H315 – Causes skin irritation.
H319 – Causes serious eye irritation.
H332 – Harmful if inhaled.
H335 – May cause respiratory irritation.
H373 – May cause damage to organs through prolonged or repeated exposure

16. OTHER INFORMATION

Protect yourself and others. Take precautions when welding. Follow your employers' safety practice, which should be based on manufacturer's hazard data available to your employer. Fumes and gases can be dangerous to your health. Arc rays can injure eyes and burn skin. Electric shock can kill. Read and understand the manufacturer's instructions and your employer's safety practices. Keep your head out of the fumes. Use enough ventilation, exhaust at the arc, or both, to keep fumes and gases from your breathing zone, and the general area. Wear correct eye, ear and body protection. Do not touch live electrical parts. U.K.: see WMA No.236 and 237 and HSE Guidance Note EH 40. U.S.A.: See American Standard Z 49.1 "Safety in Welding and Cutting", published by the American Welding Society, 550 Le Jeune Rd, Miami, Florida 33126-5699; OSHA Safety and Health Standards, 29 CFR 1910, available from U.S. Government printing office, Washington D.C. 20402-0001.
All national/local prescriptions remain applicable. The data given in this sheet relate to the unused product, unless specified otherwise. During usage dangerous products can be formed (welding fume, radiation, etc.).

General Disclaimer
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

REACH Disclaimer
This information is based on current knowledge. Consistency of data in the SDS with CSR is considered, as far as the information is available at the time of compilation.

MATERIAL SAFETY DATA SHEET

1. Product and Company Identification

Material name	**LPS® Belt Dressing**
Version #	01
Issue date	09-24-2012
CAS #	Mixture
Part Number	02216
Product use	A non-chlorinated, non-drying, water resistant spray dressing for extending the life of rubber drive belts by improving traction and allowing runs under reduced belt tension.
Manufacturer information	LPS Laboratories, a division of Illinois Tool Works 4647 Hugh Howell Rd Tucker, GA 30084 United States www.lpslabs.com 1-800-241-8334 / 770-243-8800 Chemtrec 1-800-424-9300

2. Hazards Identification

Emergency overview	DANGER Flammable gas. CONTENTS UNDER PRESSURE. Aerosol. Pressurized container may explode when exposed to heat or flame. May cause flash fire or explosion. Will be easily ignited by heat, spark or flames. May be fatal if absorbed through skin. May be fatal if inhaled. Prolonged exposure may cause chronic effects.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Routes of exposure	Inhalation. Ingestion. Skin contact. Eye contact.
Eyes	Very toxic in contact with eyes. Do not get this material in contact with eyes.
Skin	Very toxic in contact with skin. Do not get this material in contact with skin.
Inhalation	Very toxic by inhalation. Intentional misuse by concentrating and inhaling the product can be harmful or fatal. Prolonged inhalation may be harmful. Avoid breathing dust/fume/gas/mist/vapors/spray.
Ingestion	Very toxic if swallowed. Exposure by ingestion of an aerosol is unlikely. Components of the product may be absorbed into the body by ingestion. Do not ingest.
Target organs	Central nervous system. Eyes. Respiratory system. Skin.
Chronic effects	May cause central nervous system disorder (e.g., narcosis involving a loss of coordination, weakness, fatigue, mental confusion and blurred vision) and/or damage.
Signs and symptoms	Narcosis. Decrease in motor functions. Behavioral changes.

3. Composition / Information on Ingredients

Components	CAS #	Percent
2-Methylpentane	107-83-5	20 - 40
2,3-Dimethylbutane	79-29-8	10 - 20
3-Methylpentane	96-14-0	10 - 20
Propane	74-98-6	10 - 20
2,2-Dimethylbutane	75-83-2	2.5 - 10
Isobutane	75-28-5	2.5 - 10
N-Butane	106-97-8	2.5 - 10

Components	CAS #	Percent
N-hexane	110-54-3	1 - 2.5
Other components below reportable levels		10 - 20

4. First Aid Measures

First aid procedures

Eye contact — Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention immediately.

Skin contact — Immediately flush skin with plenty of water. Get medical attention immediately. For minor skin contact, avoid spreading material on unaffected skin. Wash clothing separately before reuse.

Inhalation — Move to fresh air. Call a physician or poison control center immediately.

Ingestion — IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Never give anything by mouth to a victim who is unconscious or is having convulsions. Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to physician — Symptoms may be delayed.

General advice — Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Immediate medical attention is required.

5. Fire Fighting Measures

Flammable properties — Flammable by OSHA criteria. Heat may cause the containers to explode. Vapors may travel considerable distance to a source of ignition and flash back. Runoff to sewer may cause fire or explosion hazard.

Extinguishing media

Suitable extinguishing media — Water. Foam. Carbon dioxide (CO2). Powder.

Unsuitable extinguishing media — Do not use a solid water stream as it may scatter and spread fire.

Protection of firefighters

Specific hazards arising from the chemical — Fire may produce irritating, corrosive and/or toxic gases.

Protective equipment and precautions for firefighters — Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

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. Containers should be cooled with water to prevent vapor pressure build up. Use water spray to cool unopened containers. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

Specific methods — In the event of fire and/or explosion do not breathe fumes. Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out.

6. Accidental Release Measures

Personal precautions — Keep unnecessary personnel away. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Keep upwind. Keep out of low areas. Ventilate closed spaces before entering them.

Methods for containment — ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. 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.

Methods for cleaning up — Stop the flow of material, if this is without risk. Isolate area until gas has dispersed. Following product recovery, flush area with water. For waste disposal, see section 13 of the MSDS.

