



ET ADHESIVE - MATERIAL SAFETY DATA SHEET

I. PRODUCT AND COMPANY IDENTIFICATION

**Company:** Simpson Strong-Tie Company, Inc.  
**Address:** 5956 W. Las Positas Blvd.  
Pleasanton, CA 94588

**Product Name:** ET22, ET56, ET020R, ET050R - ET Resin

**Product Description:** Epoxy-Tie Adhesive – Epoxy Resin

**Emergency Contact No.:** 1-800-535-5053 USA  
1-352-323-3500 International

**Date Prepared or Revised:** March 2008. For most current MSDS, please visit our web site at  
www.simpsonanchors.com

E  
EPOXY

II. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Names	CAS Numbers
BisPhenolA/Epichlorohydrin (Epoxy Resin)	25068-38-6
Silica, crystalline quartz	14808-60-7
Titanium dioxide	1317-80-2

The remaining ingredients are designated as "trade secret".

III. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

- Non-corrosive.
- May cause eye and skin irritation.
- May cause skin sensitization.

POTENTIAL HEALTH EFFECTS

ACUTE

- Eye Contact:** May cause eye irritation, swelling, tearing, redness or cornea damage.
- Skin Contact:** Moderate irritation. May cause skin sensitization, evidenced by rashes and hives.
- Inhalation:** Moderate irritation to the nose and respiratory tract. May cause Central Nervous System depression, evidenced by headache, dizziness, and nausea.
- Ingestion:** May cause irritation to the gastrointestinal tract. May cause Central Nervous System depression or other systemic effects.
- Systemic Effects:** Lungs, eyes, and skin.

IV. FIRST AID MEASURES

- Eye Contact:** Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. If redness, burning, blurred vision, or swelling persists, **CONSULT A PHYSICIAN.**
- Skin Contact:** Remove product and immediately wash affected area with soap and water. Do not apply greases or ointments. Remove contaminated clothing. Wash clothing with soap and water before reuse. If redness, burning, or swelling persists, **CONSULT A PHYSICIAN.**
- Ingestion:** **DO NOT INDUCE VOMITING.** Never administer anything by mouth to an unconscious person. Rinse out mouth with water, then drink sips of water to remove taste from mouth. **CONSULT A PHYSICIAN** if vomiting occurs spontaneously, keep head below hips to prevent aspiration.
- Inhalation:** Remove patient to fresh air. If patient continues to experience difficulty breathing, **CONSULT A PHYSICIAN.**

**V. FIRE-FIGHTING MEASURES**

- Suitable Extinguishing Media:** Water fog, carbon dioxide or dry chemical, aqueous foam.
- Fire And Explosion Hazard:** Hazardous decomposition products may occur when materials polymerize at temperatures above 500°F. Do not allow run-off from fire fighting to enter drains or water courses.
- Fire Fighting Equipment and Procedures:** Wear full protective clothing and self-contained breathing apparatus for fire fighting. Isolate fuel supply from fire. Clear fire area of all non-emergency personnel. Use water spray to cool fire-exposed surfaces and containers.

**VI. ACCIDENTAL RELEASE MEASURES**

- Personal Precautions:** Use cautious judgment when cleaning up spill. Shut off leaks, if possible without personal risk. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas.
- Environmental Precautions:** Construct a dike to prevent spreading. Keep out of sewers, storm drains, surface waters, and soils.
- Clean-up Methods:** **Small spills:** Soak up with absorbent material such as clay, sand or other suitable non-reactive material. Place in leak-proof containers. Seal tightly for proper disposal. **Large spills:** Approach suspected leak areas with caution. Create a dike or trench to contain material. Soak up with absorbent material such as clay, sand or other suitable non-reactive material. Place in leak-proof containers. Seal tightly for proper disposal.
- Additional Information:** Notify authorities if any exposures to the general public or environment occur or are likely to occur. Dispose in accordance with federal, state, and local regulations.

E  
Epoxy**VII. STORAGE AND HANDLING**

- Storage:** Keep away from: acids, oxidizers, heat, or flames. Keep in cool, dry, well-ventilated area in closed containers. Protect containers from physical damage.
- Handling:** To prevent skin and eye contact under the foreseeable conditions of use, wear appropriate protective clothing and safety eyewear. When handling, do not eat, drink, or smoke. Wash thoroughly after handling. Avoid breathing fumes. Handle in a well-ventilated work area.

**VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION**

- Protective Measure:** Wear appropriate personal protective equipment.
- Eye Protection:** Avoid contact with eyes. Wear chemical splash goggles or safety glasses with side shield.
- Hand Protection:** Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl.
- Skin and Body Protection:** Wear chemical-resistant gloves and other clothing as required to minimize contact.
- Respirator Protection:** Not required for properly ventilated areas.
- Exposure Limits:**

COMPONENT	ACGIH (TLV)	OSHA (PEL)
BisPhenolA/Epichlorohydrin (Epoxy Resin)	N/E	N/E
Silica, crystalline quartz (airborne particulates of respirable size)	0.1 mg/m <sup>3</sup>	0.4 mg/m <sup>3</sup>
Titanium dioxide (total dust)	10 mg/m <sup>3</sup>	15 mg/m <sup>3</sup>

**IX. PHYSICAL AND CHEMICAL PROPERTIES**

- Form:** Paste
- Color:** White
- Odor:** Sweet
- Vapor Pressure:** Not Volatile
- Boiling Point:** > 260°C (>500°F)
- Freezing Point:** N/E
- Flash Point:** 250°F (Open Cup)
- Specific Gravity:** 1.19 @ 72°F
- Solubility In Water:** Insoluble



X. REACTIVITY DATA

Stability: Stable under normal storage conditions.  
 Conditions To Avoid: Incompatible chemicals, high heat and open flame.  
 Materials To Avoid: Oxidizing agents, acids, organic bases, and amines.  
 Hazardous Decomposition Products: Combustion may produce carbon monoxide, carbon dioxide, aldehydes, acids and other organic substances.  
 Hazardous Polymerization: Will not occur.

XI. TOXICOLOGICAL PROPERTIES

Acute Oral (LD<sub>50</sub>, Rat): N/E  
 Acute Dermal (LD<sub>50</sub>, Rabbit): N/E  
 Acute Inhalation (LC<sub>50</sub>, Rat): N/E

E  
EPOXY

Chronic Health Hazard The Diglycidyl Ether of Bisphenol A has shown weak carcinogenicity in 2-year mice bioassays. This material has shown activity in-vitro microbial mutagenicity screening and has produced chromosomal aberrations in cultured rat liver cells. No activity when tested by vivo mutagenicity assays.

XII. DISPOSAL CONSIDERATIONS

Waste From Residues / Unused Products: This material is not a hazardous waste by RCRA criteria (40 CFR 261). Dispose of container and unused contents in accordance with federal, state, and local requirements.

XIII. TRANSPORTATION

US DOT (CFR): Not Regulated For Transport.  
 IATA: Not Regulated For Transport.  
 IMO: Not Regulated For Transport.

XIV. REGULATORY INFORMATION

Country	Regulatory List
USA	TSCA

EPA SARA Title III Section 312 (40 CFR 370) Hazardous Classification: Acute/Chronic Health Hazard.

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level: None.

US. California "Safe Drinking Water and Toxic Enforcement Act" (Proposition 65):

This product contains small traces of the following chemicals that are known to the State of California to cause cancer and/or reproductive toxicity and other harm.

Component	Regulation	Concentration	Remarks
Phenylglycidyl ether*	ACGIH	Trace	Carcinogenic
Epichlorohydrin*	ACGIH	Trace	Carcinogenic

\* May be absorbed through skin.

XV. OTHER INFORMATION

HMIS RATING

Health	Flammability	Physical Hazard
2	1	0

N/E - Not Established

This Material Safety Data Sheet (MSDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this MSDS. This MSDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.



ET ADHESIVE - MATERIAL SAFETY DATA SHEET

I. PRODUCT AND COMPANY IDENTIFICATION

Company: Simpson Strong-Tie Company, Inc.  
 Address: 5956 W. Las Positas Blvd.  
 Pleasanton, CA 94588

Product Name: ET22, ET56, ET020H, ET050H - ET Hardener

Product Description: Epoxy-Tie Adhesive – Epoxy Hardener

Emergency Contact No.: 1-800-535-5053 USA  
 1-352-323-3500 International

Date Prepared or Revised: March 2008. For most current MSDS, please visit our web site at www.simpsonanchors.com

E  
EPOXY

II. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Names	CAS Numbers
Phenol (Benzenol)	108-95-2
Phenol, 4,4-(1-methylethylidene)bis	80-05-7
Amine Blend	N/E
Silica, crystalline quartz	14808-60-7

The remaining ingredients are designated as "trade secret".

III. HAZARD IDENTIFICATION

EMERGENCY OVERVIEW

Non-corrosive.  
 Moderate irritation to eyes and skin.  
 May cause skin sensitization.  
 Components of the product may affect the nervous system.

POTENTIAL HEALTH EFFECTS

ACUTE

Eye Contact: May cause eye irritation, swelling, tearing, redness or cornea damage.  
 Skin Contact: Moderate irritation. May cause skin sensitization, evidenced by rashes and hives.  
 Inhalation: Moderate irritation to the nose and respiratory tract. May cause Central Nervous System depression, evidenced by giddiness, headache, dizziness, and nausea.  
 Ingestion: May cause irritation to the gastrointestinal tract. May cause headache nausea. May cause Central Nervous System depression or other systemic effects.  
 Systemic Effects: Lungs, eyes, and skin.

IV. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with plenty of cool water for at least 15 minutes while holding the eyes open. If redness, burning, blurred vision, or swelling persists, CONSULT A PHYSICIAN.

Skin Contact: Remove product and immediately wash affected area with soap and water. Do not apply greases or ointments. Remove contaminated clothing. Wash clothing with soap and water before reuse. If redness, burning, or swelling persists, CONSULT A PHYSICIAN.

Ingestion: DO NOT INDUCE VOMITING. Never administer anything by mouth to an unconscious person. Rinse out mouth with water, then drink sips of water to remove taste from mouth. CONSULT A PHYSICIAN if vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Inhalation: Remove patient to fresh air. If patient continues to experience difficulty breathing, CONSULT A PHYSICIAN.



ET ADHESIVE - MATERIAL SAFETY DATA SHEET

V. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Fire And Explosion Hazard:

Fire Fighting Equipment and Procedures:

Water spray, fog or foam, carbon dioxide, dry chemical, limestone powder. Irritating and toxic fumes may be produced at high temperature. In a fire, may produce carbon monoxide, toxic nitrogen oxide, ammonia, and carbon dioxide. Use of water may result in the formation of very toxic aqueous solution. Do not allow run-off from fire fighting to enter drains or water courses. Wear full protective clothing and self-contained breathing apparatus for fire fighting. Isolate fuel supply from fire. Clear fire area of all non-emergency personnel.

VI. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Environmental Precautions:

Clean-up Methods:

Additional Information:

Use cautious judgment when cleaning up spill. Shut off leaks, if possible without personal risk. Wear suitable protective clothing, gloves and eye/face protection. Evacuate personnel to safe areas. Construct a dike to prevent spreading. Keep out of sewers, storm drains, surface waters, and soils. Small spills: Soak up with absorbent material such as clay, sand or other suitable non-reactive material. Place in leak-proof containers. Seal tightly for proper disposal. Large spills: Approach suspected leak areas with caution. Create a dike or trench to contain material. Soak up with absorbent material such as clay, sand or other suitable non-reactive material. Place in leak-proof containers. Seal tightly for proper disposal. Notify authorities if any exposures to the general public or environment occur or are likely to occur. Dispose in accordance with federal, state, and local regulations.

E  
EPOXY

VII. STORAGE AND HANDLING

Storage:

Handling:

Keep away from: acids, oxidizers, heat, or flames. Keep in cool, dry, well-ventilated area in closed containers. Protect containers from physical damage. To prevent skin and eye contact under the foreseeable conditions of use, wear appropriate protective clothing and safety eyewear. When handling, do not eat, drink, or smoke. Wash thoroughly after handling. Avoid breathing fumes. Handle in a well ventilated work area.

VIII. EXPOSURE CONTROLS / PERSONAL PROTECTION

Protective Measure:

Eye Protection:

Hand Protection:

Skin and Body Protection:

Respirator Protection:

Exposure Limits:

Wear appropriate personal protective equipment. Avoid contact with eyes. Wear chemical splash goggles or safety glasses with side shield. Wear chemical-resistant gloves such as: Nitrile, neoprene, butyl. Wear chemical-resistant gloves and other clothing as required to minimize contact. Not required for properly ventilated areas.

Chemical Names	ACGIH (TLV)	OSHA (PEL)
Phenol (Benzenol)	5ppm	5ppm
Phenol, 4,4-(1-methylethylidene)bis	N/E	N/E
Silica, crystalline quartz (airborne particulates of respirable size)	0.1mg/m <sup>3</sup>	0.4mg/m <sup>3</sup>

IX. PHYSICAL PROPERTIES

Form: Paste  
Color: Black  
Odor: Ammonia  
Boiling Point: N/E  
Freezing Point: N/E  
Vapor Pressure: N/E  
Flash Point: 225°F Open cup  
Specific Gravity: 1.36@ 72°F  
Solubility In Water: Slight



**X. REACTIVITY DATA**

**Stability:** Stable under normal storage conditions.  
**Conditions To Avoid:** Incompatible chemicals, heat, and open flame.  
**Materials To Avoid:** Oxidizing agents and acids.  
**Hazardous Decomposition Products:** Combustion may produce carbon monoxide, carbon dioxide, and nitrogen oxide, and EP other organic substances.  
**Hazardous Polymerization:** Will not occur. EPOXY

**XI. TOXICOLOGICAL PROPERTIES**

**Acute Oral (LD<sub>50</sub>, Rat):** N/E  
**Acute Dermal (LD<sub>50</sub>, Rabbit):** N/E  
**Acute Inhalation (LC<sub>50</sub>, Rat):** N/E  
**Chronic Health Hazard** Components of this product are not listed as carcinogens in concentrations of 0.1% or greater. Repeated or prolonged exposure may cause allergic reaction and/or limited sensitization.

**XII. DISPOSAL CONSIDERATIONS**

**Waste From Residues / Unused Products:** Dispose of container and unused contents in accordance with federal, state, and local requirements.

**XIII. TRANSPORTATION**

**US DOT(CFR):** Not Regulated For Transport.  
**IATA:** Not Regulated For Transport.  
**IMO:** Not Regulated For Transport.

**XIV. REGULATORY INFORMATION**

Country	Regulatory List
USA	TSCA

**EPA SARA Title III Section 312 (40 CFR 370) Hazardous Classification:**  
 Acute/Chronic Health Hazard.

**EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level:**  
 Phenol, 4,4-(1-methylethylidene)bis. Phenol.

**US. California "Safe Drinking Water and Toxic Enforcement Act" (Proposition 65):**  
 This product contains small traces of the following chemicals that are known to the State of California to cause cancer and/or reproductive toxicity and other harm.

Component	Regulation	Concentration	Remarks
Carbon Black	ACGIH	Trace	Carcinogenic
Silica, crystalline quartz (airborne particulates of respirable size)	ACGIH	Trace	Carcinogenic

**XV. OTHER INFORMATION**

**HMIS RATING**

Health	Flammability	Physical Hazard
2	1	0

N/E - Not Established

This Material Safety Data Sheet (MSDS) is prepared by Simpson Strong-Tie Co. in compliance with the requirements of OSHA 29 CFR Part 1910.1200. The information it contains is offered in good faith as accurate as of the date of this MSDS. This MSDS is provided solely for the purpose of conveying health, safety, and environmental information. No warranty, expressed or implied, is given. Health and Safety precautions may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations.