7. Handling and Storage

Handling

Vapors may form explosive mixtures with air. Pressurized container: Do not pierce or burn, even after use. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Ground and bond containers when transferring material. Do not use if spray button is missing or defective. Do not re-use empty containers. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. Wear personal protective equipment. Use only in area provided with appropriate exhaust ventilation. Avoid prolonged exposure.

Storage

Level 3 Aerosol.

Store locked up. Contents under pressure. The pressure in sealed containers can increase under the influence of heat. Do not expose to heat or store at temperatures above 120°F/49°C as can may burst. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Avoid exposure to long periods of sunlight. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

8. Exposure Controls / Personal Protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
2,2-Dimethylbutane (75-83-2)	STEL	1000 ppm
	TWA	500 ppm
2,3-Dimethylbutane (79-29-8)	STEL	1000 ppm
	TWA	500 ppm
2-Methylpentane (107-83-5)	STEL	1000 ppm
	TWA	500 ppm
3-Methylpentane (96-14-0)	STEL	1000 ppm
	TWA	500 ppm
Isobutane (75-28-5)	TWA	1000 ppm
N-Butane (106-97-8)	TWA	1000 ppm
N-hexane (110-54-3)	TWA	50 ppm
Propane (74-98-6)	TWA	1000 ppm

US. ACGIH. BEIs. Biological Exposure Indices

Components	Type	Value
N-hexane (110-54-3)	BEI	0.4 mg/l

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

Components	Type	Value
N-hexane (110-54-3)	PEL	1800 mg/m3 500 ppm
Propane (74-98-6)	PEL	1800 mg/m3 1000 ppm

Exposure guidelines

US ACGIH Threshold Limit Values: Skin designation

N-hexane (CAS 110-54-3) — Can be absorbed through the skin.

Engineering controls

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.

Personal protective equipment

Eye / face protection

Chemical goggles are recommended. Eye wash fountain is recommended.

Skin protection

Normal work clothing (long sleeved shirts and long pants) is recommended. Chemical resistant gloves.

Respiratory protection

If permissible levels are exceeded use NIOSH mechanical filter / organic vapor cartridge or an air-supplied respirator.

General hygiene considerations	Do not get in eyes. Do not get this material in contact with skin. Keep away from food and drink. Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Liquid.
Physical state	Gas.
Form	Aerosol.
Color	ClearColorless
Odor	Ether-like.
Odor threshold	Not available.
pH	Not available.
Vapor pressure	352 mm Hg @ 38 °C
Vapor density	Not available.
Boiling point	141.8 °F (61 °C)
Solubility (water)	0 %
Specific gravity	0.67 - 0.69 @ 20 °C
Relative density	Not available.
Flash point	12.20 °F (-11.00 °C) Tag Closed Cup
Flammability limits in air, upper, % by volume	7 % estimated
Flammability limits in air, lower, % by volume	0.6 % estimated
Auto-ignition temperature	788 °F (420 °C) estimated
VOC	90 %
Evaporation rate	< 1 BuAc
Percent volatile	90 %
Partition coefficient (n-octanol/water)	3.2
Other data	
Flammability (solid, gas)	Flammable gas.
Flammability class	Flammable IB estimated

10. Chemical Stability & Reactivity Information

Chemical stability	Risk of explosion.
Conditions to avoid	Heat, flames and sparks. Avoid temperatures exceeding the flash point.
Incompatible materials	Strong oxidizing agents. Fluorine. Chlorine. Nitrates.
Hazardous decomposition products	No hazardous decomposition products are known.
Possibility of hazardous reactions	Hazardous polymerization does not occur.

11. Toxicological Information

Local effects	Very toxic by inhalation, in contact with skin and if swallowed.
Chronic effects	Hazardous by OSHA criteria. Prolonged inhalation may be harmful. Repeated absorption may cause disorder of central nervous system, liver, kidneys and blood. Prolonged exposure may cause chronic effects.
Neurological effects	Hazardous by OSHA criteria.
Further information	Symptoms may be delayed.

12. Ecological Information

Persistence and degradability	Not available.
Bioaccumulation / Accumulation	

Bioaccumulative potential

Octanol/water partition coefficient log Kow

LPS® Belt Dressing	3.2
Propane	2.36
Isobutane	2.76
N-Butane	2.89
2,3-Dimethylbutane	3.42
3-Methylpentane	3.6
2-Methylpentane	3.74
2,2-Dimethylbutane	3.82
N-hexane	3.9

Partition coefficient

LPS® Belt Dressing	3.2
Propane	2.36
Isobutane	2.76
N-Butane	2.89
2,3-Dimethylbutane	3.42
3-Methylpentane	3.6
2-Methylpentane	3.74
2,2-Dimethylbutane	3.82
N-hexane	3.9

13. Disposal Considerations

Waste codes

D001: Waste Flammable material with a flash point <140 F
D003: Waste Reactive material

Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. Incinerate the material under controlled conditions in an approved incinerator. Dispose in accordance with all applicable regulations.

Contaminated packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers.

14. Transport Information

DOT

Basic shipping requirements:

UN number	UN1950
Proper shipping name	Aerosols, flammable
Hazard class	2.1
Environmental hazards	
Marine pollutant	NO
Special precautions	Read safety instructions, MSDS and emergency procedures before handling.
Additional information:	
Special provisions	N82
Packaging exceptions	306
Packaging non bulk	None
Packaging bulk	None

IATA

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	2.1
Environmental hazards	NO
Labels required	2.1

IMDG

UN number	UN1950
UN proper shipping name	Aerosols, flammable
Transport hazard class(es)	2.1
Environmental hazards	
Marine pollutant	NO
Labels required	2.1

DOT

IATA; IMDG

15. Regulatory Information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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

Not regulated.

DEA Essential Chemical Code Number

Not regulated.

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

Not regulated.

DEA Exempt Chemical Mixtures Code Number

Not regulated.

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

N-hexane (CAS 110-54-3)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

N-hexane (CAS 110-54-3)	Listed.

CERCLA (Superfund) reportable quantity

2-Methylpentane: 100.0000
2,3-Dimethylbutane: 100.0000
3-Methylpentane: 100.0000
Propane: 100.0000
2,2-Dimethylbutane: 100.0000
Isobutane: 100.0000
N-Butane: 100.0000
N-hexane: 5000.0000

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - Yes Reactivity Hazard - No
Section 302 extremely hazardous substance	No
Section 311 hazardous chemical	No

Inventory status

Country(s) or region	Inventory name	On inventory (yes/no)
Australia	Australian Inventory of Chemical Substances (AICS)	Yes

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

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

State regulations

US - New Jersey RTK - Substances: Listed substance

2,2-Dimethylbutane (CAS 75-83-2)	Listed.
2,3-Dimethylbutane (CAS 79-29-8)	Listed.
2-Methylpentane (CAS 107-83-5)	Listed.
Isobutane (CAS 75-28-5)	Listed.
N-Butane (CAS 106-97-8)	Listed.
N-hexane (CAS 110-54-3)	Listed.
Propane (CAS 74-98-6)	Listed.

US - Pennsylvania RTK - Hazardous Substances: Listed substance

2,2-Dimethylbutane (CAS 75-83-2)	Listed.
2,3-Dimethylbutane (CAS 79-29-8)	Listed.
2-Methylpentane (CAS 107-83-5)	Listed.
3-Methylpentane (CAS 96-14-0)	Listed.
Isobutane (CAS 75-28-5)	Listed.
N-Butane (CAS 106-97-8)	Listed.
N-hexane (CAS 110-54-3)	Listed.
Propane (CAS 74-98-6)	Listed.

16. Other Information

Further information
HMIS® is a registered trade and service mark of the NPCA.

HMIS® ratings
Health: 1*
Flammability: 4
Physical hazard: 2

NFPA ratings
Health: 1
Flammability: 4
Instability: 0

Disclaimer
The information in the sheet was written based on the best knowledge and experience currently available.

This data sheet contains changes from the previous version in section(s):
Product and Company Identification: Product Uses
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Transport Information: Proper Shipping Name/Packing Group
Regulatory Information: United States

*

1 Identification

· **Product identifier**

· **Product Name:** WINZER Etch-Weld Black Primer

· **Product Number:** 890.7761
· **SDS Number:** 890.7761.7

· **Relevant identified uses of the substance or mixture and uses advised against:** None

· **Application of the substance / the mixture:** Coating

· **Manufactured For:** Winzer Corporation
4060 E. Plano Parkway
Plano, TX 75074

Information Phone Number: 800-527-4126

Emergency Phone Number: INFOTRAC 1-800-535-5053

*

2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS02 Flame

Flam. Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurized container: May burst if heated.

GHS08 Health hazard

Muta. 1A	H340	May cause genetic defects.
Carc. 1A	H350	May cause cancer.
Repr. 1B	H360	May damage fertility or the unborn child.

GHS07

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.

· **Label elements**
· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS07 GHS08

· **Signal word** Danger

(Contd. on page 2)

(Contd. of page 1)

· **Hazard-determining components of labeling:**
Petroleum gases, liquefied, sweetened
toluene
Quartz (SiO2)
3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine
· **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurized container: May burst if heated.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H340 May cause genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H336 May cause drowsiness or dizziness.
· **Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P251 Pressurized container: Do not pierce or burn, even after use.
P211 Do not spray on an open flame or other ignition source.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 Specific treatment (see on this label).
P405 Store locked up.
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 regulations.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 4
Reactivity = 3

· **HMIS-ratings (scale 0 - 4)**

HEALTH	*1
FIRE	4
REACTIVITY	3

Health = *1
Fire = 4
Reactivity = 3

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

*
3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:**
Mixture: consisting of the following components.
Weight percentages

· **Dangerous components:**		
67-64-1	acetone	30 - 40%

(Contd. on page 3)

(Contd. of page 2)

68476-86-8	Petroleum gases, liquefied, sweetened	13 - 30%
79-20-9	methyl acetate	10 -13%
108-88-3	toluene	7 - 10%
	EPOXY RESIN	1.5 - 5%
1330-20-7	xylene	1.5 - 5%
	Resin NJTSRN 6784	
14808-60-7	Quartz (SiO2)	1.5 - 5%
12001-26-2	Mica	1-1.5%
143860-04-2	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	≤1%

· **SVHC**	
143860-04-2	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine

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4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:** If symptoms persist consult doctor.
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** CO2, sand, extinguishing powder. Do not use water.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

(Contd. on page 4)

(Contd. of page 3)

See Section 13 for disposal information.

7 Handling and storage

· **Precautions for safe handling**
No special measures required.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
· **Information about protection against explosions and fires:**
Do not spray on a naked flame or any incandescent material.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights. Do not pierce or burn, even after use.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Observe official regulations on storing packagings with pressurized containers.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Do not gas tight seal receptacle.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
67-64-1 acetone	
PEL	Long-term value: 2400 mg/m³, 1000 ppm
REL	Long-term value: 590 mg/m³, 250 ppm
TLV	Short-term value: (1782) NIC-1187 mg/m³, (750) NIC-500 ppm Long-term value: (1188) NIC-594 mg/m³, (500) NIC-250 ppm BEI
79-20-9 methyl acetate	
PEL	Long-term value: 610 mg/m³, 200 ppm
REL	Short-term value: 760 mg/m³, 250 ppm Long-term value: 610 mg/m³, 200 ppm
TLV	Short-term value: 757 mg/m³, 250 ppm Long-term value: 606 mg/m³, 200 ppm

(Contd. on page 5)