## MATERIAL SAFETY DATA SHEET

<b>Section 1 – Product and Company Identification</b>			
<b>Company Identification</b> ADHESIVES TECHNOLOGY CORP. 450 East Copans Road Pompano Beach, FL 33064		<b>Emergency Phone</b> (800) 255-3924 (24 hours) CHEM-TEL <b>Contact Phone</b> (800) 892-1880 (9:00 a.m. – 5:00 p.m. EST)	
<b>Effective Date:</b> 05/19/08	<b>Print Date:</b> 05/19/08	<b>MSDS #:</b> UB Glass Capsule Anchor	
<b>Product Name:</b> Ultrabond Glass Capsule Anchor		<b>Prepared By:</b> Richard Boland (x107)	
<b>Section 2 – Composition/Information on Ingredients</b>			
Hazardous Component - (chemical name)			
Dibenzoyl Peroxide	EINECS	CAS	Range (%)
Styrene	202-327-6	94-36-0	< 20
	202-851-5	100-42-5	< 13
<b>Section 3 – Hazards Identification</b>			
<b>Known Hazards:</b> May cause sensitization by skin contact; Flammable.			
<b>Section 4 – First Aid Measures</b>			
<b>Inhalation:</b> Ensure supply of fresh air. In the event of symptoms refer for medical treatment.			
<b>Eyes:</b> In case of contact with eyes rinse thoroughly with plenty of water and seek medical advice.			
<b>Skin:</b> In case of contact with skin wash off immediately with soap and water. Consult a doctor if skin irritation persists.			
<b>Ingestion:</b> Not applicable.			
<b>Other:</b> Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure. If Sensitization occurs, future contact with the material should be avoided.			
<b>Section 5 – Fire Fighting Measures</b>			
<b>Suitable Extinguisher Media:</b> Water spray jet. Foam. Dry powder.			
<b>Extinguishing media that must not be used:</b> Full water jet.			
<b>Special Exposure hazards:</b> Risk of formation of toxic pyrolysis products; (Carbon Monoxide, Nitrogen Oxides)			
<b>Special Fire Fighting Procedures:</b> Use a self-contained breathing apparatus when fighting fires involving chemicals.			
<b>Unusual fire and Explosion Hazards:</b> None known. Thermal decomposition products can be formed.			
<b>Section 6 – Accidental Release Measures</b>			
<b>Personal precautions:</b> Keep away sources of ignition. Use personal protective clothing.			
<b>Environmental Precautions:</b> Not applicable.			
<b>Methods for cleaning up/taking up:</b> Take up residues with absorbent material (e.g. sand). Take up mechanically. Dispose of absorbed material in accordance with the regulations.			
<b>Section 7 – Handling and Storage</b>			
No special measures necessary if used correctly. Handle with care – avoid shock, friction and impact. Keep away from sources of ignition – refrain from smoking. No special measures required. Keep in cool place. Protect from heat/overheating. Protect from sun. Do not keep at temperature above 25° C.			
<b>Section 8 – Exposure Control/Personal Protection</b>			
<b>Respiratory Protection:</b> Not applicable.			
<b>Hand Protection:</b> Suitable protective gloves.			
<b>Eye Protection:</b> Safety glasses.			
<b>General Protective measures:</b> Avoid contact with eyes and skin.			
<b>Hygiene measures:</b> At work do not eat, drink, smoke or take drugs. Wash hands before breaks and after work. Use barrier skin cream.			



**Section 9 – Physical and Chemical Properties**

<b>Appearance:</b> Form: Solid. Color: N/A	<b>Flash point [°F]:</b> 87.8 (resin)
<b>Odor:</b> N/A	<b>pH:</b> N/A
<b>Boiling Point:</b> N/D	<b>Density [g/ml]:</b> 1.15
<b>Vapor Pressure [kPa]:</b> N/D	<b>Flammability:</b> N/D
<b>Solubility in Water:</b> Immiscible.	<b>Evaporation Rate:</b> N/A

**Section 10 – Stability and Reactivity**

<b>Hazardous Reactions:</b> Polymerization with evolution of heat. Decomposition with water, acids and alkalies.	<b>Stability:</b> Stable
--	--------------------------

G  
GLASS

**Hazardous Decomposition Products:** No hazardous decomposition products know.

**Section 11 – Toxicological Information**

**Acute oral Toxicity – LD50 Rat:** - OECD 401  
**Acute dermal Toxicity – LD50 Rabbit:** - OECD 402  
**Acute inhalational Toxicity – LD50 Rat:** - OECD 403  
**General Remarks -** No toxicological data are available. The product was classified on the basis of the calculation procedure of the preparation directive.

**Section 12 – Disposal Considerations**

**Disposal / Product –** Dispose of as hazardous waste. – Waste No. 0804011  
**Disposal / Contaminated Packaging –** Uncontaminated packaging may be taken for recycling. Packaging that cannot be cleaned should be disposed of as hazardous waste.

**Section 13 – Transport Information**

**DOT Shipping Information:** Consumer commodity, ORM-D  
**IATA/ICAO Shipping name:** Resin Solution, Flammable, 3, UN 1866, PG II, Ltd Qty

**Section 14 – Regulatory Information**

**Hazard Communication:** This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard.

**Labeling:** This product is classified and labeled in accordance with EC directives.

**Irritant:** contains: Dibenzoyl peroxide  
 Flammable.  
 May cause sensitization by skin contact.  
 Keep container tightly closed in a cool place.  
 Wear suitable protective clothing and gloves.  
 This material and its container must be disposed of as hazardous waste.

**Abbreviations:** PEL = OSHA Permissible Exposure Limit; TLV = ACGIH Threshold Limit Value; C = Ceiling; STEL = Short Term Exposure Limit; NE = None Established; NA = Not Applicable; ND = Not Determined; ppm = parts per million

To the best of our knowledge, the information contained herein is accurate. However, Adhesives Technology Corp. does not assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



Printing date 01/02/2008

Reviewed on 01/02/2008

**1 Identification of substance**

**Trade name:** SPRUCE LIGHT GRAY PRIMER  
**Product code:** 0000980015  
**Manufacturer/Supplier:** SEYMOUR OF SYCAMORE  
 917 Crosby Avenue  
 Sycamore, IL 60178  
 (815)-895-9101, www.seymourpaint.com



**Information department:** Health & Safety Department  
**Emergency information:** CHEMTEL 1-800-255-3924, 813-248-0585 if located outside the U.S.

**2 Composition/Data on components**

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

Dangerous components:		GRAY
67-64-1	Acetone	
74-98-6	propane	24.25%
106-97-8	n-butane	13.87%
64742-89-8	VM&P Naptha	8.15%
13463-67-7	titanium dioxide	5.79%
108-88-3	Toluene	5.08%
14807-96-6	Talc (Mg3H2(SiO3)4)	5.08%
1330-20-7	xylene (mix)	4.49%
64-17-5	ethyl alcohol	4.16%
123-86-4	n-butyl acetate	3.98%
64742-47-8	Mineral Spirits	3.25%
110-19-0	isobutyl acetate	2.61%
		1.62%

**Additional information:** For the wording of the listed risk phrases refer to section 3.

**3 Hazards identification**

**Hazard description:**   Harmful  
Extremely flammable

**Physical dangers:** Extremely flammable.  
 Irritating to eyes and respiratory system.  
 Possible risk of harm to the unborn child  
 Keep out of the reach of children.

**Effects of short-term overexposure:** Vapors cause irritation to the eyes, nose, throat, skin, and central nervous system. Symptoms may include dizziness, throat irritation, headache, fatigue, swelling of eyes, and nausea.

**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 (scale 0 - 4):** Health = 1  
 Fire = 4  
 Reactivity = 3

**HMIS-ratings (scale 0 - 4):** Health= 1  
 Fire= 4  
 Physical Hazard= 3

**4 First aid measures**

**After inhalation:** If breathing is difficult, administer oxygen.  
**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.

Printing date 01/02/2008

Reviewed on 01/02/2008

**Trade name: SPRUCE LIGHT GRAY PRIMER**

**Protective equipment:** No special measures required.

(Contd. of page 1)

**6 Accidental release measures**

**Personal safety**

**precautions:** Wear protective equipment. Keep unprotected persons away.

**Environmental safety**

**precautions:** Inform appropriate authorities in case of seepage into water course or sewage system.  
Do not allow product to reach sewage systems or ground water.

**Measures for cleaning/collecting:**

Do not flush with water or aqueous cleansing agents. Use diluted caustic solution. Soak up spills with inert absorbent material. Refer to section 13 for disposal information.

**7 Handling and storage**

**Fire/explosion protection:** Do not spray on a naked flame or any incandescent material.  
Do not smoke. Protect from electrostatic charges.

**Storage requirements:** Observe pressurized container storage regulations. Consult with your local authorities.  
Keep away from sources of heat and direct sunlight. Do not warehouse in subfreezing conditions.

**8 Exposure controls and personal protection:**

**Components with limit values that require monitoring at the workplace:**

**67-64-1 Acetone**

PEL 2400 mg/m<sup>3</sup>, 1000 ppm  
REL 590 mg/m<sup>3</sup>, 250 ppm  
TLV Short-term value: 1782 mg/m<sup>3</sup>, 750 ppm  
Long-term value: 1188 mg/m<sup>3</sup>, 500 ppm  
BEI

**106-97-8 n-butane**

REL 1900 mg/m<sup>3</sup>, 800 ppm

**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/m<sup>3</sup>, 150 ppm  
Long-term value: 375 mg/m<sup>3</sup>, 100 ppm  
TLV (188) NIC-75 mg/m<sup>3</sup>, 20 ppm  
(Skin); (BEI)

**1330-20-7 xylene (mix)**

PEL 435 mg/m<sup>3</sup>, 100 ppm  
REL Short-term value: 655 mg/m<sup>3</sup>, 150 ppm  
Long-term value: 435 mg/m<sup>3</sup>, 100 ppm  
TLV Short-term value: 651 mg/m<sup>3</sup>, 150 ppm  
Long-term value: 434 mg/m<sup>3</sup>, 100 ppm  
BEI

**64-17-5 ethyl alcohol**

PEL 1900 mg/m<sup>3</sup>, 1000 ppm  
REL 1900 mg/m<sup>3</sup>, 1000 ppm  
TLV 1880 mg/m<sup>3</sup>, 1000 ppm

**123-86-4 n-butyl acetate**

PEL 710 mg/m<sup>3</sup>, 150 ppm  
REL Short-term value: 950 mg/m<sup>3</sup>, 200 ppm  
Long-term value: 710 mg/m<sup>3</sup>, 150 ppm  
TLV Short-term value: 950 mg/m<sup>3</sup>, 200 ppm  
Long-term value: 713 mg/m<sup>3</sup>, 150 ppm

**110-19-0 isobutyl acetate**

PEL 700 mg/m<sup>3</sup>, 150 ppm  
REL 700 mg/m<sup>3</sup>, 150 ppm  
TLV 713 mg/m<sup>3</sup>, 150 ppm

**Protective hygienic measures:**

Keep away from foodstuffs and animal feed. Wash hands after use.

Material Safety Data Sheet  
acc. to ISO/DIS 11014

Printing date 01/02/2008

Reviewed on 01/02/2008

Trade name: SPRUCE LIGHT GRAY PRIMER

**Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation. (Contd. of page 2)  
A respirator is generally not necessary when using this product outdoors or in large open areas. In cases of inadequate ventilation, a respiratory protective device should be worn to prevent overexposure.  
**Protection of hands:** 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:

General Information:

**Form:** Aerosol  
**Color:** According to trade name description in section 1.  
**Odor:** Solvent  
**Boiling point/Boiling range:** -44°C (-47°F)

G  
GRAY

**Flash point:** -19°C (-2°F)

**Ignition temperature:** 365°C (689°F)

**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

**Density at 20°C (68°F):** 0.822 g/cm<sup>3</sup>

**Specific Gravity:** Between 0.77 and 0.85 (Water equals 1.00)

**VOC content:** 568.7 g/l / 4.75 lb/gal

**VOC content (less exempt solvents):** 51.8 %

**MIR Value:** 1.12

**Solids content:** 23.6 %

10 Stability and reactivity:

**Conditions to be avoided:** Do not allow the can to exceed 120 degrees Fahrenheit. Stable at normal temperatures.

**Possibility of Hazardous Reactions:**

No dangerous reactions known.

11 Toxicological information:

**Primary effect on the skin:** No irritant effect.

**Primary effect on the eye:** Irritating effect.

**Sensitization:** No sensitizing effects known.

12 Ecological information

**Other information:** This product does not contain any chloroflourocarbons (CFC's), chlorinated solvents, lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyl (PBB), or polybrominated diphenyl ether (PDBE). No specific ecological data is available for this product.

**Aquatic toxicity:** Hazardous for water, do not empty into drains.

13 Disposal considerations

**DISPOSAL METHOD:** 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:** Empty cans should be recycled.

14 Transport information:

**Hazard class:** 2.1  
**Identification number:** N/A  
**Label:** 2.1  
**ADR/RID class:** 2 5F Gases

**Material Safety Data Sheet**  
acc. to ISO/DIS 11014

Printing date 01/02/2008

Reviewed on 01/02/2008

**Trade name: SPRUCE LIGHT GRAY PRIMER**

(Contd. of page 3)

**UN-Number:** 1950  
**IMDG Class:** 2.1  
**Packaging group:** II  
**EMS Number:** F-D,S-U  
**Marine pollutant:** No  
**ICAO/IATA Class:** 2.1  
**Proper shipping name:** Aerosols, Flammable  
 Consumer Commodity ORM-D

**15 Regulations**

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

None of the ingredients in this product are listed.

G  
GRAY

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

1330-20-7 xylene (mix)

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

All ingredients are listed.

**PROPOSITION 65 Chemicals known to cause cancer:**

100-41-4 ethyl benzene

1333-86-4 Carbon black

**PROPOSITION 65**

**Chemicals known to cause**

**developmental toxicity:** 108-88-3 Toluene

**Canadian WHMIS:** Class A, B5---Flammable Aerosols

**EPA:** A= Known human carcinogen B= Probable human carcinogen

C= Possible human carcinogen

D= Not classifiable as to human carcinogenicity: Inadequate human and animal evidence of carcinogenicity (or no data is available).

1330-20-7 xylene (mix)

D

110-19-0 isobutyl acetate

D

**IARC:**

Group 2B: The ingredient is possibly carcinogenic to humans. There is limited evidence of carcinogenicity.

Group 3: The ingredient is unclassifiable as to its carcinogenicity to humans.

13463-67-7 titanium dioxide

2B

14807-96-6 Talc (Mg3H2(SiO3)4)

3

1330-20-7 xylene (mix)

3

**ACGIH TLVs:**

A1-designates a confirmed human carcinogen.

A2-designates a suspected human carcinogen.

A3-designates an animal carcinogen.

A4-designates "not classifiable as a human carcinogen".

13463-67-7 titanium dioxide

A4

1330-20-7 xylene (mix)

A4

64-17-5 ethyl alcohol

A4

110-19-0 isobutyl acetate

A4

**NIOSH:**

13463-67-7 titanium dioxide

1333-86-4 Carbon black

**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.

**Contact:** Regulatory Affairs

This Material Safety Data Sheet (MSDS) complies with the requirements of OSHA's Hazard Communication Standard.

# MATERIAL SAFETY DATA SHEET

## ALUMINUM OXIDE RESIN BONDED GRINDING WHEEL

### RADNOR

Emergency Phone Number: 866-754-3438

Date: April 30, 2006 Product Information Number: 888-838-0615

Product Name/Class: Aluminum Oxide Resin Bonded Grinding Wheel  
 Product Number: 004026

Manufacturer: Radnor Welding Products 259 N. Radnor-Chester Road Suite 100 Radnor, PA 19087-5283

SECTION 2 - HAZARDOUS INGREDIENTS			
Material	CAS Number	% By Weight	ACGIH TLV / OSHA
Aluminum Oxide, Non-fibrous	1344-28-1	90 - 95	10 MG/M <sup>3</sup> / 15 MG/M <sup>3</sup>
Cured Phenol Formaldehyde Resin	9003-35-4	3 - 6	ND
Fiberglass	65997-17-3	1 - 3	ND
Iron Disulfide	12068-85-8	1 - 3	ND
ND = No data available.			

SECTION 3 - PHYSICAL CHARACTERISTICS	
Property	Value
Boiling Point:	N/A
Vapor Pressure (mm Hg):	N/A
Melting Point:	N/A
Vapor Density (Air = 1):	N/A
Evaporation Rate (Butyl Acetate=1):	N/A
Flash Point (Method Used):	N/A
Extinguishing Media:	N/A

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA	
Property	Value
Flammable Limits:	LEL: N/A UEL: N/A

**Special Fire Fighting Procedures:** Non Flammable. Sparks from grinding and sanding operations can ignite combustibles and flammables. Remove any fuel storage cans, paper, cloth and other material from the work area that could be ignited during grinding operations. Refer to American National Standard Z49.1 for fire prevention during the use of welding and allied procedures.

**Unusual Fire and Explosion Hazards:** Solid massive form is not combustible. Suspended airborne particulate matter resulting from sanding and grinding operations may present explosion hazard in certain environments. Use with adequate ventilation.

SECTION 5 - REACTIVITY DATA	
Property	Value
Stability	Unstable <input type="checkbox"/> Stable <input checked="" type="checkbox"/>
Incompatibility (Materials to Avoid):	Acids of all types with a pH of less than 4.0.
Hazardous Decomposition or Byproducts:	In use, dust and decomposing odors may be generated.
Hazardous Polymerization:	May Occur <input type="checkbox"/> Will Not Occur <input checked="" type="checkbox"/>

SECTION 6 - HEALTH HAZARD DATA	
Route of Entry	Health Hazard
Inhalation <input checked="" type="checkbox"/>	Acute: Dust may be irritating to eyes and respiratory tract at high concentrations. Chronic: May affect breathing capacity or aggravate existing respiratory disorders. Dust generated during use may contain trace amounts of phenol and formaldehyde, which, under excessive exposure, may cause skin sensitization and airway obstruction. For products containing inorganic flourides, excessive exposure has been shown to increase bone density. No known adverse effects associated with ingestion, but ingestion not recommended.
Ingestion <input checked="" type="checkbox"/>	Acute: Dust may be irritating to eyes and respiratory tract at high concentrations. Chronic: May affect breathing capacity or aggravate existing respiratory disorders. Dust generated during use may contain trace amounts of phenol and formaldehyde, which, under excessive exposure, may cause skin sensitization and airway obstruction. For products containing inorganic flourides, excessive exposure has been shown to increase bone density. No known adverse effects associated with ingestion, but ingestion not recommended.
Skin <input checked="" type="checkbox"/>	Acute: Dust may be irritating to eyes and respiratory tract at high concentrations. Chronic: May affect breathing capacity or aggravate existing respiratory disorders. Dust generated during use may contain trace amounts of phenol and formaldehyde, which, under excessive exposure, may cause skin sensitization and airway obstruction. For products containing inorganic flourides, excessive exposure has been shown to increase bone density. No known adverse effects associated with ingestion, but ingestion not recommended.