(Contd. of page 4)

108-88-3 toluene	
PEL	Long-term value: 200 ppm Ceiling limit value: 300; 500* ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm
TLV	Long-term value: 75 mg/m³, 20 ppm BEI

1330-20-7 xylene	
PEL	Long-term value: 435 mg/m³, 100 ppm
REL	Short-term value: 655 mg/m³, 150 ppm Long-term value: 435 mg/m³, 100 ppm
TLV	Short-term value: 651 mg/m³, 150 ppm Long-term value: 434 mg/m³, 100 ppm BEI

14808-60-7 Quartz (SiO2)	
PEL	see Quartz listing
REL	Long-term value: 0.05* mg/m³ *respirable dust; See Pocket Guide App. A
TLV	Long-term value: 0.025* mg/m³ *as respirable fraction

12001-26-2 Mica	
PEL	Long-term value: 20 mppcf ppm <1% crystalline silica
REL	Long-term value: 3* mg/m³ *respirable dust; containing < 1% quartz
TLV	Long-term value: 3* mg/m³ *as respirable fraction

· **Ingredients with biological limit values:**

67-64-1 acetone	
BEI	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

(Contd. on page 6)

(Contd. of page 5)

108-88-3 toluene	
BEI	0.02 mg/L Medium: blood Time: prior to last shift of workweek Parameter: Toluene 0.03 mg/L Medium: urine Time: end of shift Parameter: Toluene 0.3 mg/g creatinine Medium: urine Time: end of shift Parameter: o-Cresol with hydrolysis (background)
1330-20-7 xylene	
BEI	1.5 g/g creatinine Medium: urine Time: end of shift Parameter: Methylhippuric acids

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **Protection of hands:**
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 7)

(Contd. of page 6)

· **Eye protection:**

Tightly sealed goggles

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Liquid
Color:	According to product specification
· **Odor:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	55 °C
· **Flash point:**	-103 °C
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	455 °C
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	In use, may form flammable/explosive vapour-air mixture.
· **Explosion limits:**	
Lower:	1.9 Vol %
Upper:	16.0 Vol %
· **Vapor pressure at 20 °C:**	233 hPa
· **Density at 20 °C:**	0.84 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	64.2 %

(Contd. on page 8)

(Contd. of page 7)

VOC content:	37.4 % 542.6 g/l / 4.53 lb/gl
Solids content:	35.8 %
· **Other information**	No further relevant information available.

*

10 Stability and reactivity

· **Reactivity**
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

*

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
108-88-3 toluene		
Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
The product can cause inheritable damage.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
108-88-3	toluene	3
1330-20-7	xylene	3
14808-60-7	Quartz (SiO2)	1
100-41-4	ethylbenzene	2B
14807-96-6	Talc	2B
	BENTONITE	suspected carcinogen <2% 14808-60-7
1333-86-4	Carbon black	2B
111-76-2	2-butoxyethanol	3

· **NTP (National Toxicology Program)**		
14808-60-7	Quartz (SiO2)	K

(Contd. on page 9)

(Contd. of page 8)

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

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12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Harmful to fish
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Harmful to aquatic organisms
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.

*
14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1950
· **UN proper shipping name**	
· **DOT**	Aerosols, flammable
· **ADR**	1950 Aerosols
· **IMDG**	AEROSOLS
· **IATA**	AEROSOLS, flammable

(Contd. on page 10)

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· **Transport hazard class(es)**

· **DOT**

· **Class**	2.1
· **Label**	2.1

· **ADR**

· **Class**	2 5F Gases
· **Label**	2.1

· **IMDG, IATA**

· **Class**	2.1
· **Label**	2.1
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	Void
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Gases
· **EMS Number:**	F-D,S-U
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: 75 kg On cargo aircraft only: 150 kg
· **ADR**	
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity

(Contd. on page 11)

(Contd. of page 10)

· **UN "Model Regulation":** UN1950, Aerosols, 2.1

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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**
None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**	
108-88-3	toluene
1330-20-7	xylene
100-41-4	ethylbenzene
14807-96-6	Talc
	COBALT CARBOXYLATE
	ACRYLIC RESIN
111-76-2	2-butoxyethanol

· **TSCA (Toxic Substances Control Act):**	
67-64-1	acetone
68476-86-8	Petroleum gases, liquefied, sweetened
79-20-9	methyl acetate
108-88-3	toluene
1330-20-7	xylene
14808-60-7	Quartz (SiO2)
123-86-4	n-butyl acetate
100-41-4	ethylbenzene
14807-96-6	Talc
143860-04-2	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine
67762-90-7	FUMED SILICA
6915-15-7	malic acid
96-29-7	2-butanone oxime
64742-89-8	Solvent naphtha (petroleum), light aliph.
8052-41-3	Stoddard solvent

· **Proposition 65**

· **Chemicals known to cause cancer:**	
1330-20-7	xylene
14808-60-7	Quartz (SiO2)
100-41-4	ethylbenzene
1333-86-4	Carbon black

· **Chemicals known to cause reproductive toxicity for females:**	
108-88-3	toluene

(Contd. on page 12)

(Contd. of page 11)

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

108-88-3	toluene

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**

67-64-1	acetone	I
108-88-3	toluene	II
1330-20-7	xylene	I
100-41-4	ethylbenzene	D
111-76-2	2-butoxyethanol	NL

· **TLV (Threshold Limit Value established by ACGIH)**

67-64-1	acetone	A4
108-88-3	toluene	A4
1330-20-7	xylene	A4
14808-60-7	Quartz (SiO2)	A2
100-41-4	ethylbenzene	A3
14807-96-6	Talc	A4
1333-86-4	Carbon black	A4
111-76-2	2-butoxyethanol	A3

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

14808-60-7	Quartz (SiO2)
1333-86-4	Carbon black

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Petroleum gases, liquefied, sweetened
toluene
Quartz (SiO2)
3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine
· **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurized container: May burst if heated.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H340 May cause genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H336 May cause drowsiness or dizziness.