**Routes of Entry:** Inhalation  Ingestion  Skin

**Health Hazards (Acute and Chronic):** Acute: Dust may be irritating to eyes and respiratory tract at high concentrations. Chronic: May affect breathing capacity or aggravate existing respiratory disorders. Dust generated during use may contain trace amounts of phenol and formaldehyde, which, under excessive exposure, may cause skin sensitization and airway obstruction. For products containing inorganic flourides, excessive exposure has been shown to increase bone density. No known adverse effects associated with ingestion, but ingestion not recommended.

**Carcinogenicity:** The composition of dust/particulate matter are dependent upon several factors that are unknown and unknowable to the product manufacturer, and depend largely upon the composition of the work-piece on which this product is used, and any coating that may have been applied (see Section 5). Always assume that such particulates may contain toxic and/or carcinogenic materials, and follow sound Work/Hygiene practices as recommended by ANSI Z49.1. Under normal handling conditions, the product presents no health hazards.

**Signs and Symptoms of Exposure:** Short-term (acute) overexposure may result in discomfort such as irritation of nose, throat or eyes. Some may experience skin irritation. Long-term (chronic) overexposure to dust may result in respiratory tract disorders (e.g. asthma, emphysema).

**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. Flush eyes with water. Vacuum off excess dust from skin. Wash well with soap and water. Remove to fresh air. If ingested, call poison control center, hospital emergency room or physician immediately.

HMIS Rating		
Health = 1	HMIS Scale	NFPA Rating
Flammability = 0	4 = Severe Hazard 3 = Serious Hazard 2 = Moderate Hazard 1 = Slight Hazard 0 = Minimal Hazard	Health = 1 Flammability = 0 Reactivity = 0
Reactivity = 0		Other = N/A

**SECTION 7 - PRECAUTIONS FOR SAFE HANDLING and USE**

General: Should be used in accordance with 29 CFR 1910.211-214 & 1910.241-243. Always handle and store wheels in a safe manner. Always inspect wheels before mounting. Always check machine speed against the established maximum safe operating speed marked on the wheel. Always check mounting safety guard covering at least one-half of the wheel. Always ensure work rest is properly adjusted. Always use a stoppage wheel to avoid creating an out-of-balance wheel. Always allow newly mounted wheels to run at steps to be taken in case material is released or spilled: If large quantities of dust are spilled, remove by vacuuming or wet sweeping to prevent heavy concentration of airborne dust. Follow federal, state and local regulations concerning disposal of waste.

**Waste Disposal Method:** Use standard landfill methods. Discard any product residue, disposable container, or liner in an environmentally acceptable manner. Products with listed flourides may be slightly soluble.

**Precautions to be Taken in Handling and Storing:** Good housekeeping must be practiced during storage, transfer and use to avoid excessive dust accumulations. See Section 8.

**SECTION 8 - CONTROL MEASURES**

**Respiratory Protection (Specify Type):** If exposure is above the PEL or TLV, use NIOSH approved respirator for fume and dust.

**Ventilation:** Use local exhaust ventilation when general ventilation is not keeping the airborne concentration below the TLV.

**Protective Gloves:** Standard work gloves, preferably leather, required during use.

**Eye Protection:** Always wear eye protection during sanding or grinding operations.

**Other Protective Clothing or Equipment:** Use of this product may create elevated sound levels. Hearing protection should be worn when required. (See OSHA 29 CFR 1910.134 and other applicable regulations.)

**Work/Hygiene Practices:** Wash hands thoroughly after use, and before eating, drinking, smoking, applying cosmetics or contact lenses. Maintain exposure below the PEL/TLV. Use industrial hygiene monitoring to ensure that your use of this material does not create exposures which exceed PEL/TLV. ANSI Z49.1, The American Welding Society, P.O. Box 351040, Miami, FL 33135, OSHA (29CFR 1910) U.S. Department of Labor, Washington, D.C. 20210.

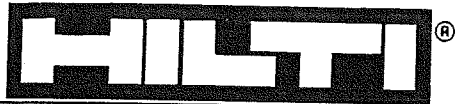
**OTHER INFORMATION REQUIRED BY STATE OR FEDERAL LAW**

California Proposition 65 Information: Warning: This product contains a chemical known to the State of California to cause cancer or birth defects or reproductive harm.

New Jersey Right-To-Know Information: 5 most predominant ingredients/hazardous and non-hazardous: 1. Aluminum oxide, 2. Cloth or paper, 3. Cured phenol formaldehyde resin, 4. Animal glue bond, 5. Cured urea formaldehyde resin.

**SARA Title III Notification Information:** All chemical compounds marked with an asterisk (\*) are toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Super Fund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

**Disclaimer of Expressed and Implied Warranties:** The information in this document is believed to be correct as of the date issued. However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product, or the hazards related to its use.



MSDS No.: 255  
 Revision No.: 007  
 Revision Date: 01/23/07  
 Page: 1 of 2

**MATERIAL SAFETY DATA SHEET**

**Product name:** HIT HY 150  
**Description:** Methacrylate resin and hardener. Part A is in the large tube; Part B is in the small one  
**Supplier:** Hilti, Inc. P.O. Box 21148, Tulsa, OK 74121  
**Emergency # (Chem-Trec.):** 1 800 424 9300 (USA, PR, Virgin Islands, Canada); 001 703 527 3887 (Other countries)

**For:** UNITED STEEL WORKS INC  
 12255 44TH ST NORTH  
 CLEARWATER, FL 33762-5112

**INGREDIENTS AND EXPOSURE LIMITS**

Ingredients:	CAS Number:	TLV:	PEL:	STEL:
<b>Part A:</b> Resin	NJ TSRN: 19136100-5001	NE	NE	NE
Methacrylate ester	NJ TSRN: 19136100-5005	NE	NE	NE
Bonding agent	19136100-5003p (NJ TSRN)	NE	NE	NE
Hydroxypropyl methacrylate	27813-02-1	NE	NE	NE
Quartz sand	14808-60-7	0.05 mg/m <sup>3</sup> (R)	0.1 mg/m <sup>3</sup> (R)	NE
Synthetic amorphous silica	67762-90-7	2 mg/m <sup>3</sup>	NE	NE
<b>Part B:</b> Quartz sand	14808-60-7	0.05 mg/m <sup>3</sup> (R)	0.1 mg/m <sup>3</sup> (R)	NE
Water	07732-18-5	NE	NE	NE
Dibenzoyl peroxide	00094-36-0	5 mg/m <sup>3</sup>	5 mg/m <sup>3</sup>	NE
Amorphous silica	07631-86-9	10 mg/m <sup>3</sup>	20 mppcf	NE
Dipropylene glycol	25265-71-8	NE	NE	NE
Polyethylene	09002-88-4	NE	NE	NE

NJ TSRN indicates New Jersey Trade Secret Registry Number. (R) indicates "as respirable dust". (N) indicates "as nuisance dust". PEL = OSHA Permissible Exposure Limit. TLV = ACGIH Threshold Limit Value. STEL = Short Term Exposure Limit (15 minute time-weighted average). NE = None Established. mppcf = million particles per cubic foot.

**PHYSICAL DATA**

<b>Appearance:</b>	Gray paste	<b>VOC Content:</b>	35.7 g/l
<b>Boiling Point:</b>	Approx. 212° F	<b>Vapor Pressure:</b>	Not determined
<b>Vapor Density: (air = 1)</b>	Not determined	<b>Odor Pressure:</b>	Not determined
<b>Evaporation Rate:</b>	Not determined	<b>Solubility in Water:</b>	Part B is soluble
<b>Specific Gravity:</b>	1.7	<b>pH:</b>	6-7

**FIRE AND EXPLOSION HAZARD DATA**

<b>Flash Point:</b>	> 200° F	<b>Flammable Limits:</b>	Not applicable
<b>Extinguishing Media:</b>	CO <sub>2</sub> , Dry Chemical, Foam, Water		
<b>Special Fire Fighting Procedures:</b>	Soak cartons to help prevent the spread of fire. A self-contained breathing apparatus should be worn when fighting fires involving chemicals.		
<b>Unusual Fire and Explosion Hazards:</b>	None known. Thermal decomposition products can be formed.		

**REACTIVITY DATA**

<b>Stability:</b>	Dibenzoyl peroxide decomposes (non-violently) at 150° F. Ignition does not occur due to the water content (>5%).
<b>Hazardous Polymerization:</b>	Will not occur.
<b>Incompatibility:</b>	Strong acids and oxidizing agents. Do not store in direct sunlight.
<b>Decomposition Products:</b>	Thermal decomposition can yield CO, CO <sub>2</sub> , NO <sub>x</sub>
<b>Conditions to Avoid:</b>	Avoid temperature extremes which could shorten the shelf life of this product; i.e. below freezing and above 100° F. (See handling and storage requirements).

**HEALTH HAZARD DATA**

<b>Known Hazards:</b>	Eye and skin irritation. Possible sensitizer.
-----------------------	---

**Signs and Symptoms of Exposure:**

**Eyes:** can cause irritation. **Skin:** Prolonged and repeated contact can cause irritation. An allergic skin reaction (e.g. rash, itching, reddening) can occur with some individuals. **Inhalation:** Possible irritation. **Ingestion:** Not a likely route of exposure. Considered to have a low acute oral toxicity.

**Routes of Exposure:**

Contact. Inhalation.

**Carcinogenicity:**

IARC classifies crystalline silica (quartz sand) as a Gp I carcinogen based upon evidence among workers in industries where there has been long-term and chronic exposure (via inhalation) to silica dust; e.g. mining, quarry, stone crushing, refractory brick and pottery workers. This product does not pose a dust hazard; therefore, this classification is not relevant.

**Medical Conditions Aggravated by Exposure:**

Eye, skin, and respiratory expected.

### EMERGENCY AND FIRST AID PROCEDURES

**Eyes:**

Flush with plenty of water. Call a physician if symptoms occur.

**Skin:**

Wash with soap and water.

**Inhalation:**

Move victim to fresh air. Call a physician if symptoms persist.

**Ingestion:**

Seek medical attention. Do not induce vomiting unless directed to by a physician. Never give anything by mouth to an unconscious person.

**Other:**

Referral to a physician is recommended if there is any question about the seriousness of the injury/exposure

### CONTROL MEASURES AND PERSONAL PROTECTIVE EQUIPMENT

**Ventilation:**

General (natural or mechanically induced fresh air movements).

**Eye Protection:**

Not required, however, safety glasses should be worn in most industrial settings.

**Skin Protection:**

Cloth gloves are suitable; impermeable (neoprene or rubber) gloves recommended.

**Respiratory Protection:**

None normally required. Where ventilation is inadequate to control vapors, use a NIOSH-approved respirator with organic vapor cartridges. Never enter a confined space without an appropriate air supplied respirator. If dusts are generated during demolition or removal, wear an appropriate dust mask or respirator.

### PRECAUTIONS FOR SAFE HANDLING AND USE

**Handling and Storing Precautions:**

Store in a cool dry area preferably between 40° and 77° F. Do not store in direct sunlight. Keep away from open flames, heat sources and sparks. Avoid prolonged or repeated contact. Use with adequate ventilation. Always wash thoroughly after handling chemical products. For industrial use only. Keep away from children.

**Spill Procedures:**

Take up with an absorbent material and place in a container for proper disposal.

### REGULATORY INFORMATION

**Hazard Communication:**

This MSDS has been prepared in accordance with the federal OSHA Hazard Communication Standard. 29 CFR 1910.1200.

**HMS Codes:**

Health 1, Flammability 1, Reactivity 1, PPE B

**DOT Shipping Name:**

Not regulated.

**IATA/ICAO Shipping Name:**

Not regulated

**TSCA Inventory Status:**

Chemical components listed on TSCA inventory.

**SARA Title III, Section 313:**

This product contains 5 - 10% Benzoyl peroxide (CAS #94-36-0) which is subject to reporting under Section 313 of SARA Title III (40 CFR Part 372).

**EPA Waste Code(s):**

Not regulated by EPA as a hazardous waste

**Waste Disposal Methods:**

Consult with regulatory agencies or your corporate personnel for disposal methods that comply with local, state, and federal safety, health and environmental regulations.

### CONTACTS

**Customer Service:**

1 800 879 8000

**Technical Service:**

1 800 879 8000

**Health / Safety:**

1 800 879 6000

Jerry Metcalf (x6704)

**Emergency # (Chem-Trec):**

The information and recommendations contained herein are based upon data believed to be correct; however, no guarantee or warranty of any kind expressed or implied is made with respect to the information provided.



HYDRAN (ALL GRADES)

400 Chisholm Place, Suite 418  
Plano, Texas 75075

Telephone: (469)241-0950 Telecopier: (469)241-0956

### MATERIAL SAFETY DATA SHEET

#### EMERGENCY OVERVIEW

This slippery liquid has a mild odor. No significant immediate hazards for emergency response are known.

NFPA RATING: HEALTH: 0 FLAMMABILITY: 1 REACTIVITY: 0

#### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

GENERIC NAME: ANTIWEAR HYDRAULIC OIL

ISSUE DATE:

March 1, 2006

THIS LUBRICANTS USA PRODUCT IS:

HYDRAN OILS

CAS NUMBER:

Mixture

SYNONYMS / GENERAL NAMES:

24 HOUR EMERGENCY TELEPHONE:

(CHEMTREC) 1-800-424-9300

TECHNICAL INFORMATION:

1-800-442-5823

#### 2. COMPOSITION / INFORMATION ON INGREDIENTS / HAZARDOUS INGREDIENTS

COMPONENTS	CAS NO.	%	HAZARD DATA
1) Highly-refined paraffinic petroleum oils *	64741-89-5 64741-88-4	>98	*
2) Petroleum additives	Mixture	<2	

\* Not limited to but include these CAS numbers. Hazard data on this petroleum oil is Oral LD 50 >5000, Dermal LD 50 >2000

HAZARDOUS INGREDIENTS: NONE

HAZARDOUS PER 29 CFR 1916.1200: NO

#### 3. HAZARDOUS IDENTIFICATION

ROUTES OF ENTRY:	Skin contact
TARGET ORGANS:	Skin
IRRITANCY:	EYES: This product can cause mild, transient, eye irritation with short-term contact with liquids or sprays. SKIN: This material can cause mild, transient skin irritation with short-term exposure.
REPRODUCTIVE EFFECTS:	N/A
CANCER INFORMATION:	This product does not contain any components at concentrations above 0.1% that are considered carcinogenic by OSHA, IARC, or NTP.
INHALATION:	No significant adverse health effects are expected to occur upon short-term exposure to this product. (Aspiration of any liquid into the lungs can cause severe lung damage or death.)
INGESTION:	If swallowed, no significant adverse health effects are anticipated. Ingestion can cause mild irritation to the digestive tract or cause a laxative effect.
INJECTION:	Injection under the skin, in muscle, or into the blood stream can cause irritation, inflammation, swelling, fever, and systemic effects and mild central nervous system depression. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of

Product Code(s) 15060-15064

Source Codes sab, trb, ppb, nlb, in



<b>CHRONIC EXPOSURE</b>	petroleum hydrocarbons requires immediate medical attention. Prolonged or repeated contact is toxic to lungs, digestive system, skin and eyes.
-------------------------	---

**4. FIRST AID MEASURES**

<b>EYES:</b>	Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness or pain persists.
<b>DERMAL:</b>	Remove contaminated shoes and clothing, wipe off excess material. Wash exposed skin with soap and water. Seek medical attention if tissue appears damaged or if irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated leather goods.
<b>INGESTION:</b>	Do not induce vomiting unless directed to by a physician. Do not give anything to drink unless directed to by a physician. Never give anything by mouth to a person who is not fully conscious. Seek medical attention immediately.
<b>INHALATION:</b>	Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, a qualified individual should administer 100 percent humidified oxygen. Seek medical attention immediately. Keep the affected individual warm and at rest.
<b>INJECTION:</b>	Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.

H  
HYDRAN

**5. FIRE FIGHTING MEASURES**

**FLASH POINT, °C (°F):** >176°C (367°F)  
**FLAMMABLE LIMITS (% BY VOLUME):** LOWER: NO DATA UPPER: NO DATA  
**EXTINGUISHING MEDIA:** Use dry chemical, foam, carbon dioxide or water fog.  
**SPECIAL FIRE FIGHTING PROCEDURES:** N/A  
**AUTOIGNITION TEMPERATURE:** N/A  
**EXPLOSION DATA:** N/A  
**NFPA RATING:** HEALTH: 0 FLAMMABILITY: 1 REACTIVITY 0

**6. ACCIDENTAL RELEASE MEASURES**

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

**7. HANDLING AND STORAGE**

**HANDLING & STORAGE PROCEDURES:** Avoid water contamination and extreme temperatures to minimize product degradation. Keep container closed. Do not store with strong oxidizing agents. Do not store at temperatures above 120°F or in direct sunlight for extended periods of time.