(Contd. on page 13)

(Contd. of page 12)

· **Precautionary statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P251	Pressurized container: Do not pierce or burn, even after use.
P211	Do not spray on an open flame or other ignition source.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	Specific treatment (see on this label).
P405	Store locked up.
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 regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 12/10/2014 / 4

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Aerosol 1: Flammable aerosols, Hazard Category 1
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
Muta. 1A: Germ cell mutagenicity, Hazard Category 1A
Carc. 1A: Carcinogenicity, Hazard Category 1A
Repr. 1B: Reproductive toxicity, Hazard Category 1B
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· ***** Data compared to the previous version altered.**

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1 Identification

· **Product identifier**

· **Product Name:** WINZER Etch-Weld Gray Primer

· **Product Number:** 890.7762
· **SDS Number:** 890.7762.7

· **Relevant identified uses of the substance or mixture and uses advised against:** None

· **Application of the substance / the mixture:** Coating

· **Manufactured For:** Winzer Corporation
4060 E. Plano Parkway
Plano, TX 75074

Information Phone Number: 800-527-4126

Emergency Phone Number: INFOTRAC 1-800-535-5053

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2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS02 Flame

Flam. Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurized container: May burst if heated.

GHS08 Health hazard

Muta. 1A	H340	May cause genetic defects.
Carc. 1A	H350	May cause cancer.
Repr. 1B	H360	May damage fertility or the unborn child.

GHS07

Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2A	H319	Causes serious eye irritation.
STOT SE 3	H336	May cause drowsiness or dizziness.

· **Label elements**
· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS07 GHS08

· **Signal word** Danger

(Contd. on page 2)

(Contd. of page 1)

· **Hazard-determining components of labeling:**
Petroleum gases, liquefied, sweetened
toluene
Quartz (SiO2)
3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine
· **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurized container: May burst if heated.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H340 May cause genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H336 May cause drowsiness or dizziness.
· **Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P251 Pressurized container: Do not pierce or burn, even after use.
P211 Do not spray on an open flame or other ignition source.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 Specific treatment (see on this label).
P405 Store locked up.
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 regulations.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 1
Fire = 4
Reactivity = 3

· **HMIS-ratings (scale 0 - 4)**

Health = *1
Fire = 4
Reactivity = 3

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:**
Mixture: consisting of the following components.
Weight percentages

· **Dangerous components:**		
67-64-1	acetone	30 - 40%

(Contd. on page 3)

(Contd. of page 2)

68476-86-8	Petroleum gases, liquefied, sweetened	13 - 30%
79-20-9	methyl acetate	10 -13%
108-88-3	toluene	7 - 10%
	EPOXY RESIN	1.5 - 5%
1330-20-7	xylene	1.5 - 5%
	Resin NJTSRN 6784	
14808-60-7	Quartz (SiO2)	1.5 - 5%
12001-26-2	Mica	1-1.5%
143860-04-2	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	≤1%

· **SVHC**

143860-04-2	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine

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4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:** If symptoms persist consult doctor.
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** CO2, sand, extinguishing powder. Do not use water.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** No special measures required.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.

(Contd. on page 4)

(Contd. of page 3)

See Section 13 for disposal information.

7 Handling and storage

· **Precautions for safe handling**
No special measures required.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
· **Information about protection against explosions and fires:**
Do not spray on a naked flame or any incandescent material.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights. Do not pierce or burn, even after use.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Store in a cool location.
Observe official regulations on storing packagings with pressurized containers.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Do not gas tight seal receptacle.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**	
67-64-1 acetone	
PEL	Long-term value: 2400 mg/m³, 1000 ppm
REL	Long-term value: 590 mg/m³, 250 ppm
TLV	Short-term value: (1782) NIC-1187 mg/m³, (750) NIC-500 ppm Long-term value: (1188) NIC-594 mg/m³, (500) NIC-250 ppm BEI
79-20-9 methyl acetate	
PEL	Long-term value: 610 mg/m³, 200 ppm
REL	Short-term value: 760 mg/m³, 250 ppm Long-term value: 610 mg/m³, 200 ppm
TLV	Short-term value: 757 mg/m³, 250 ppm Long-term value: 606 mg/m³, 200 ppm

(Contd. on page 5)

(Contd. of page 4)

108-88-3 toluene	
PEL	Long-term value: 200 ppm Ceiling limit value: 300; 500* ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm
TLV	Long-term value: 75 mg/m³, 20 ppm BEI
1330-20-7 xylene	
PEL	Long-term value: 435 mg/m³, 100 ppm
REL	Short-term value: 655 mg/m³, 150 ppm Long-term value: 435 mg/m³, 100 ppm
TLV	Short-term value: 651 mg/m³, 150 ppm Long-term value: 434 mg/m³, 100 ppm BEI
14808-60-7 Quartz (SiO2)	
PEL	see Quartz listing
REL	Long-term value: 0.05* mg/m³ *respirable dust; See Pocket Guide App. A
TLV	Long-term value: 0.025* mg/m³ *as respirable fraction
12001-26-2 Mica	
PEL	Long-term value: 20 mppcf ppm <1% crystalline silica
REL	Long-term value: 3* mg/m³ *respirable dust; containing < 1% quartz
TLV	Long-term value: 3* mg/m³ *as respirable fraction

· **Ingredients with biological limit values:**	
67-64-1 acetone	
BEI	50 mg/L Medium: urine Time: end of shift Parameter: Acetone (nonspecific)

(Contd. on page 6)