Empty containers may contain product residues that can ignite with explosive force. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>ENGINEERING CONTROLS:</b>	Provide exhaust ventilation or other engineering controls to keep the airborne concentration of mists and/or vapors below the recommended exposure limits. An eye wash station and safety shower should be located near the workstation.
<b>GLOVES PROTECTION:</b>	Use gloves constructed of chemical resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected. Use heat protective gloves when handling product at elevated temperatures.
<b>EYE PROTECTION:</b>	Safety glasses equipped with side shields should be adequate protection under most conditions of use. Wear goggles and/or face shield if splashing or spraying is likely, especially if material is heated above 125° F (or 51° C). Have suitable eye wash water available.
<b>RESPIRATORY PROTECTION:</b>	Vaporization or misting is not expected at ambient temperatures. Therefore, the need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).
<b>CLOTHING RECOMMENDATION:</b>	Avoid prolonged and/or repeated skin contact, especially after this product has been used. If splashing or spraying is expected chemical-resistant (Tyvek®, nitrile or neoprene) clothing should be worn. This might include long-sleeves, apron, slicker suit, boots and additional facial protection. If general contact occurs, promptly remove soaked clothing and take a shower.
<b>OTHER COMMENTS:</b>	Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners. Since standards/control limits have not been established for this product, the exposure limits shown below are suggested as minimum control guidelines.
<b>Occupational exposure guidelines for highly-refined petroleum lubricant oils</b>	Applicable workplace exposure levels  TWA: 5 STEL; 10 (mg/M <sup>3</sup> ) from ACGIH (TLV) TWA: 5 (mg/ M <sup>3</sup> ) from OSHA (PEL) TWA: 5 STEL; 10 (mg/ M <sup>3</sup> ) from NIOSH

H  
HYDRAN

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>APPEARANCE:</b>	Light amber to amber liquid
<b>ODOR:</b>	Mild petroleum odor
<b>pH:</b>	N/A
<b>VAPOR PRESSURE, mm Hg (25°C):</b>	<0.0001
<b>VAPOR DENSITY:</b>	17+ (Air =1)
<b>MELTING POINT:</b>	Not available
<b>BOILING POINT, 760 mm Hg, °C:</b>	Not available
<b>SOLUBILITY IN WATER:</b>	Insoluble in cold water.
<b>SPECIFIC GRAVITY:</b>	0.86-0.89 (Water = 1)
<b>EVAPORATION RATE:</b>	N/A
<b>VISCOSITY 40°C (100°C)</b>	20 to 165 cSt @ 40° C
<b>MOLECULAR WEIGHT:</b>	N/A
<b>PERCENT VOLATILE:</b>	Negligible volatility

**10. STABILITY AND REACTIVITY**

<b>STABILITY:</b>	Stable
<b>INCOMPATIBILITY:</b>	Strong oxidizers
<b>POLYMERIZATION:</b>	Not expected to occur
<b>THERMAL DECOMPOSITION:</b>	CO <sub>2</sub> , CO, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur, nitrogen, phosphorus and zinc.

**11. TOXICOLOGICAL INFORMATION**

<b>TOXICITY (finished fluid):</b>	LD50 and LC 50 NOT AVAILABLE.
<b>TOXICITY DATA (components):</b>	<p>Petroleum distillates (paraffinic and naphthenic components)                  ORAL LD 50 Acute &gt; 5000 mg/kg (rat)                  DERMAL LD50 Acute &gt;2000 mg/kg (rabbit)</p> <p><b>Petroleum distillates—(paraffinic or naphthenic)—general information</b>                  Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentration of mineral oil mists, well above applicable workplace exposure levels, include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mists at or near work place exposure levels produced no significant toxicological effects. In long-term studies (up to two years) no carcinogenic effects have been reported in any animal species tested. Analyses conducted by method IP 346 indicate that the polycyclic aromatic concentration is below 3.0 weight percent.</p> <p><b>Petroleum additives (proprietary containing zinc)</b>                  Classified 3 (animal inadequate evidence) for mildly refined additive (&lt;1%); classified 1 (proven for human) by IARC for severely refined additive (&lt;1%)</p>

H  
HYDRAN

**12. HEALTH INFORMATION**

HMIS CODE: HEALTH: 0 FIRE: 1 REACTIVITY: 0

No	HIGHLY TOXIC	No	SENSITIZER
No	TOXIC	No	REPRODUCTIVE EFFECTS
No	CORROSIVE	No	MUTAGEN
No	IRRITANT		

**13. DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL:** It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal. Determine compliance status with all applicable requirements prior to disposal.

**14. TRANSPORT INFORMATION**

**DOT (DEPARTMENT OF TRANSPORTATION)**

<b>PROPER SHIPPING NAME:</b>	Petroleum lubricating oil.
<b>HAZARD CLASS:</b>	Not a DOT controlled material (United States).
<b>HAZARD IDENTIFICATION NUMBER:</b>	N/A
<b>DOT PLACARD:</b>	N/A
<b>COMPATIBILITY CATEGORY:</b>	N/A

**15. REGULATORY INFORMATION**

**OSHA CLASSIFICATION:**

Product is hazardous according to the OSHA Hazard Communication Standard, 29 CFR 1910.1200, because it carries the occupational exposure limit for mineral oil mist.

Ozone Depleting Substances (40 CFR 82 Clean Air Act):

This material does not contain nor was it directly manufactured with any Class I or Class II ozone depleting substances.

**SARA SECTION 313 - TOXIC CHEMICALS:**

This product does not contain toxic chemicals under SARA Section 313 and 40 CFR Part 372.

**SARA SECTION 311 - HAZARD CATEGORIES:**

This product may meet one or more of the criteria for the hazard categories defined in 40 CFR Part 370 as established by Sections 311 and 312 of SARA as indicated below:

NO	IMMEDIATE (ACUTE) HEALTH HAZARD	NO	SUDDEN RELEASE OF PRESSURE HAZARD
NO	DELAYED (CHRONIC) HEALTH HAZARD	NO	REACTIVE HAZARD
NO	FIRE HAZARD		

H  
HYDRAN

**SARA SECTION 302 - EXTREMELY HAZARDOUS WASTE:**

This product is not known to contain any components in concentrations greater than one percent that are listed as Extremely Hazardous Substances in 40 CFR Part 355 pursuant to the requirements of Section 302(a) of SARA.

**CLEAN WATER ACT (CWA):**

Under the CWA, discharges of crude oil and petroleum products to surface water without proper Federal and State permits must be reported immediately to the National Response Center at (800) 424-8802.

**CERCLA HAZARDOUS SUBSTANCES:**

As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance.

**U.S. TSCA INVENTORY**

All components of this material are on the U.S. TSCA Inventory or are not required to be listed on the U.S. TSCA Inventory

**OTHER CHEMICAL INVENTORIES:**

Component(s) of this material is (are) listed on the Australian AICS, Canadian DSL, European EINECS and Korean Inventory.

**CALIFORNIA PROPOSITION 65**

This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

**NEW JERSEY RIGHT-TO-KNOW LABEL**

Petroleum oil.

**ADDITIONAL REGULATORY REMARKS**

None

**WHMIS CLASSIFICATION:**

This product is not considered a controlled product according to the criteria of the Canadian Controlled Products Regulations. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations. (See Hazardous Products Act (HPA), R.S.C. 1985, c.H-3, s.2).

**16. OTHER INFORMATION**

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information was prepared for the guidance of plant engineering, operations and management and for persons working with or handling this product. Lubricants USA believes this information to be reliable and up to date as of the date of publication, but makes no warranty that it is.

<b>NFPA HAZARD RATING</b>	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4
<b>HMIS HEALTH RATING</b>	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4

AP = approximately    EQ = equal    > = greater than    < = less than    NA = not applicable  
 ND = no data    NE = not established

ACGIH = American Conference of Governmental Industrial Hygienists  
 CERCLA = Comprehensive Environmental Response, Compensation and Liability Act (1980)  
 EPA = Environmental Protection Agency  
 IARC = International Agency for Research on Cancer  
 NIOSH = National Institute of Occupational Safety and Health  
 NPCA = National Paint and Coating Manufacturers Association  
 OSHA = Occupational Safety and Health Administration  
 Control Act

AIHA = American Industrial Hygiene Association  
 HMIS = Hazardous Materials Information System  
 NFPA = National Fire Protection Association  
 NLGI = National Lubricating Grease Institute  
 NTP = National Toxicology Program  
 RQ = Reportable quantity TSCA = Toxic Substance

         H  
         HYDRAN

# WELD - AID PRODUCTS

14650 Dequindre, Detroit, Michigan, 48212, U.S.A  
Phone: (313) 883 - 6977 Fax: (313) 883 - 4930  
DUNS: 00 - 653 - 3327  
For Emergency Contact:  
Chem-tel 1-800-255-3924

388-  
007040

## MATERIAL SAFETY DATA SHEET

### I - IDENTIFICATION

**PRODUCT NAME:** LUBEMATIC  
**MATERIAL DESCRIPTION:** Hazardous Blend  
**CHEMICAL FAMILY:** Halogenated Hydrocarbons

**PRODUCT CODE:** 007040, 007050  
**REVISION DATE:** 05/08/2006  
**DOT ID #:** UN 1583

### COMPONENTS

- 1. Methylene Chloride\*
- 2. Alkyl-Aryl Siloxane Copolymer

### II - PRODUCT AND COMPONENT DATA

CAS REGISTRY NO.	%
75 - 09 - 2	>85%
None	<15%

\* Denotes chemical subject to reporting requirements of Section 313 of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA) and 40 CFR Part 372

### III - PHYSICAL DATA

**APPEARANCE AND COLOR:** Clear, Colorless liquid, mildly sweet odor  
**BOILING POINT:** 103.1 (39.5°C)  
**VAPOR PRESSURE:** 352 mm Hg @ 20°C  
**EVAPORATION RATE (Ether = 1):** 0.7

**SPECIFIC GRAVITY:** 1.31 @ 25/26°C  
**VAPOR DENSITY IN AIR: (Air=1):** 2.9  
**% VOLATILE BY VOLUME:** 100  
**SOLUBILITY IN WATER:** 1.32 gm/100 gm @ 26°C

LUBE

### IV - REACTIVITY DATA

**STABILITY:** Stable  
**HAZARDOUS DECOMPOSITION PRODUCTS:** Hydrogen chloride, Phosgene (em. aml.), silicon dioxide  
**CONDITIONS TO AVOID:** Avoid contact with open flame, electric arcs, or other hot surfaces which can cause thermal decomposition.

**INCOMPATIBILITY:** Strong alkalis, oxidizers, reactive material  
**HAZARDOUS POLYMERIZATION:** Will not occur

### V - FIRE AND EXPLOSION HAZARD DATA

**FLASH POINT (Method Used):** 1. None (TCC) 2. >400 (PMCC)  
**EXTINGUISHING AGENTS:** Water, foam, dry chemical, Carbon dioxide (CO2)

**FLAMMABLE LIMITS IN AIR:** 12-19% (Vol.) @ 100°C  
**NFPA HAZARD RATINGS:** Health 2, Flammability 1  
Reactivity 0

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** Concentrated vapors can be ignited by a high intensity ignition source. Firefighters should wear self-contained, positive pressure breathing apparatus, due to thermal decomposition products.

### VI - TOXICITY AND FIRST AID

**EXPOSURE LIMITS:** (ACGIH) - 50 ppm TWA (8hr.); (OSHA) - 25 ppm TWA (8hr.) 15 minute STEL (29 CFR 1910.1052); Odor threshold approximately 200-300 ppm (causes olfactory fatigue)

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Alcoholism, acute and chronic liver and kidney disease, chronic lung disease, anemia, coronary disease or rhythm disorders of the heart

#### ACUTE TOXICITY:

**INHALATION -** Major route of potential exposure. Methylene chloride depresses the central nervous system. Concentrations between 900-1,000 ppm may cause dizziness. Nausea, headache and vomiting can occur at concentrations above 2,000 ppm. At 7,000 ppm, numbness and tingling in arms and legs and rapid heartbeat have occurred. Loss of consciousness and death has occurred at levels above 9,000 ppm, if exposure is prolonged. Carboxyhemoglobin levels can be elevated in persons exposed to methylene chloride and can cause substantial stress on the cardiovascular system. This elevation can be additive to the increase caused by smoking and other carbon monoxide sources.

**SKIN:** Liquid methylene chloride is painful and irritating if confined to skin by gloves, clothing, etc. Prolonged or repeated contact may cause irritation, defatting of skin, and dermatitis. Absorption through intact skin is possible if contact with liquid is prolonged.

**EYES:** Liquid may cause temporary irritation with temporary corneal injury. Vapors may irritate eyes.

**INGESTION:** Single dose toxicity low to moderate. If vomiting occurs, methylene chloride can be aspirated into lungs, which can cause chemical pneumonia and systemic effects.

#### FIRST AID:

**INHALATION:** Remove to fresh air. If breathing has stopped, administer artificial respiration. Call a physician.

**SKIN:** Remove contaminated clothing and shoes. Wash exposed area thoroughly with soap and water for at least 15 minutes. Wash contaminated clothing before reuse.

**EYES:** Flush eyes immediately with water for at least 15 minutes. If irritation persists, call a physician.

**INGESTION:** Do not induce vomiting. Contact physician or emergency medical facility immediately.

**NOTE TO PHYSICIAN:** Adrenaline should never be given to a person overexposed to methylene chloride. The finding of chronic toxic effects in laboratory animals may indicate toxicity to humans.

Overexposure should be avoided. Failure to do so could result in injury, illness or even death. Chronic overexposures to methylene chloride have caused liver and kidney toxic effects in experimental animals.

**CARCINOGENICITY:** Methylene chloride has been evaluated for possible cancer causing effects in laboratory animals. Inhalation studies at concentrations of 2,000 and 4,000 ppm increased the incidence of malignant liver and kidney tumors in mice. Three inhalation studies of rats have shown increased incidence of benign mammary gland tumors in female rats at concentrations of 500 ppm and above and increases in benign mammary gland tumors in males at concentrations of 1,500 ppm and above. Rats exposed to 50 and 200 ppm via inhalation showed no increased incidence of tumors. Mice and rats exposed by ingestion at levels up to 250-ppm/fg/day lifetime and hamsters exposed via inhalation to concentrations up to 3,500-ppm lifetime did not show an increased incidence of tumors.

The International Agency for Research on Cancer (IARC) has concluded that, with respect to methylene chloride, there is sufficient evidence of the carcinogenicity to experimental animals and inadequate evidence of the carcinogenicity to humans, resulting in a classification as a 2B animal carcinogen. The NTP has identified methylene chloride as an animal carcinogen. Methylene chloride is listed on the IARC and NTP carcinogen lists but not by OSHA. The State of California has listed methylene chloride under Proposition 65 as a chemical known to the state to cause cancer.

Epidemiology studies of 751 humans chronically exposed to methylene chloride in the workplace, of which 252 were exposed for a minimum of 20 years, did not demonstrate any increase in deaths caused by cancer or cardiac problems. A second study of 2,227 workers confirmed these results.

**REPRODUCTIVE TOXICITY:** Reproductive toxicity tests have been conducted to evaluate the potential adverse effects methylene chloride may have on reproduction and offspring of laboratory animals. The results indicate that methylene chloride does not cause birth defects in laboratory animals.

## VII - PERSONAL PROTECTION AND CONTROLS

**RESPIRATORY PROTECTION:** Where vapor concentration exceeds or is likely to exceed 50-ppm methylene chloride, an approved full-face respirator with organic vapor canister is acceptable. Approved self-contained breathing apparatus or air line respirator, with full face piece, is required for methylene chloride concentrations above 1,000 ppm and for spills and/or emergencies. Follow any applicable respirator use standards and regulations.

**VENTILATION:** Do not use in a closed or confined space. Open doors and/or windows. Use ventilation to maintain exposure levels of methylene chloride below 50 ppm (TWA).

**SKIN PROTECTION:** Wear solvent-resistant gloves such as Viton, polyvinyl alcohol, or equivalent. Solvent-resistant boots, apron, headgear and/or face shield should be worn where splashing is possible.

**EYE PROTECTION:** Wear safety glasses. Contact lenses should not be worn. Chemical goggles and/or face shields should be worn where splashing is possible.

**HYGIENE:** Avoid contact with skin and avoid breathing vapors. Do not eat, drink or smoke in work area. Wash hands prior to eating, drinking, or using restroom.

**OTHER CONTROL MEASURES:** To determine exposure level(s), monitoring should be performed regularly. Safety shower and eyewash station should be made available.

**NOTE:** Protective equipment and clothing should be selected, used and maintained according to applicable standards and regulations. For further information, contact the clothing or equipment manufacturer.