(Contd. of page 5)

108-88-3 toluene	
BEI	0.02 mg/L Medium: blood Time: prior to last shift of workweek Parameter: Toluene 0.03 mg/L Medium: urine Time: end of shift Parameter: Toluene 0.3 mg/g creatinine Medium: urine Time: end of shift Parameter: o-Cresol with hydrolysis (background)
1330-20-7 xylene	
BEI	1.5 g/g creatinine Medium: urine Time: end of shift Parameter: Methylhippuric acids

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
· **Protection of hands:**
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
· **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 7)

(Contd. of page 6)

· **Eye protection:**

Tightly sealed goggles

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Liquid
Color:	According to product specification
· **Odor:**	Characteristic
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	55 °C
· **Flash point:**	-103 °C
· **Flammability (solid, gaseous):**	Not applicable.
· **Ignition temperature:**	455 °C
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	In use, may form flammable/explosive vapour-air mixture.
· **Explosion limits:**	
Lower:	1.9 Vol %
Upper:	16.0 Vol %
· **Vapor pressure at 20 °C:**	233 hPa
· **Density at 20 °C:**	0.84 g/cm³
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
Organic solvents:	64.2 %

(Contd. on page 8)

(Contd. of page 7)

VOC content:	37.4 % 542.6 g/l / 4.53 lb/gl
Solids content:	35.8 %
· **Other information**	No further relevant information available.

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10 Stability and reactivity

· **Reactivity**
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

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11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
108-88-3 toluene		
Oral	LD50	5000 mg/kg (rat)
Dermal	LD50	12124 mg/kg (rabbit)
Inhalative	LC50/4 h	5320 mg/l (mouse)

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
The product can cause inheritable damage.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
108-88-3	toluene	3
1330-20-7	xylene	3
14808-60-7	Quartz (SiO2)	1
100-41-4	ethylbenzene	2B
14807-96-6	Talc	2B
	BENTONITE	suspected carcinogen <2% 14808-60-7
1333-86-4	Carbon black	2B
111-76-2	2-butoxyethanol	3

· **NTP (National Toxicology Program)**		
14808-60-7	Quartz (SiO2)	K

(Contd. on page 9)

(Contd. of page 8)

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

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12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Harmful to fish
· **Additional ecological information:**
· **General notes:**
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Harmful to aquatic organisms
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.

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14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN1950
· **UN proper shipping name**	
· **DOT**	Aerosols, flammable
· **ADR**	1950 Aerosols
· **IMDG**	AEROSOLS
· **IATA**	AEROSOLS, flammable

(Contd. on page 10)

(Contd. of page 9)

· **Transport hazard class(es)**

· **DOT**

· **Class**	2.1
· **Label**	2.1

· **ADR**

· **Class**	2 5F Gases
· **Label**	2.1

· **IMDG, IATA**

· **Class**	2.1
· **Label**	2.1
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	Void
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Gases
· **EMS Number:**	F-D,S-U
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **DOT**	
· **Quantity limitations**	On passenger aircraft/rail: 75 kg On cargo aircraft only: 150 kg
· **ADR**	
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **IMDG**	
· **Limited quantities (LQ)**	1L
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity

(Contd. on page 11)

(Contd. of page 10)

· **UN "Model Regulation":** UN1950, Aerosols, 2.1

*

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

108-88-3	toluene
1330-20-7	xylene
100-41-4	ethylbenzene
14807-96-6	Talc
	COBALT CARBOXYLATE
	ACRYLIC RESIN
111-76-2	2-butoxyethanol

· **TSCA (Toxic Substances Control Act):**

67-64-1	acetone
68476-86-8	Petroleum gases, liquefied, sweetened
79-20-9	methyl acetate
108-88-3	toluene
1330-20-7	xylene
14808-60-7	Quartz (SiO2)
123-86-4	n-butyl acetate
100-41-4	ethylbenzene
14807-96-6	Talc
143860-04-2	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine
67762-90-7	FUMED SILICA
6915-15-7	malic acid
96-29-7	2-butanone oxime
64742-89-8	Solvent naphtha (petroleum), light aliph.
8052-41-3	Stoddard solvent

· **Proposition 65**

· **Chemicals known to cause cancer:**

1330-20-7	xylene
14808-60-7	Quartz (SiO2)
100-41-4	ethylbenzene
1333-86-4	Carbon black

· **Chemicals known to cause reproductive toxicity for females:**

108-88-3	toluene

(Contd. on page 12)

(Contd. of page 11)

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**	
108-88-3	toluene

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**		
67-64-1	acetone	I
108-88-3	toluene	II
1330-20-7	xylene	I
100-41-4	ethylbenzene	D
111-76-2	2-butoxyethanol	NL

· **TLV (Threshold Limit Value established by ACGIH)**		
67-64-1	acetone	A4
108-88-3	toluene	A4
1330-20-7	xylene	A4
14808-60-7	Quartz (SiO2)	A2
100-41-4	ethylbenzene	A3
14807-96-6	Talc	A4
1333-86-4	Carbon black	A4
111-76-2	2-butoxyethanol	A3

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**	
14808-60-7	Quartz (SiO2)
1333-86-4	Carbon black

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
Petroleum gases, liquefied, sweetened
toluene
Quartz (SiO2)
3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine
· **Hazard statements**
H222-H229 Extremely flammable aerosol. Pressurized container: May burst if heated.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H340 May cause genetic defects.
H350 May cause cancer.
H360 May damage fertility or the unborn child.
H336 May cause drowsiness or dizziness.