## VIII - STORAGE AND HANDLING PRECAUTIONS

Follow protective controls set forth in Section VII when handling this product. Store labeled sealed containers in a cool, dry, well-ventilated area out of sunlight. Prevent water or moist air from entering storage tanks or containers. Do not cut or weld on empty or full drums. Aluminum equipment should not be used for storage and/or transfer. Contact with aluminum parts in a pressurized fluid system may cause violent reactions. Consult equipment supplier for further information. Vapors are heavier than air and will collect in low areas. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276. Do not remove or deface label. Do not reuse drum without recycling or reconditioning in accordance with any applicable federal, state or local laws.

SARA Title III Hazard Categories: Immediate Health, Delayed Health

## IX - SPILL, LEAK AND DISPOSAL PRACTICES

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** Evacuate the area, ventilate, and avoid breathing vapors. Dike area to contain spill. If spill occurs indoors, turn off air conditioning and/or heating system, to prevent vapors from contaminating entire building. Clean up area (wear protective equipment - refer to Section VII) by mopping or with absorbent material and place in closed containers for disposal. Avoid contamination of ground and surface waters. Do not flush to sewer. Reportable Quantity (RQ) is 1,000 lbs. Notify National Response Center (800/424-8802) of uncontrolled spills in excess of RQ.

**WASTE DISPOSAL METHOD:** Recovered liquids may be sent to a licensed reclaimer or incineration facility. Contaminated material must be disposed of in a permitted waste management facility. Consult federal, state or local disposal authorities for approved procedures.

## X - TRANSPORTATION

**DOT HAZARD CLASSIFICATION:** Methylene chloride, 6.1, UN 1593, PG III, RQ

**PLACARD REQUIRED:** Keep away from food, 1593, Class 6

**LABEL REQUIRED:** Keep away from food, Class 6

Label as required by OSHA Hazard Communication Standard, and any applicable state and local regulations.

This sheet was compiled from the latest available information and reliable sources. Procedures are based on accepted usage. They are not necessarily all-inclusive and may vary in every circumstance. Weld-Aid provides no warranties either expressed or implied and assumes no responsibility for the accuracy or completeness of the data herein.



400 Chisholm Place, Suite 418  
Plano, Texas 75075

Telephone: (469)241-0950 Telecopier: (469)241-0956

### MATERIAL SAFETY DATA SHEET

**EMERGENCY OVERVIEW**  
 This tan to amber slippery grease has a mild odor. No significant immediate hazards for emergency response are known.

**NFPA RATING: HEALTH: 1 FLAMMABILITY: 1 REACTIVITY: 0**

#### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

GENERIC NAME: LUBRICATING GREASE

ISSUE DATE:

February 21, 2006

THIS LUBRICANTS USA PRODUCT IS:

**MARSON EPL GREASE**

CAS NUMBER:

Mixture

SYNONYMS / GENERAL NAMES:

Grease

24 HOUR EMERGENCY TELEPHONE:

(CHEMTREC) 1-800-424-9300

TECHNICAL INFORMATION:

1-800-442-5823

MARSON EPL

#### 2. COMPOSITION / INFORMATION ON INGREDIENTS / HAZARDOUS INGREDIENTS

COMPONENTS	CAS NO.	%	HAZARD DATA
1) Distillates, petroleum, hydrotreated heavy naphthenic and light naphthenic	64742-52-5	10-30	Petroleum oils Oral (LD50): >5000 mg/kg (rat) Dermal (LD50): >2000 mg/kg (rabbit)
2) Highly-refined petroleum lube oils	64742-53-6	5-20	
	64741-88-4	40-60	
	64741-89-5		
	64742-01-4		
3) Lithium carboxylate Soap	64742-65-0		
4) Proprietary ingredients	proprietary	1-15	
	proprietary	1-7	

#### 3. HAZARDOUS IDENTIFICATION

<b>ROUTES OF ENTRY:</b>	Skin contact
<b>TARGET ORGANS:</b>	Skin
<b>IRRITANCY:</b>	This product can cause mild, transient, eye irritation with short-term contact with liquids or sprays.
<b>REPRODUCTIVE EFFECTS:</b>	N/A
<b>CANCER INFORMATION:</b>	This product does not contain any components at concentrations above 0.1% that are considered carcinogenic by OSHA, IARC, or NTP.

#### 4. FIRST AID MEASURES

<b>EYES:</b>	Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness or pain persists.
<b>DERMAL:</b>	Remove contaminated shoes and clothing, wipe off excess material. Wash exposed skin with soap and water. Seek medical attention if tissue appears damaged or if irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated leather goods.



<b>INGESTION:</b>	Do not induce vomiting unless directed to by a physician. Do not give anything to drink unless directed to by a physician. Never give anything by mouth to a person who is not fully conscious. Seek medical attention immediately.
<b>INHALATION:</b>	Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, a qualified individual should administer 100 percent humidified oxygen. Seek medical attention immediately. Keep the affected individual warm and at rest.
<b>INJECTION:</b>	Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.

**5. FIRE FIGHTING MEASURES**

<b>FLASH POINT, °C (°F):</b>	>200°C(>392°F)
<b>FLAMMABLE LIMITS (% BY VOLUME):</b>	<b>LOWER:</b> NO DATA <b>UPPER:</b> NO DATA
<b>EXTINGUISHING MEDIA:</b>	Use dry chemical, foam, carbon dioxide or water fog.
<b>SPECIAL FIRE FIGHTING PROCEDURES:</b>	N/A
<b>AUTOIGNITION TEMPERATURE:</b>	N/A
<b>EXPLOSION DATA:</b>	N/A
<b>NFPA RATING:</b>	<b>HEALTH:</b> <u>1</u> <b>FLAMMABILITY:</b> <u>1</u> <b>REACTIVITY</b> <u>0</u>

**6. ACCIDENTAL RELEASE MEASURES**

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

**Ecotoxicity** Ecological effects testing has not been conducted on this material. Discharges are expected to cause only localized and non-persistent environmental damage.

**Environmental fate** An environmental fate analysis has not been conducted on this specific product. However, plants and animals may experience harmful or fatal effects when coated with petroleum-based products. Petroleum-based (mineral) lube oils will normally 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 can result in a loss of marine life or create an anaerobic environment. This material contains phosphorus, which is a controlled element for disposal in effluent waters in most sections of North America. Phosphorus is known to enhance the formation of algae. Severe algae growth can reduce oxygen content in the water possibly below levels necessary to support marine life.

**7. HANDLING AND STORAGE**

**HANDLING & STORAGE PROCEDURES:** If this product is stored or applied in high-pressure systems such as grease guns or grease lines there is potential for accidental injection into the skin and underlying tissues. Workers must be aware of the significant hazards associated with a hydrocarbon injection injury and should seek medical treatment immediately. Avoid water contamination and extreme temperatures to minimize product degradation. Keep container closed. Do not store with strong oxidizing agents. Do not store at temperatures above 120°F or in direct sunlight for extended periods of time.

Empty containers may contain product residues that can ignite with explosive force. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or

disposing of empty containers and/or waste residues of this product.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>ENGINEERING CONTROLS:</b>	Provide exhaust ventilation or other engineering controls to keep the airborne concentration of mists and/or vapors below the recommended exposure limits. An eye wash station and safety shower should be located near the workstation.
<b>GLOVES PROTECTION:</b>	Use gloves constructed of chemical resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected. Use heat protective gloves when handling product at elevated temperatures.
<b>EYE PROTECTION:</b>	Safety glasses equipped with side shields should be adequate protection under most conditions of use. Wear goggles and/or face shield if splashing or spraying is likely, especially if material is heated above 125° F (or 51° C). Have suitable eye wash water available.
<b>RESPIRATORY PROTECTION:</b>	Vaporization or misting is not expected at ambient temperatures. Therefore, the need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).
<b>CLOTHING RECOMMENDATION:</b>	Avoid prolonged and/or repeated skin contact, especially after this product has been used in a crankcase. If splashing or spraying is expected chemical-resistant (Tyvek®, nitrile or neoprene) clothing should be worn. This might include long-sleeves, apron, slicker suit, boots and additional facial protection. If general contact occurs, promptly remove soaked clothing and take a shower.
<b>OTHER COMMENTS:</b>	Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners. Since standards/control limits have not been established for this product, the exposure limits shown below are suggested as minimum control guidelines.
<b>Occupational exposure guidelines for highly-refined petroleum lubricant oils</b>	Applicable workplace exposure levels TWA: 5 STEL; 10 (mg/M <sup>3</sup> ) from ACGIH (TLV) TWA: 5 (mg/ M <sup>3</sup> ) from OSHA (PEL) TWA: 5 STEL; 10 (mg/ M <sup>3</sup> ) from NIOSH

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>APPEARANCE:</b>	Amber to tan, semifluid to solid, smooth texture.
<b>ODOR:</b>	Mild petroleum odor
<b>pH:</b>	N/A
<b>VAPOR PRESSURE, mm Hg (25°C):</b>	<0.0001
<b>VAPOR DENSITY:</b>	>1 (Air =1)
<b>MELTING POINT:</b>	Not available
<b>BOILING POINT, 760 mm Hg, °C:</b>	N/A
<b>SOLUBILITY IN WATER:</b>	Insoluble in cold water.
<b>SPECIFIC GRAVITY:</b>	<1 (Water = 1)
<b>EVAPORATION RATE:</b>	N/A
<b>VISCOSITY 40°C (100°C)</b>	N/A (NLGI grade No. 000, 00, 1 and 2)
<b>MOLECULAR WEIGHT:</b>	N/A
<b>PERCENT VOLATILE:</b>	Negligible volatility

### 10. STABILITY AND REACTIVITY

<b>STABILITY:</b>	Stable
<b>INCOMPATIBILITY:</b>	Strong oxidizers
<b>POLYMERIZATION:</b>	Not expected to occur
<b>THERMAL DECOMPOSITION:</b>	CO <sub>2</sub> , CO, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur, phosphorus, zinc and other hazardous gases..

**11. TOXICOLOGICAL INFORMATION**

<b>EYE IRRITATION:</b>	This product can cause mild, transient, eye irritation with short-term contact with product or product mists.
<b>DERMAL IRRITATION:</b>	This material can cause mild, transient skin irritation with short-term exposure.
<b>INHALATION TOXICITY:</b>	No significant adverse health effects are expected to occur upon short-term exposure to this product. Aspiration of liquid into the lungs can cause severe lung damage or death.
<b>INGESTION IRRITATION:</b>	If swallowed, no significant adverse health effects are anticipated. Ingestion can cause mild irritation to the digestive tract or cause a laxative effect.
<b>INJECTION SENSITATION:</b>	Injection under the skin, in muscle, or into the blood stream can cause irritation, inflammation, swelling, fever, and systemic effects and mild central nervous system depression. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.
<b>CHRONIC EXPOSURE SYMPTOMS</b>	Contains a petroleum-based mineral oil. Prolonged or repeated inhalation of mineral oil mists can cause respiratory irritation or other pulmonary effects.
<b>OTHER REMARKS</b>	

**12. HEALTH INFORMATION**

HMIS CODE: HEALTH: 1 FIRE: 1 REACTIVITY: 0

No	HIGHLY TOXIC	No	SENSITIZER
No	TOXIC	No	REPRODUCTIVE EFFECTS
No	CORROSIVE	No	MUTAGEN
No	IRRITANT		

**13. DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL:** It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal. Determine compliance status with all applicable requirements prior to disposal.

**14. TRANSPORT INFORMATION****DOT (DEPARTMENT OF TRANSPORTATION)**

<b>PROPER SHIPPING NAME:</b>	Petroleum products n. o. s.
<b>HAZARD CLASS:</b>	Not a DOT controlled material (United States).
<b>HAZARD IDENTIFICATION NUMBER:</b>	N/A
<b>DOT PLACARD:</b>	N/A
<b>COMPATIBILITY CATEGORY:</b>	N/A

OTHER Not a DOT "Marine Pollutant" per 49 CFR 171.8 (MARPOL III Status). No reportable quantities.

**15. REGULATORY INFORMATION****SARA SECTION 313 - TOXIC CHEMICALS:**

This product contains the following components in concentrations above de minimis levels that are listed as toxic chemicals under SARA Section 313 and 40 CFR Part 372: zinc and zinc compounds, concentration: 0-2%..

**SARA SECTION 311 - HAZARD CATEGORIES:**

This product may meet one or more of the criteria for the hazard categories defined in 40 CFR Part 370 as established by Sections 311 and 312 of SARA as indicated below:

NO	IMMEDIATE (ACUTE) HEALTH HAZARD	NO	SUDDEN RELEASE OF PRESSURE HAZARD
----	---------------------------------	----	-----------------------------------

NO	DELAYED (CHRONIC) HEALTH HAZARD	NO	REACTIVE HAZARD
NO	FIRE HAZARD		

**SARA SECTION 302 - EXTREMELY HAZARDOUS WASTE:**

This product is not known to contain any components in concentrations greater than one percent that are listed as Extremely Hazardous Substances in 40 CFR Part 355 pursuant to the requirements of Section 302(a) of SARA.

**CLEAN WATER ACT (CWA):**

Under the CWA, discharges of crude oil and petroleum products to surface water without proper Federal and State permits must be reported immediately to the National Response Center at (800) 424-8802.

**CERCLA HAZARDOUS SUBSTANCES:**

Notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance. Chemical substances present in this product that may be subject to this statute are: Zinc and zinc compounds, concentration: 0-1%.

**U.S. TSCA INVENTORY**

All components of this material are listed on the U.S. TSCA Inventory.

**CALIFORNIA PROPOSITION 65**

This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

**NEW JERSEY RIGHT-TO-KNOW LABEL**

Grease

MARSON EPL

**ADDITIONAL REGULATORY REMARKS**

Section 12(b) of TSCA: This material contains detectable concentrations of Isopropyl Alcohol (67-63-0). Accordingly, this product is subject to US EPA's one-time only per country export notification requirements

**16. OTHER INFORMATION**

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information was prepared for the guidance of plant engineering, operations and management and for persons working with or handling this product. Lubricants USA believes this information to be reliable and up to date as of the date of publication, but makes no warranty that it is.

<b>NFPA HAZARD RATING</b>	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4
<b>HMIS HEALTH RATING</b>	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4

AP = approximately    EQ = equal    > = greater than    < = less than    NA = not applicable  
 ND = no data    NE = not established

- ACGIH = American Conference of Governmental Industrial Hygienists
- AIHA = American Industrial Hygiene Association
- CERCLA = Comprehensive Environmental Response, Compensation and Liability Act (1980)
- EPA = Environmental Protection Agency
- HMIS = Hazardous Materials Information System
- IARC = International Agency for Research on Cancer
- NFPA = National Fire Protection Association
- NIOSH = National Institute of Occupational Safety and Health
- NLGI = National Lubricating Grease Institute
- NPCA = National Paint and Coating Manufacturers Association
- NTP = National Toxicology Program
- OSHA = Occupational Safety and Health Administration
- RQ = Reportable quantity
- SARA = Superfund Amendments and Reauthorization Act (1986)
- TSCA = Toxic Substance Control Act



400 Chisholm Place, Suite 418  
Plano, Texas 75075

Telephone: (469)241-0950 Telecopier: (469)241-0956

### MATERIAL SAFETY DATA SHEET

#### EMERGENCY OVERVIEW

This red, slippery and sticky grease has a mild odor. No significant immediate hazards for emergency response are known.

**NFPA RATING:** HEALTH: 1 **FLAMMABILITY:** 1 **REACTIVITY:** 0

#### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**GENERIC NAME:** LUBRICATING GREASE

**ISSUE DATE:**

February 21, 2006

**THIS LUBRICANTS USA PRODUCT IS:**

**MARSON LIplex ET GREASE**

**CAS NUMBER:**

**SYNONYMS / GENERAL NAMES:**

**24 HOUR EMERGENCY TELEPHONE:**

**TECHNICAL INFORMATION:**

Mixture

Grease

(CHEMTREC) 1-800-424-9300

1-800-442-5823

MARSON LIplex <sup>M</sup>

#### 2. COMPOSITION / INFORMATION ON INGREDIENTS / HAZARDOUS INGREDIENTS

COMPONENTS	CAS NO.	%	HAZARD DATA
1) Distillates, petroleum, hydrotreated heavy naphthenic	64742-52-5	50-70	Petroleum oils Oral (LD50): >5000 mg/kg (rat) Dermal (LD50): >2000 mg/kg (rabbit)
2) Highly-refined petroleum lube oils	64741-88-4 64741-89-5 64742-01-4 64742-65-0	20-40	
3) Lithium carboxylate Soap	proprietary	1-15	
4) Proprietary ingredients	proprietary	1-15	

#### 3. HAZARDOUS IDENTIFICATION

<b>ROUTES OF ENTRY:</b>	Skin contact
<b>TARGET ORGANS:</b>	Skin
<b>IRRITANCY:</b>	This product can cause mild, transient, eye irritation with short-term contact with liquids or sprays.
<b>REPRODUCTIVE EFFECTS:</b>	N/A
<b>CANCER INFORMATION:</b>	This product does not contain any components at concentrations above 0.1% that are considered carcinogenic by OSHA, IARC, or NTP.

#### 4. FIRST AID MEASURES

<b>EYES:</b>	Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness or pain persists.
<b>DERMAL:</b>	Remove contaminated shoes and clothing, wipe off excess material. Wash exposed skin with soap and water. Seek medical attention if tissue appears damaged or if irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated leather goods.

<b>INGESTION:</b>	Do not induce vomiting unless directed to by a physician. Do not give anything to drink unless directed to by a physician. Never give anything by mouth to a person who is not fully conscious. Seek medical attention immediately.
<b>INHALATION:</b>	Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, a qualified individual should administer 100 percent humidified oxygen. Seek medical attention immediately. Keep the affected individual warm and at rest.
<b>INJECTION:</b>	Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.

### 5. FIRE FIGHTING MEASURES

<b>FLASH POINT, °C (°F):</b>	>200°C(>392°F)
<b>FLAMMABLE LIMITS (% BY VOLUME):</b>	<b>LOWER:</b> NO DATA <b>UPPER:</b> NO DATA
<b>EXTINGUISHING MEDIA:</b>	Use dry chemical, foam, carbon dioxide or water fog.
<b>SPECIAL FIRE FIGHTING PROCEDURES:</b>	N/A
<b>AUTOIGNITION TEMPERATURE:</b>	N/A
<b>EXPLOSION DATA:</b>	N/A
<b>NFPA RATING:</b>	<b>HEALTH:</b> <u>  1  </u> <b>FLAMMABILITY:</b> <u>  1  </u> <b>REACTIVITY</b> <u>  0  </u>

### 6. ACCIDENTAL RELEASE MEASURES

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

**Ecotoxicity** Ecological effects testing has not been conducted on this material. Discharges are expected to cause only localized and non-persistent environmental damage.

**Environmental fate** An environmental fate analysis has not been conducted on this specific product. However, plants and animals may experience harmful or fatal effects when coated with petroleum-based products. Petroleum-based (mineral) lube oils will normally 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 can result in a loss of marine life or create an anaerobic environment. This material contains phosphorus, which is a controlled element for disposal in effluent waters in most sections of North America. Phosphorus is known to enhance the formation of algae. Severe algae growth can reduce oxygen content in the water possibly below levels necessary to support marine life.

### 7. HANDLING AND STORAGE

**HANDLING & STORAGE PROCEDURES:** If this product is stored or applied in high-pressure systems such as grease guns or grease lines there is potential for accidental injection into the skin and underlying tissues. Workers must be aware of the significant hazards associated with a hydrocarbon injection injury and should seek medical treatment immediately. Avoid water contamination and extreme temperatures to minimize product degradation. Keep container closed. Do not store with strong oxidizing agents. Do not store at temperatures above 120°F or in direct sunlight for extended periods of time.

Empty containers may contain product residues that can ignite with explosive force. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or

disposing of empty containers and/or waste residues of this product.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>ENGINEERING CONTROLS:</b>	Provide exhaust ventilation or other engineering controls to keep the airborne concentration of mists and/or vapors below the recommended exposure limits. An eye wash station and safety shower should be located near the workstation.
<b>GLOVES PROTECTION:</b>	Use gloves constructed of chemical resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected. Use heat protective gloves when handling product at elevated temperatures.
<b>EYE PROTECTION:</b>	Safety glasses equipped with side shields should be adequate protection under most conditions of use. Wear goggles and/or face shield if splashing or spraying is likely, especially if material is heated above 125° F (or 51° C). Have suitable eye wash water available.
<b>RESPIRATORY PROTECTION:</b>	Vaporization or misting is not expected at ambient temperatures. Therefore, the need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).
<b>CLOTHING RECOMMENDATION:</b>	Avoid prolonged and/or repeated skin contact, especially after this product has been used in a crankcase. If splashing or spraying is expected chemical-resistant (Tyvek®, nitrile or neoprene) clothing should be worn. This might include long-sleeves, apron, slicker suit, boots and additional facial protection. If general contact occurs, promptly remove soaked clothing and take a shower.
<b>OTHER COMMENTS:</b>	Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners. Since standards/control limits have not been established for this product, the exposure limits shown below are suggested as minimum control guidelines.
<b>Occupational exposure guidelines for highly-refined petroleum lubricant oils</b>	Applicable workplace exposure levels TWA: 5 STEL; 10 (mg/M <sup>3</sup> ) from ACGIH (TLV) TWA: 5 (mg/ M <sup>3</sup> ) from OSHA (PEL) TWA: 5 STEL; 10 (mg/ M <sup>3</sup> ) from NIOSH

M  
MARSON LIPLIX

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>APPEARANCE:</b>	Red semisolid, smooth and tacky.
<b>ODOR:</b>	Mild petroleum odor
<b>pH:</b>	N/A
<b>VAPOR PRESSURE, mm Hg (25°C):</b>	<0.0001
<b>VAPOR DENSITY:</b>	>1 (Air =1)
<b>MELTING POINT:</b>	Not available
<b>BOILING POINT, 760 mm Hg, °C:</b>	IBP 340 C (644 F)
<b>SOLUBILITY IN WATER:</b>	Insoluble in cold water.
<b>SPECIFIC GRAVITY:</b>	<1 (Water = 1)
<b>EVAPORATION RATE:</b>	N/A
<b>VISCOSITY 40°C (100°C)</b>	N/A (NLGI grade 2)
<b>MOLECULAR WEIGHT:</b>	N/A
<b>PERCENT VOLATILE:</b>	Negligible volatility

**10. STABILITY AND REACTIVITY**

<b>STABILITY:</b>	Stable
<b>INCOMPATIBILITY:</b>	Strong oxidizers
<b>POLYMERIZATION:</b>	Not expected to occur
<b>THERMAL DECOMPOSITION:</b>	CO <sub>2</sub> , CO, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur, phosphorus, zinc and/or nitrogen.

**11. TOXICOLOGICAL INFORMATION**

<b>EYE IRRITATION:</b>	This product can cause mild, transient, eye irritation with short-term contact with product or product mists.
<b>DERMAL IRRITATION:</b>	This material can cause mild, transient skin irritation with short-term exposure.
<b>INHALATION TOXICITY:</b>	No significant adverse health effects are expected to occur upon short-term exposure to this product. Aspiration of liquid into the lungs can cause severe lung damage or death.
<b>INGESTION IRRITATION:</b>	If swallowed, no significant adverse health effects are anticipated. Ingestion can cause mild irritation to the digestive tract or cause a laxative effect.
<b>INJECTION SENSITATION:</b>	Injection under the skin, in muscle, or into the blood stream can cause irritation, inflammation, swelling, fever, and systemic effects and mild central nervous system depression. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.
<b>CHRONIC EXPOSURE SYMPTOMS</b>	Contains a petroleum-based mineral oil. Prolonged or repeated inhalation of mineral oil mists can cause respiratory irritation or other pulmonary effects.
<b>OTHER REMARKS</b>	

**12. HEALTH INFORMATION**

**HMIS CODE:** HEALTH: 1 FIRE: 1 REACTIVITY: 0

M  
MARSON LIPILEX

No	HIGHLY TOXIC	No	SENSITIZER
No	TOXIC	No	REPRODUCTIVE EFFECTS
No	CORROSIVE	No	MUTAGEN
No	IRRITANT		

**13. DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL:** It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal. Determine compliance status with all applicable requirements prior to disposal.

**14. TRANSPORT INFORMATION**

**DOT (DEPARTMENT OF TRANSPORTATION)**

<b>PROPER SHIPPING NAME:</b>	Petroleum products n. o. s.
<b>HAZARD CLASS:</b>	Not a DOT controlled material (United States).
<b>HAZARD IDENTIFICATION NUMBER:</b>	N/A
<b>DOT PLACARD:</b>	N/A
<b>COMPATIBILITY CATEGORY:</b>	N/A

**OTHER** Not a DOT "Marine Pollutant" per 49 CFR 171.8 (MARPOL III Status). No reportable quantities.

**15. REGULATORY INFORMATION**

**SARA SECTION 313 - TOXIC CHEMICALS:**  
This product does not contain toxic chemicals under SARA Section 313 and 40 CFR Part 372.

**SARA SECTION 311 - HAZARD CATEGORIES:**  
This product may meet one or more of the criteria for the hazard categories defined in 40 CFR Part 370 as established by Sections 311 and 312 of SARA as indicated below:

NO	IMMEDIATE (ACUTE) HEALTH HAZARD	NO	SUDDEN RELEASE OF PRESSURE HAZARD
----	---------------------------------	----	-----------------------------------



NO	DELAYED (CHRONIC) HEALTH HAZARD	NO	REACTIVE HAZARD
NO	FIRE HAZARD		

**SARA SECTION 302 - EXTREMELY HAZARDOUS WASTE:**

This product is not known to contain any components in concentrations greater than one percent that are listed as Extremely Hazardous Substances in 40 CFR Part 355 pursuant to the requirements of Section 302(a) of SARA.

**CLEAN WATER ACT (CWA):**

Under the CWA, discharges of crude oil and petroleum products to surface water without proper Federal and State permits must be reported immediately to the National Response Center at (800) 424-8802.

**CERCLA HAZARDOUS SUBSTANCES:**

Notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance. Chemical substances present in this product that may be subject to this statute are: Zinc and zinc compounds, concentration: 0-1%.

**U.S. TSCA INVENTORY**

All components of this material are listed on the U.S. TSCA Inventory.

**CALIFORNIA PROPOSITION 65**

This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

M  
MARSON LIPILEX

**NEW JERSEY RIGHT-TO-KNOW LABEL**

Grease

**ADDITIONAL REGULATORY REMARKS**

Section 12(b) of TSCA: This material contains detectable concentrations of Isopropyl Alcohol (67-63-0). Accordingly, this product is subject to US EPA's one-time only per country export notification requirements

**16. OTHER INFORMATION**

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information was prepared for the guidance of plant engineering, operations and management and for persons working with or handling this product. Lubricants USA believes this information to be reliable and up to date as of the date of publication, but makes no warranty that it is.

<b>NFPA HAZARD RATING</b>	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4
<b>HMIS HEALTH RATING</b>	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4

AP = approximately    EQ = equal    > = greater than    < = less than    NA = not applicable  
ND = no data    NE = not established

- ACGIH = American Conference of Governmental Industrial Hygienists
- AIHA = American Industrial Hygiene Association
- CERCLA = Comprehensive Environmental Response, Compensation and Liability Act (1980)
- EPA = Environmental Protection Agency
- HMIS = Hazardous Materials Information System
- IARC = International Agency for Research on Cancer
- NFPA = National Fire Protection Association
- NIOSH = National Institute of Occupational Safety and Health
- NLGI = National Lubricating Grease Institute
- NPCA = National Paint and Coating Manufacturers Association
- NTP = National Toxicology Program
- OSHA = Occupational Safety and Health Administration
- RQ = Reportable quantity
- SARA = Superfund Amendments and Reauthorization Act (1986)
- TSCA = Toxic Substance Control Act



# United States Steel Corporation

## Material Safety Data Sheet

USS Code Number: 3C012

Original Issue Date: 09/01/85

Revised: 05/01/02

### Section 1 - Chemical Product and Company Identification

**Product/Chemical Name:** METAL DECKING  
 Galvanized (Hot Dipped) Sheet - Carbon Steel;  
 Galvannealed (Hot Dipped) Sheet - Carbon Steel;  
 ACRYZINC® Sheet - Carbon Steel

**Also Includes:** Culvert

**Manufacturer:** United States Steel Corporation, P.O. Box 206, Pittsburgh, PA 15230-0206  
**General Information:** (412) 433-6840 (8:00 am to 5:00 pm); FAX: (412) 433-6601  
**Off-Hour Emergency Phone Number:** (412) 433-5811

M  
METAL

### Section 2 - Composition / Information on Ingredients

Ingredient Name	CAS Number	Percentage by wt.	OSHA PEL <sup>1</sup>	ACGIH TLV <sup>2</sup>
<b>Base Metal</b>				
Iron	7439-89-6	>90.0	10 mg/m <sup>3</sup> - Iron oxide fume	5 mg/m <sup>3</sup> - Iron oxide dust and fume
<b>Alloying Elements</b>				
Calcium	7440-70-2	0.10 max.	5 mg/m <sup>3</sup> - Calcium oxide	2 mg/m <sup>3</sup> - Calcium oxide
Carbon	7440-44-0	0.60 max.	15 mg/m <sup>3</sup> - Total dust (PNOR) <sup>3</sup> 5 mg/m <sup>3</sup> - Respirable fraction (PNOR)	10 mg/m <sup>3</sup> - Inhalable fraction <sup>4</sup> (PNOS) <sup>3</sup> 3 mg/m <sup>3</sup> - Respirable fraction <sup>6</sup> (PNOS)
Copper	7440-50-8	0.50 max.	0.1 mg/m <sup>3</sup> - Fume (as Cu) 1 mg/m <sup>3</sup> - Dusts & mists (as Cu)	0.2 mg/m <sup>3</sup> - Fume 1 mg/m <sup>3</sup> - Dusts & mists (as Cu)
Manganese	7439-96-5	1.30 max.	5 mg/m <sup>3</sup> (C) - Fume & Mn compounds	0.2 mg/m <sup>3</sup>
Phosphorus	8049-19-2	0.15 max.	15 mg/m <sup>3</sup> - Total dust (PNOR) 5 mg/m <sup>3</sup> - Respirable fraction (PNOR)	10 mg/m <sup>3</sup> - Inhalable fraction (PNOS) 3 mg/m <sup>3</sup> - Respirable fraction (PNOS)
Silicon	7440-21-3	0.60 max.	15 mg/m <sup>3</sup> - Total dust 5 mg/m <sup>3</sup> - Respirable fraction	10 mg/m <sup>3</sup>
Sulfur	7704-34-9	0.04 max.	15 mg/m <sup>3</sup> - Total dust (PNOR) 5 mg/m <sup>3</sup> - Respirable fraction (PNOR)	10 mg/m <sup>3</sup> - Inhalable fraction (PNOS) 3 mg/m <sup>3</sup> - Respirable fraction (PNOS)
<b>Metallic Coating</b>				
Aluminum	7429-90-5	0.055 max.	15 mg/m <sup>3</sup> - Total dust 5 mg/m <sup>3</sup> - Respirable fraction	10 mg/m <sup>3</sup> - Metal Dust 5 mg/m <sup>3</sup> - Welding fume
Antimony	7440-36-0	0.011 max.	0.5 mg/m <sup>3</sup>	0.5 mg/m <sup>3</sup>
Iron	7439-89-6	0.8 max.	10 mg/m <sup>3</sup> - Iron oxide fume	5 mg/m <sup>3</sup> - Iron oxide dust and fume
Lead	7439-92-1	0.004 max.	0.05 mg/m <sup>3</sup>	0.05 mg/m <sup>3</sup>
Zinc	7440-66-6	0.15-9.1	5 mg/m <sup>3</sup> - Fume 15 mg/m <sup>3</sup> - Total dust 5 mg/m <sup>3</sup> - Respirable fraction	5 mg/m <sup>3</sup> - Fume 10 mg/m <sup>3</sup> - Fume (STEL) 10 mg/m <sup>3</sup> - Dust

**Notes:**

- \* Percent weight of metallic coating is a percent of the total product.
- Galvanized sheet surfaces may be chemically treated, generally at the customer's specification, with trace amounts of chromate solution (approximately 1 to 2 mg/ft<sup>2</sup> per side or <0.002% of total product weight) to prevent humid storage stain, and/or phosphate solution (<300 mg/ft<sup>2</sup> or <0.3%) to enhance paint adherence and formability. Surface may also be treated with small amounts (<0.05%) of corrosion-inhibiting oil.

USS Code No.: 3C012 Galvanized (Hot Dipped) Sheet - Carbon Steel; ACRYZINC<sup>®</sup> Sheet - Carbon Steel Rev. 05/02

- ACRYZINC<sup>®</sup> product has a thin clear resin film (approximately 100 mg/ft<sup>2</sup> per side) over the galvanized coating. This film consists of a water-insoluble acrylic polymer/chromium matrix in approximately a 100/1 ratio. The composition of the acrylic coating, as a percentage of the total product weight, is <0.1% polymers and <0.001% chromium.
- All commercial steel products may contain small amounts of various elements in addition to those specified. These small quantities (less than 0.1%) may exist as intentional additions, or as "trace" or "residual" elements that generally originate in the raw materials used. These elements may include: aluminum, antimony, arsenic, boron, cadmium, calcium, chromium, cobalt, columbium, copper, lead, molybdenum, nickel, silicon, tin, titanium, vanadium, and zirconium.

<sup>1</sup> OSHA Permissible Exposure Limits (PELs) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A ("C") designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Short Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday.

<sup>2</sup> Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted.

<sup>3</sup> PNOR (Particulates Not Otherwise Regulated). All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the PNOR limit which is the same as the inert or nuisance dust limit of 15 mg/m<sup>3</sup> for total dust and 5 mg/m<sup>3</sup> for the respirable fraction.

<sup>4</sup> Inhalable fraction. The concentration of inhalable particulate for the application of this TLV is to be determined from the fraction passing a size-selector with the characteristics defined in the ACGIH TLVs and BEIs Appendix D, paragraph A.

<sup>5</sup> PNOS (Particulates Not Otherwise Specified). Particulates identified under the PNOS heading are "nuisance dusts" containing no asbestos and <1% crystalline silica. A TWA-TLV of 10 mg/m<sup>3</sup> for inhalable particulate and 3 mg/m<sup>3</sup> for respirable particulate has been recommended.