(Contd. on page 13)

(Contd. of page 12)

· **Precautionary statements**

P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P251	Pressurized container: Do not pierce or burn, even after use.
P211	Do not spray on an open flame or other ignition source.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321	Specific treatment (see on this label).
P405	Store locked up.
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 regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Date of preparation / last revision** 12/10/2014 / 4

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Flam. Aerosol 1: Flammable aerosols, Hazard Category 1
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
Muta. 1A: Germ cell mutagenicity, Hazard Category 1A
Carc. 1A: Carcinogenicity, Hazard Category 1A
Repr. 1B: Reproductive toxicity, Hazard Category 1B
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3

· *** Data compared to the previous version altered.**

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/02/2013 Revised On 10/02/2013

1 Identification of the substance and manufacturer

Trade name: RED IRON OXIDE PRIMER

Product code: 890.8904

Manufacturer/Supplier:
Winzer Corporation
4060 E. Plano Parkway
Plano, TX 75074
phone: 1-800-527-4126

General Information: Health & Safety Department

Emergency telephone number: INFOTRAC 1-800-535-5053

2 Composition/information on ingredients

Chemical Description: This product is a mixture of the substances listed below with nonhazardous additions.

Dangerous components:		
67-64-1	Acetone	23.67%
74-98-6	propane	12.6%
108-88-3	Toluene	7.43%
106-97-8	n-butane	7.4%
64742-89-8	Solvent naphtha (petroleum), light aliphatic	5.99%
64-17-5	ethyl alcohol	3.88%
1330-20-7	xylene (mix)	3.4%
1309-37-1	red iron oxide pigment	3.22%
108-65-6	PM acetate	2.73%
123-86-4	n-butyl acetate	2.72%
64742-47-8	Mineral Spirits	1.99%
110-19-0	isobutyl acetate	1.54%

3 Hazard(s) identification

Hazard Information for people and the environment:
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50 °C, i.e. electric lights. Do not pierce or burn, even after use.
Extremely flammable liquid and vapor in a pressurized container. Keep away from heat, sparks, and flame.
Has narcotizing effect.

Risk phrases:
Extremely flammable.
Irritating to eyes.
Possible risk of harm to the unborn child
Vapours may cause drowsiness and dizziness

Safety phrases:
Keep locked up and out of the reach of children.
Keep away from sources of ignition - No smoking.
Do not breathe gas/fumes/vapour/spray.
Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point
Wear suitable protective clothing and gloves.
If swallowed, seek medical advice immediately and show this container or label.

Effects of chronic overexposure:
May cause permanent brain and nervous system damage. Repeated overexposure can also damage kidneys, lungs, liver, heart, and blood. Intentional misuse by deliberately inhaling the contents may be harmful or fatal.

NFPA ratings (0 - 4):
Health = 1
Fire = 4
Reactivity = 3

HMIS-ratings (0 - 4):
Health- 1
Flammability- 4
Physical Hazard-3

4 First-aid measures

After inhalation: Supply fresh air; consult doctor in case of complaints.

After skin contact: Remove contaminated clothing. Wash exposed area with soap and water.

After eye contact: Move to fresh air. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing: Contact physician or poison control center.

5 Fire-fighting measures

Extinguishing agents: CO2, sand, extinguishing powder, or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards: No further relevant information available.

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Safety Data Sheet
acc. to OSHA HCS

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Trade name: RED IRON OXIDE PRIMER

(Contd. of page 1)

Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.

Environmental precautions: Do not allow product to reach sewage systems or ground water.

Methods and material for containment and cleaning up: Ensure adequate ventilation.

7 Handling and storage

Fire/explosion protection: Do not spray on a naked flame or any incandescent material. Do not smoke. Protect from electrostatic discharges.

Storage requirements: Observe pressurized container storage regulations. Consult with your local authorities.

8 Exposure controls/personal protection

Components with limit values that require monitoring at the workplace:	
67-64-1 Acetone	
PEL	Long-term value: 2400 mg/m³, 1000 ppm
REL	Long-term value: 590 mg/m³, 250 ppm
TLV	Short-term value: (1782) NIC-1187 mg/m³, (750) NIC-500 ppm Long-term value: (1188) NIC-475 mg/m³, (500) NIC-200 ppm BEI
74-98-6 propane	
PEL	Long-term value: 1800 mg/m³, 1000 ppm
REL	Long-term value: 1800 mg/m³, 1000 ppm
TLV	refer to Appendix F: minimal oxygen content
108-88-3 Toluene	
PEL	Short-term value: C 300; 500* ppm Long-term value: 200 ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m³, 150 ppm Long-term value: 375 mg/m³, 100 ppm
TLV	Long-term value: 75 mg/m³, 20 ppm BEI
106-97-8 n-butane	
REL	Long-term value: 1900 mg/m³, 800 ppm
TLV	Short-term value: 2370 mg/m³, 1000 ppm
64-17-5 ethyl alcohol	
PEL	Long-term value: 1900 mg/m³, 1000 ppm
REL	Long-term value: 1900 mg/m³, 1000 ppm
TLV	Short-term value: 1880 mg/m³, 1000 ppm
1330-20-7 xylene (mix)	
PEL	Long-term value: 435 mg/m³, 100 ppm
REL	Short-term value: 655 mg/m³, 150 ppm Long-term value: 435 mg/m³, 100 ppm
TLV	Short-term value: 651 mg/m³, 150 ppm Long-term value: 434 mg/m³, 100 ppm BEI
108-65-6 PM acetate	
WEEL	Long-term value: 50 ppm
123-86-4 n-butyl acetate	
PEL	Long-term value: 710 mg/m³, 150 ppm
REL	Short-term value: 950 mg/m³, 200 ppm Long-term value: 710 mg/m³, 150 ppm
TLV	Short-term value: 950 mg/m³, 200 ppm Long-term value: 713 mg/m³, 150 ppm
110-19-0 isobutyl acetate	
PEL	Long-term value: 700 mg/m³, 150 ppm
REL	Long-term value: 700 mg/m³, 150 ppm
TLV	Long-term value: 713 mg/m³, 150 ppm