<sup>6</sup> Respirable fraction. The concentration of respirable dust for the application of this limit is to be determined from the fraction passing a size-selector with the characteristics defined in the ACGIH TLVs and BEIs Appendix D, paragraph C.

<sup>7</sup> The 8-hour PEL is 50 ug/m<sup>3</sup>. If an employee is exposed to lead for more than 8 hours in any work day, the PEL, as a TWA for that day, shall be reduced according to the following formula: Maximum permissible limit (in ug/m<sup>3</sup>) = 400 divided by hours worked in that day. The Action Level is 30 ug/m<sup>3</sup>

M  
METAL

### Section 3 - Hazards Identification

#### ☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

This formed solid metal product poses little or no immediate health or fire hazard. When product is subjected to welding, burning, melting, sawing, brazing, grinding, or other similar processes, potentially hazardous airborne particulate and fumes may be generated. Avoid inhalation of metal dusts and fumes. Operations having the potential to generate airborne particulates should be performed in well ventilated areas and, if appropriate, respiratory protection and other personal protective equipment should be used. Iron or steel foreign bodies imbedded in the cornea of the eye may produce rust stains unless removed fairly promptly.

#### Potential Health Effects

**Primary Entry Routes:** Inhalation and skin, if coated. Steel products in the natural state do not present an inhalation, ingestion or contact hazard. However, operations such as burning, welding, sawing, brazing, machining and grinding may result in the following effects if exposures exceed recommended limits as listed in Section 2.

**Target Organs:** Respiratory system.

#### Acute Effects:

- **Inhalation:** Excessive exposure to high concentrations of dust may cause irritation to the eyes, skin and mucous membranes of the upper respiratory tract. Excessive inhalation of fumes of freshly formed metal oxide particles sized below 1.5 microns and usually between 0.02-0.05 microns from many metals can produce an acute reaction known as "metal fume fever". Symptoms consist of chills and fever (very similar to and easily confused with flu symptoms), metallic taste in the mouth, dryness and irritation of the throat followed by weakness and muscle pain. The symptoms come on in a few hours after excessive exposures and usually last from 12 to 48 hours. Long-term effects from metal fume fever have not been noted. Freshly formed oxide fumes of manganese, copper and zinc have been associated with causing metal fume fever. Although not expected to cause effects based upon the quantity present in the material, inhalation or ingestion of lead particles may result in lead-induced systemic toxicity. Symptoms of lead poisoning include abdominal cramps, anemia, muscle weakness and headache.

USS Code No.: 3C012 Galvanized (Hot Dipped) Sheet - Carbon Steel; ACRYZINC® Sheet - Carbon Steel Rev. 05/02

- **Eye:** Excessive exposure to high concentrations of dust may cause irritation to the eyes. Particles of iron or iron compounds, which become imbedded in the eye, may cause rust stains unless removed fairly promptly. Torchng or burning operations on steel products with surface treatments, oil coatings, or acrylic films may produce emissions that can be irritating to the eyes.
- **Skin:** Skin contact with dusts may cause irritation or sensitization, possibly leading to dermatitis. Repeated or prolonged contact with chemical surface treatments or oil residue may cause skin irritation, dermatitis, ulceration or allergic reactions in sensitized individuals.
- **Ingestion:** Ingestion of harmful amounts of this product as distributed is unlikely due to its solid insoluble form. Ingestion of dust may cause nausea and/or vomiting.

**Chronic Effects:** Chronic inhalation of metallic fumes and dusts are associated with the following conditions:

- **IRON OXIDE:** Chronic inhalation of excessive concentrations of iron oxide fumes or dusts may result in the development of a benign pneumoconiosis, called siderosis, which is observable as an X-ray change. No physical impairment of lung function has been associated with siderosis.
- **CALCIUM:** Depending on the concentration and duration of exposure, repeated or prolonged inhalation may cause inflammation of the respiratory passages, ulcers of the mucous membranes, and possible perforation of the nasal septum. Repeated or prolonged skin contact may cause dermatitis.
- **CARBON:** Chronic inhalation of high concentrations to carbon may cause pulmonary disorders.
- **COPPER:** Skin contact with dusts may cause irritation or sensitization, possibly leading to dermatitis. Repeated or prolonged contact with surface treatments or oil residue may cause skin irritation, dermatitis, ulceration or allergic reactions in sensitized individuals.
- **MANGANESE:** Chronic exposure to high concentrations of manganese fumes and dusts may adversely affect the central nervous system with symptoms including languor, sleepiness, weakness, emotional disturbances, spastic gait, mask-like facial expression and paralysis. Animal studies indicate that manganese exposure may increase susceptibility to bacterial and viral infections.
- **PHOSPHOROUS:** Inhalation of dusts and fumes of ferrophosphorus and phosphorous oxides may cause respiratory irritation.
- **SILICON:** Silicon dusts are a low health risk by inhalation and should be treated as a nuisance dust.
- **SULFUR:** Sulfur compounds, present in the fumes, may irritate the skin, eyes, lungs and gastrointestinal tract.
- **ALUMINUM:** Aluminum dusts/fines are a low health risk by inhalation and should be treated as a nuisance dust.
- **ANTIMONY:** Exposure to high concentrations of antimony dust or fumes can cause inflammation of the skin and mucous membranes, headache, dizziness, sleeplessness, bitter taste, nausea, vomiting, diarrhea, abdominal cramps, muscular pains, enlarged liver, pharyngitis, bronchitis, pneumonia.
- **LEAD:** Lead is classified among the highly toxic heavy metals. It is a cumulative hazard (accumulates in the bone and body tissue) and is a systemic poison that may affect a variety of organ systems, including the central nervous system, kidneys, reproductive system, blood formation, and gastrointestinal tract. Symptoms of chronic over-exposure include loss of appetite, nausea, metallic taste in the mouth, constipation, anxiety, anemia, fatigue, headache, muscle and joint pain, and colic accompanied by severe abdominal pain. Paralysis of the extensor muscles of the arms or legs, with wrist and/or foot drop, may result if the peripheral nervous system is affected. Long-term over-exposure may produce kidney damage. Reproductive damage is characterized by decreased sex drive, impotence, and sterility in men; and decreased fertility, abnormal menstrual cycles, and miscarriages in women. Unborn children may suffer neurological damage or developmental problems due to excessive lead exposure in pregnant women. Prolonged or repeated skin contact to lead dust may result in dermatitis. Systemic toxicity may develop if lead is transferred to the mouth by cigarettes, chewing tobacco, food or make-up. Prolonged eye contact may cause conjunctivitis.
- **ZINC:** Latent liver dysfunction and gastrointestinal disturbances with pressure in the stomach region, nausea, and weakness have been reported from repeated inhalation zinc oxide. Repeated or prolonged skin contact to zinc oxide, coupled with poor personal hygiene, may result in "oxide pox" due to clogging of sebaceous glands. "Oxide pox", especially localized to moist areas, is characterized by small red, hard projecting papules with a central white plug, which develops into a pustule with intense itching. The lesions usually clear within 7-10 days. Repeated or prolonged eye contact with zinc oxide fume may produce conjunctivitis.

Long-term inhalation exposure to high concentrations (over-exposure) to pneumoconiotic agents may act synergistically with inhalation of oxides, fumes or dusts of this product to cause toxic effects.

**Chemical Surface Treatments/Coatings:** The possible presence of chemical surface treatments and oil coatings should be considered when evaluating potential employee health hazards and exposures during handling and welding or other fume generating activities. Removal of surface coatings should be considered prior to such activities. Repeated or prolonged contact with chemical surface treatments or oil residue may cause skin irritation, dermatitis, ulceration or allergic reactions in sensitized individuals. Torchng or burning operations on steel products with surface treatments, oil coatings or acrylic films may produce emissions that can be irritating to the eyes and respiratory tract. Inhalation of hexavalent chromium compounds may cause ulceration of the mucous membranes of the nasal septum and has been related to an increased incidence of lung cancer.

M  
METAL

USS Code No.: 3C012 Galvanized (Hot Dipped) Sheet - Carbon Steel; ACRYZINC<sup>®</sup> Sheet - Carbon Steel Rev. 05/02

**Carcinogenicity:** The International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), and OSHA do not list steel products as carcinogens. IARC identifies lead and welding fumes as Group 2B carcinogens (possibly carcinogenic to humans). EPA lists lead as Group B2 (probable human carcinogen) based on a combination of sufficient evidence in animals and inadequate evidence in humans. When specified, a hexavalent chromium passivation treatment is applied to the product surface. IARC lists hexavalent chromium compounds as Group 1 (sufficient evidence for carcinogenicity in humans). NTP lists certain hexavalent chromium compounds as Group 1 (known to be carcinogenic). The American Conference of Governmental Industrial Hygienists (ACGIH) lists hexavalent chromium compounds as A1 (confirmed human carcinogen).

**Medical Conditions Aggravated by Long-Term Exposure:** Individuals with chronic respiratory disorders (i.e., asthma, chronic bronchitis, emphysema, etc.) may be adversely affected by any fume or airborne particulate matter exposure.

**SARA Potential Hazard Categories:** Immediate Acute Health Hazard; Delayed Chronic Health Hazard.

**Section 4 - First Aid Measures**

**Inhalation:** For over-exposure to airborne fumes and particulate, remove exposed person to fresh air. If breathing is difficult or has stopped, administer artificial respiration or oxygen as indicated. Seek medical attention promptly. Metal fume fever may be treated by bed rest, and administering a pain and fever reducing medication.

**Eye Contact:** Flush with large amounts of clean water to remove particles. Seek medical attention if irritation persists.

**Skin Contact:** Remove contaminated clothing. Wash affected areas with soap or mild detergent and water. If thermal burn has occurred, flush area with cold water and seek medical attention. If a persistent rash or irritation occurs, seek medical attention.

**Ingestion:** Not a probable route of industrial exposure. However, if ingested, seek medical attention immediately.

**Section 5 - Fire-Fighting Measures**

**Flash Point:** Not applicable

**Flash Point Method:** Not applicable

**Burning Rate:** Not applicable

**Flammability Classification:** Non-flammable, non-combustible

**Extinguishing Media:** Not applicable for solid product. Use extinguishers appropriate for surrounding materials.

**Unusual Fire or Explosion Hazards:** Not applicable for solid product. Do not use water on molten metal.

**Hazardous Combustion Products:** At temperatures above the melting point, fumes containing metal oxides and other alloying elements may be liberated. The acrylic resin in the ACRYZINC<sup>™</sup> coating may yield particulates which are irritating to the eyes and respiratory tract and noxious gases such as the oxides of carbon.

**Fire-Fighting Instructions:** Do not release runoff from fire control methods to sewers or waterways.

**Fire-Fighting Equipment:** Wear a self-contained breathing apparatus (SCBA) with a full facepiece operated in pressure-demand or positive-pressure mode and full protective clothing.

LEL: Not applicable

UEL: Not applicable

Auto-ignition Temperature: Not applicable

METAL

**Section 6 - Accidental Release Measures**

**Spill /Leak Procedures:** Not applicable to steel in solid state. For spills involving finely divided particles, clean-up personnel should be protected against contact with eyes and skin. If material is in a dry state, avoid inhalation of dust. Fine, dry material should be removed by vacuuming or wet sweeping methods to prevent spreading of dust. Avoid using compressed air. Do not release into sewers or waterways. Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations.

**Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120) and all other pertinent state and federal requirements.

**Disposal:** Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

**Section 7 - Handling and Storage**

**Handling Precautions:** Operations with the potential for generating high concentrations of airborne particulates should be evaluated and controlled as necessary. Practice good housekeeping. Avoid breathing metal fumes and/or dust.

**Storage Requirements:** Store away from acids and incompatible materials.

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

**Engineering Controls:** Use controls as appropriate to minimize exposure to metal fumes and dusts during handling operations.

**Ventilation:** Provide general or local exhaust ventilation systems to minimize airborne concentrations. Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

**Administrative Controls:** Do not use compressed air to clean-up spills.

USS Code No.: 3C012 Galvanized (Hot Dipped) Sheet - Carbon Steel; ACRYZINC® Sheet - Carbon Steel Rev. 05/02

**Respiratory Protection:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen.

**Protective Clothing/Equipment:** For operations which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, use protective clothing, gloves and safety glasses to prevent skin and eye contact. Contact lenses should not be worn where industrial exposures to this material are likely. Use safety glasses or goggles as required for welding, burning, sawing, brazing, grinding or machining operations. Protective gloves should be worn as required for welding, burning or handling operations. Where the surface treatments are applied to the product, wear gloves when handling. Do not continue to use gloves or work clothing that has become saturated or soaked through with oil coating. Wash skin that has been exposed to oil with soap and water or waterless hand cleaner.

### Section 9 - Physical and Chemical Properties

<b>Physical State:</b> Solid	<b>Water Solubility:</b> Insoluble
<b>Appearance and Odor:</b> Metallic Gray, Odorless	<b>Other Solubilities:</b> Not applicable
<b>Odor Threshold:</b> Not applicable	<b>Boiling Point:</b> Not applicable
<b>Vapor Pressure:</b> Not applicable	<b>Viscosity:</b> Not applicable
<b>Vapor Density (Air=1):</b> Not applicable	<b>Refractive Index:</b> Not applicable
<b>Formula Weight:</b> Not applicable	<b>Surface Tension:</b> Not applicable
<b>Density:</b> 7.85 g/cc	<b>% Volatile:</b> Not applicable
<b>Specific Gravity (H<sub>2</sub>O=1, at 4 °C):</b> 7.85	<b>Evaporation Rate:</b> Not applicable
<b>pH:</b> Not applicable	<b>Freezing/Melting Point:</b> Base Metal - 2750 °F Metallic Coating - 800-900 °F

### Section 10 - Stability and Reactivity

**Stability:** Steel products are stable under normal storage and handling conditions.

**Polymerization:** Hazardous polymerization cannot occur.

**Chemical Incompatibilities:** Will react with strong acids to form hydrogen. Iron oxide dusts in contact with calcium hypochlorite evolve oxygen and may cause an explosion.

**Conditions to Avoid:** Storage with strong acids or calcium hypochlorite.

**Hazardous Decomposition Products:** Thermal oxidative decomposition of galvanized steel products can produce fumes containing oxides of zinc, iron and manganese as well as other elements. The acrylic resin in the ACRYZINC® coating may yield irritating particulates and noxious gases such as the oxides of carbon upon thermal oxidative decomposition.

### Section 11 - Toxicological Information

No information is available for galvanized steel or ACRYZINC™ sheet as a mixture. The possible presence of chemical surface treatments and coatings should be considered when evaluating potential employee health hazards and exposures during handling and welding or other fume generating activities.

#### Eye Effects:

Eye contact with the individual components may cause particulate irritation. Implantation of iron particles in guinea pig corneas has resulted in rust rings with corneal softening about rust ring. Repeated or prolonged eye contact with zinc oxide fume may produce conjunctivitis.

#### Skin Effects:

Skin contact with the individual dust components may cause physical abrasion, irritation and dermatitis.

#### Toxicity Data:\*

##### Acute Inhalation Effects:

Inhalation of the individual alloy components has been shown to cause various respiratory effects.

##### Acute Oral Effects:

No data available

**Other:** No LC50 or LD50 has been established for the mixture as a whole. Iron LD50: 30 g/kg oral (rat). Calcium LD50: No data. Carbon LD50: No data. Copper TD<sub>Lo</sub>: 120 ug/kg oral (human). Manganese LD50: 9 g/kg oral (rat). Phosphorous LD50: No data. Silicon LD50: 3160 mg/kg oral (rat). Sulfur LD: >8437 mg/kg oral (rat). Aluminum LD50: No data. Antimony LD50: No data. Lead TD<sub>Lo</sub>: 450 mg/kg/6 yrs. oral (human). Zinc TC<sub>Lo</sub>: 124 mg/m<sup>3</sup>/50 min. inhalation (human).

##### Chronic Effects: See Section 3.

**Carcinogenicity:** Lead; Chromium (in surface passivation treatment, if specified).

**Mutagenicity:** No data available

**Teratogenicity:** No data available

\* See NIOSH. RTECS: (NO4565500) for additional toxicity data on iron; (EV8040000) for calcium, (FF5250000) for carbon; (GL5325000) for copper; (OO9275000) for manganese; (VW0400000) for silicon, (WS4250000) for sulfur; (BD0330000) for aluminum; (CC4025000) for antimony; (OF7525000) for lead; (ZG8600000) for zinc.

M  
METAL

USS Code No.: 3C012 Galvanized (Hot Dipped) Sheet - Carbon Steel; ACRYZINC® Sheet - Carbon Steel Rev. 05/02

Section 12 - Ecological Information

Ecotoxicity: No data available for galvanized steel or ACRYZINC® sheet as a whole. However, individual components have been found to be toxic to the environment. Metal dusts may migrate into soil and groundwater and be ingested by wildlife. Lead can be bioaccumulated in plants and water organisms, especially shellfish.

Environmental Fate: No data available.

Environmental Degradation: No data available.