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Safety Data Sheet
acc. to OSHA HCS

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Trade name: RED IRON OXIDE PRIMER

(Contd. of page 2)

Ingredients with biological limit values:

67-64-1 Acetone

BEI 50 mg/L
Medium: urine
Time: end of shift
Parameter: Acetone (nonspecific)

108-88-3 Toluene

BEI 0.02 mg/L
Medium: blood
Time: prior to last shift of workweek
Parameter: Toluene

0.03 mg/L
Medium: urine
Time: end of shift
Parameter: Toluene

0.3 mg/g creatinine
Medium: urine
Time: end of shift
Parameter: o-Cresol with hydrolysis (background)

1330-20-7 xylene (mix)

BEI 1.5 g/g creatinine
Medium: urine
Time: end of shift
Parameter: Methylhippuric acids

Hygienic protection: Keep away from foodstuffs and animal feed. Wash hands after use.
Breathing equipment: A respirator is generally not necessary when using this product outdoors or in large open areas. In cases where short and/or long term overexposure exists, a charcoal filter respirator should be worn. If you suspect overexposure conditions exist, please consult an authority on chemical hygeine.
Hand protection: Protective gloves. The glove material has to be impermeable and resistant to the substance. No glove recommendation can be given.
Eye protection: Tightly sealed goggles

9 Physical and chemical properties

Odor: Solvent
pH-value: Not determined.
Boiling point: -44 °C (-47 °F)
Flash point: -19 °C (-2 °F)
Flammability (solid, gaseous): Not applicable.
Auto igniting: Product is not self-igniting.
Danger of explosion: Stable at normal temperatures. Can may burst when exposed to temperatures exceeding 120 degrees fahrenheit.
In use, may form flammable/explosive vapour-air mixture.
Lower Explosion Limit: 1.7 Vol %
Upper Explosion Limit: 10.9 Vol %
Vapor Pressure: 40 PSI, 2750 hPa
Specific Gravity: Between 0.77 and 0.85 (Water equals 1.00)
VOC content: 576.8 g/l / 4.81 lb/gl
VOC content (less exempt solvents): 52.3 %
MIR Value: 1.13
Solids content: 23.6 %
Other information No further relevant information available.

10 Stability and reactivity

Conditions to avoid: Do not allow the can to exceed 120 degrees Fahrenheit. Stable at normal temperatures.
Hazardous decomposition: No dangerous decomposition products known.

11 Toxicological information

Skin effects: No irritant effect.
Eye effects: Irritating effect.
Sensitization: No sensitizing effects known.

(Contd. on page 4)

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Trade name: RED IRON OXIDE PRIMER

(Contd. of page 3)

Additional toxicological information:

Carcinogenic categories

IARC (International Agency for Research on Cancer)		
108-88-3	Toluene	3
64-17-5	ethyl alcohol	1
1330-20-7	xylene (mix)	3
1309-37-1	red iron oxide pigment	3
14807-96-6	Talc	2B

NTP (National Toxicology Program)
None of the ingredients is listed.

12 Ecological information

Aquatic toxicity: Hazardous for water, do not empty into drains.
Other information: This product does not contain any chlorofluorocarbons (CFC's), hydrochlorofluorocarbons (HCFC's), perfluorocarbons (PFC's), or chlorinated solvents.

13 Disposal considerations

Dispose of in accordance with local, state, and federal regulations. Do not puncture, incinerate, or compact. Partially empty cans must be disposed of responsibly. Do not heat or cut empty containers with electric or gas torches.
Recommendation: Completely empty cans should be recycled.

14 Transport information

UN-Number UN1950
DOT Consumer Commodity ORM-D
Aerosols, flammable
Class 2.1
Marine pollutant: No
EMS Number: F-D,S-U
Packaging Group: --

15 Regulatory information

SARA Section 355 (extremely hazardous substances):
None of the ingredients in this product are listed.

SARA Section 313 (Specific toxic chemical listings):	
108-88-3	Toluene
1330-20-7	xylene (mix)

TSCA: All ingredients are listed.
CPSC: This product complies with 16 CFR 1303 and does not contain more than 90 ppm of lead.

California Proposition 65 chemicals known to cause cancer:	
100-41-4	ethyl benzene
1333-86-4	Carbon black
108-10-1	methyl isobutyl ketone

California Proposition 65 chemicals know to cause developmental toxicity: 108-88-3 Toluene
67-56-1 Methanol

WHMIS Symbols for Canada:
A - Compressed gas
D2A - Very toxic material causing other toxic effects

EPA:		
67-64-1	Acetone	I
108-88-3	Toluene	II
1330-20-7	xylene (mix)	I
110-19-0	isobutyl acetate	D

ACGIH:		
67-64-1	Acetone	A4
108-88-3	Toluene	A4
64-17-5	ethyl alcohol	A3
1330-20-7	xylene (mix)	A4

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Trade name: RED IRON OXIDE PRIMER

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1309-37-1	red iron oxide pigment	A4
14807-96-6	Talc	A4
110-19-0	isobutyl acetate	A4

NIOSH:	
1333-86-4	Carbon black
13463-67-7	titanium dioxide

16 Other information

This product was manufactured in the U.S.A.
The information on this sheet is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Contact: Regulatory Affairs

Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
ISO: International Organization for Standardization
EPA: Environmental Protection Agency
IARC: International Agency for the Research of Cancer
NIOSH: National Institute for Occupational Safety and Health
TSCA: Toxic Substances Control Act
CPSC: Consumer Product Safety Commission

ATTENTION:

Material Safety Data Sheet document(s) enclosed.

Please retain all MSDS documents for your records.