Soil Absorption/Mobility: No data available for galvanized steel or ACRYZINC® sheet as a whole. However, individual components have been found to be absorbed by plants from soil.

Section 13 - Disposal Considerations

Disposal: Steel scrap should be recycled whenever possible. Product dusts and fumes from processing operations should also be recycled, or classified by a competent environmental professional and disposed of in accordance with applicable federal, state or local regulations. Container Cleaning and Disposal: Follow applicable Federal, state and local regulations. Observe safe handling precautions.

Section 14 - Transport Information

DOT Transportation Data (49 CFR 172.101):

Galvanized steel and ACRYZINC® sheet are not listed as hazardous substances under 49 CFR 172.101.

Shipping Name: Not applicable

Shipping Symbols: Not applicable

Hazard Class: Not applicable

ID No.: Not applicable

Packing Group: Not applicable

Label: Not applicable

Special Provisions (172.102): None

Packaging Authorizations

a) Exceptions: None

b) Non-bulk Packaging: Not applicable

c) Bulk Packaging: Not applicable

Quantity Limitations

a) Passenger, Aircraft, or Railcar: Not applicable

b) Cargo Aircraft Only: Not applicable

Vessel Stowage Requirements

a) Vessel Stowage: Not applicable

b) Other: Not applicable

M METAL

Section 15 - Regulatory Information

Regulatory Information: The following listing of regulations relating to a United States Steel Corporation product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.

This product and/or its constituents are subject to the following regulations:

OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): The product as a whole is not listed. However, individual components of the product are listed.

OSHA Specifically Regulated Substance: Lead (29 CFR 1910.1025).

EPA Regulations:

RCRA (40CFR261): Steel scrap is not regulated as a solid waste or a hazardous waste under this act. If product dusts and/or fumes from processing operations are not recycled, they are considered to be a solid waste and may be classified as a hazardous waste depending on the toxicity characteristics of the dust as defined within 40CFR261.24.

CERCLA Hazardous Substance (40 CFR 302.4): The product as a whole is not listed. However, individual components of the product are listed: Antimony (Reportable Quantity (RQ)-5000#), Copper (RQ-5000#), and Lead(RQ-10#). Manganese compounds are also listed although no reportable quantity is assigned to this generic or broad class.

SARA 311/312 Codes (40CFR370): Immediate (acute) health hazard and delayed (chronic) health hazard.

SARA 313 (40CFR372.65): Manganese and Zinc are subject to SARA 313 reporting requirements. Please note that if you prepackage or redistribute this product to industrial customers, SARA 313 requires that a notice be sent to those customers.

State Regulations: The product as a whole is not listed in any state regulations. However, individual components of the product are listed in various state regulations.

Pennsylvania Right to Know: Contains regulated material in the following categories:

- Hazardous Substances: Calcium, Silicon and Sulfur.
- Environmental Hazards: Aluminum, Antimony, Copper, Lead, Manganese and Zinc.

New Jersey Right to Know: Contains regulated material in the following categories:

- Hazardous Substances: Aluminum (dust and fume), Antimony, Copper, Manganese and Sulfur.
- Special Health Hazard Substances: Lead.

California Prop. 65: This product may contain an extremely small amount of lead in the metallic coating. Per customer specification, an extremely small amount of hexavalent chromium passivation treatment may be applied to the surface of the galvanized steel product. Lead and hexavalent chromium are materials known to the State of California to cause cancer or reproductive toxicity. In addition, the product may also possibly contain trace quantities (generally much less than 0.1%) of other metallic elements known to the State of California to cause cancer or reproductive toxicity. These include arsenic (inorganic), cadmium and nickel.

USS Code No.: 3C012 Galvanized (Hot Dipped) Sheet - Carbon Steel; ACRYZINC® Sheet - Carbon Steel Rev. 05/02

Other Regulations: The product as a whole is not listed in any state regulations. However, individual components of the product are listed in various state regulations.  
WHMIS Classification (Canadian): D-2

**Section 16 - Other Information**

Prepared By: United States Steel Corporation

**Hazard Rating Systems:**

NFPA Code: 1-0-0

HMIS Code: 1\*-0-0 PPE: See Section 8

\* Denotes possible chronic hazard if airborne dusts or fumes are generated.

**Disclaimer:** All information, recommendations, and suggestions appearing herein concerning this product are taken from sources or based upon data believed to be reliable. Although reasonable care has been taken in the preparation of this information, United States Steel Corporation extends no warranties or guarantees, express or implied, makes no representations, and assumes no responsibility as to the accuracy, reliability or completeness of the information presented. Since the actual use of the product described herein is beyond our control, United States Steel Corporation assumes no liability arising out of the use of the product by others. It is the user's responsibility to determine the suitability of the information presented herein, to assess the safety and toxicity of the product under their own conditions of use, and to comply with all applicable laws and regulations. Appropriate warnings and safe handling procedures should be provided to handlers and users.

M  
METAL



**HAZARDOUS COMMUNICATION LABEL****CARBON STEEL-METALLIC COATING**

**WARNING!** CANCER HAZARD (CONTAINS LEAD AND/OR NICKEL). EXPOSURE TO HIGH CONCENTRATIONS OF DUST OR FUME DURING WELDING, BURNING, MELTING, CUTTING, BRAZING, GRINDING AND POSSIBLY MACHINING, ETC., MAY PRODUCE IMMEDIATE OR DELAYED DAMAGE TO LUNGS OR OTHER ORGANS. EXPOSURE MAY ALSO CAUSE REPRODUCTIVE DISORDERS THROUGH INHALATION OR INGESTION OF LEAD.

EXCESSIVE INHALATION OF ZINC OXIDE FUMES FROM GALVANIZED PRODUCT (3C012) CAN PRODUCE AN ACUTE REACTION KNOWN AS "METAL FUME FEVER", WITH FLU-LIKE SYMPTOMS LASTING FROM 12 TO 48 HOURS.

THIS PRODUCT MAY BE COATED WITH MATERIALS THAT COULD RESULT IN SKIN IRRITATION WITH PROLONGED CONTACT.

**PRECAUTIONS:** AVOID BREATHING OR INGESTING DUST OR FUME. ADEQUATE VENTILATION IS REQUIRED WHILE WELDING, BURNING, MELTING, CUTTING, BRAZING, GRINDING AND MACHINING.

AVOID SKIN CONTACT IF MATERIAL IS COATED.

**FIRST AID:** FOR OVEREXPOSURE TO AIRBORNE DUST AND FUME, REMOVE EXPOSED PERSON TO FRESH AIR. IF BREATHING IS DIFFICULT OR HAS STOPPED, ADMINISTER ARTIFICIAL RESPIRATION OR OXYGEN AS INDICATED. SEEK MEDICAL ATTENTION PROMPTLY.

IF PRODUCT IS COATED AND EXCESSIVE SKIN CONTACT OCCURS, WASH WITH SOAP AND WATER. IF IRRITATION DEVELOPS, SEEK MEDICAL ATTENTION.

**ADDITIONAL INFORMATION:** REFER TO MATERIAL SAFETY DATA SHEETS USS CODE NOS. 3C012, 3C014, 3C015, FOR FURTHER INFORMATION ON SPECIFIC PRODUCTS.

United States Steel Corporation, P.O. Box 206 (MSDS), Pittsburgh, PA 15230-0206

M  
METAL



# MATERIAL SAFETY DATA SHEET

**SYNONYMS:** Stoddard Solvent, Safety Solvent  
**CHEMICAL FORMULA:** Complex Hydrocarbon Mixture  
**C.A.S. NUMBER:** 8052-41-3  
**N.F.P.A. CODE:** HEALTH - 0 FIRE - 2 REACTIVITY - 0 OTHER

	CONCENTRATION	OSHA PEL	ACGIH TLV	C.A.S. NO.
MINERAL SPIRITS	BALANCE	100 PPM	100 PPM	8052-41-3
XYLENE	0.15 wt %	100 PPM	100 PPM	1330-20-7
1,2,4-TRIMETHYLBENZENE	5.14 wt %	25 PPM	25 PPM	95-63-8

**BOILING RANGE (°F):** 300 - 415  
**VAPOR PRESSURE (psia):** Not determined  
**VAPOR DENSITY (Air = 1):** Not determined  
**SOLUBILITY IN WATER:** Negligible  
**APPEARANCE AND ODOR:** Clear, colorless liquid with hydrocarbon odor

**API GRAVITY:** 41.0 - 52.7  
**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):**  
**EVAP. RATE (Butyl Acetate = 1):** Not determined

MINERAL

**FLASH POINT (Method Used):**  
 > 100 °F (TCC)

**FLAMMABLE LIMITS:** LEL UEL  
 1.1 6.0

**EXTINGUISHING MEDIA:**

Use water spray, dry chemical, foam or carbon dioxide. Use water spray or fog; do not use straight streams.

**SPECIAL FIRE FIGHTING PROCEDURES:**

Use water to keep fire-exposed containers cool.

**UNUSUAL FIRE AND EXPLOSIVE HAZARDS:**

Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to a source of ignition and flash back. Vapors are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Liquid is lighter than water.



# MATERIAL SAFETY DATA SHEET

## STABILITY:

Stable

## HAZARDOUS DECOMPOSITION OR COMBUSTION PRODUCTS:

Burning can produce carbon monoxide and carbon dioxide. Carbon monoxide is highly toxic if inhaled (200 ppm OSHA Ceiling). Carbon dioxide in sufficient quantities can act as an asphyxiant.

## INCOMPATIBILITY (Materials/ Conditions to Avoid):

A very dangerous fire and explosion hazard when exposed to heat or flame; can react vigorously with oxidizing materials.

## HAZARDOUS POLYMERIZATION:

None

M  
MINERAL

## SIGNS AND SYMPTOMS OF EXPOSURE:

Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control or dilution water may cause pollution.

**MINERAL SPIRITS: (CAS: 8052-41-3)** Mildly toxic by inhalation. A human eye irritant.

**1,2,4-TRIMETHYLBENZENE: (CAS: 95-63-6)** Moderately toxic by intraperitoneal route. Mildly toxic by inhalation. Can cause central nervous system depression, anemia, bronchitis.

**XYLENE: (CAS: 1330-20-7)** Moderately toxic by intraperitoneal and subcutaneous routes. Mildly toxic by ingestion and inhalation. An experimental teratogen. Human systemic effects by inhalation: olfactory changes, conjunctive irritation and pulmonary changes. Experimental reproductive effects. Mutation data reported. A human eye irritant. An experimental skin and severe eye irritant. Some temporary corneal effects are noted, as well as some conjunctival irritation by instillation (adding drops to the eyes one at a time). Irritation can start at 200 ppm.

## CARCINOGENICITY:

The following components are considered to be carcinogenic by the National Toxicology Program, the International Agency for Research on Cancer, and/or the Occupational Safety and Health Administration:

NONE



# MATERIAL SAFETY DATA SHEET

Get medical attention. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**INHALATION:**

Move victim to fresh air and call emergency medical care. Apply artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.

**SKIN CONTACT:**

Flush skin with running water for at least 20 minutes. Wash skin with soap and water. Remove and isolate contaminated clothing and shoes at the site.

**EYE CONTACT:**

Immediately flush eyes with running water for at least 20 minutes. Get medical attention.



M  
MINERAL

**STEPS TO BE TAKEN WHEN MATERIAL SPILLS OR LEAKS:**

Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other noncombustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. For large spills, dike far ahead of liquid spill for later disposal. Water spray may reduce vapor, but may not prevent ignition in closed spaces.

**WASTE DISPOSAL METHOD:**

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State and Local



Do not use or handle near ignition sources. Provide adequate ventilation.

**RESPIRATORY PROTECTION:**

NIOSH approved breathing protection.

**VENTILATION:**

Recommended. Use explosion-proof type.

**PROTECTION GLOVES:**

Nitrile, Neoprene.

**EYE PROTECTION:**

Face shield or safety glasses.

**OTHER PROTECTION:**

Avoid breathing vapors, skin contact or ingestion.



SARA TITLE III - SECTIONS 302 / 304:

<u>COMPONENT NAME</u>	<u>CAS NO.</u>	<u>SEC 302 EHS TPG</u>	<u>SEC 304 EHS RQ</u>	<u>CERCLA RQ</u>
XYLENE	1330-20-7			100

SARA TITLE III - SECTIONS 311 / 312:

IMMEDIATE: Yes  
 CHRONIC: Yes  
 FIRE: Yes  
 SUDDEN RELEASE OF PRESSURE: No  
 REACTIVE: No

SARA TITLE III - SECTION 313:



1,2,4-TRIMETHYLBENZENE	95-63-8		5.14 %	
------------------------	---------	--	--------	--

M  
MINERAL



SARA'S DANGEROUS PROPERTIES OF INDUSTRIAL CHEMICALS - 10th EDITION  
EPA TITLE III LIST OF LISTS - NOVEMBER 1998 EDITION

Hunt Refining Company  
P.O. Box 038995  
Tuscaloosa, AL 35403-8995

Telephone: 205-391-3323  
Emergency Telephone: 800-424-9300 (Chemtrac)

While the information and recommendations set forth herein are believed to be accurate, Hunt Refining Company makes no warranty with respect thereto and disclaims all liability from reliance thereon.



400 Chisholm Place, Suite 418  
Plano, Texas 75075

Telephone: (469)241-0950 Telecopier: (469)241-0956

**MATERIAL SAFETY DATA SHEET**

**EMERGENCY OVERVIEW**

This slippery red liquid has a mild odor. No significant immediate hazards for emergency response are known.

**NFPA RATING: HEALTH: 0 FLAMMABILITY: 1 REACTIVITY: 0**

**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

GENERIC NAME: LUBRICATING OIL--ATF

ISSUE DATE:

February 21, 2006

THIS LUBRICANTS USA PRODUCT IS:

**MULTI-PURPOSE ATF**

CAS NUMBER:

Mixture

SYNONYMS / GENERAL NAMES:

Automatic transmission oil

24 HOUR EMERGENCY TELEPHONE:

(CHEMTREC) 1-800-424-9300

TECHNICAL INFORMATION:

1-800-442-5823

M  
MULTI

**2. COMPOSITION / INFORMATION ON INGREDIENTS / HAZARDOUS INGREDIENTS**

COMPONENTS	CAS NO.	%	HAZARD DATA
1) Highly-refined paraffinic petroleum oils*	64741-89-5; 64741-88-4	95-100	*
2) Petroleum additives	Proprietary	1-5	
3) Organic zinc compound	Proprietary	0-1	

\* Not limited to but include these CAS numbers. Hazard data on this petroleum oil is Oral LD 50 >5000, Dermal LD 50 >2000

HAZARDOUS INGREDIENTS:

NONE

HAZARDOUS PER 29 CFR 1916.1200:

NO

**3. HAZARDOUS IDENTIFICATION**

ROUTES OF ENTRY:	Skin contact
TARGET ORGANS:	Skin
IRRITANCY:	This product can cause mild, transient, eye irritation with short-term contact with liquids or sprays.
REPRODUCTIVE EFFECTS:	N/A
CANCER INFORMATION:	This product does not contain any components at concentrations above 0.1% that are considered carcinogenic by OSHA, IARC, or NTP.

**4. FIRST AID MEASURES**

EYES:	Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water while occasionally lifting and lowering eyelids. Seek medical attention if excessive tearing, redness or pain persists.
DERMAL:	Remove contaminated shoes and clothing, wipe off excess material. Wash exposed skin with soap and water. Seek medical attention if tissue appears damaged or if irritation persists. Thoroughly clean contaminated clothing before reuse. Discard contaminated leather goods.

<b>INGESTION:</b>	Do not induce vomiting unless directed to by a physician. Do not give anything to drink unless directed to by a physician. Never give anything by mouth to a person who is not fully conscious. Seek medical attention immediately.
<b>INHALATION:</b>	Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, a qualified individual should administer 100 percent humidified oxygen. Seek medical attention immediately. Keep the affected individual warm and at rest.
<b>INJECTION:</b>	Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.

**5. FIRE FIGHTING MEASURES**

FLASH POINT, °C( °F): >216°C(420°F)  
 FLAMMABLE LIMITS (% BY VOLUME): LOWER: NO DATA UPPER: NO DATA  
 EXTINGUISHING MEDIA: Use dry chemical, foam, carbon dioxide or water fog.  
 SPECIAL FIRE FIGHTING PROCEDURES: N/A  
 AUTOIGNITION TEMPERATURE: N/A  
 EXPLOSION DATA: N/A  
 NFPA RATING: HEALTH: 0 FLAMMABILITY: 1 REACTIVITY 0

**6. ACCIDENTAL RELEASE MEASURES**

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

M  
MULTI

**Ecotoxicity**

Ecological effects testing has not been conducted on this material. Discharges are expected to cause only localized and non-persistent environmental damage.

**Environmental fate**

An environmental fate analysis has not been conducted on this specific product. However, plants and animals may experience harmful or fatal effects when coated with petroleum-based products. Petroleum-based (mineral) lube oils will normally 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 can result in a loss of marine life or create an anaerobic environment. This material contains phosphorus, which is a controlled element for disposal in effluent waters in most sections of North America. Phosphorus is known to enhance the formation of algae. Severe algae growth can reduce oxygen content in the water possibly below levels necessary to support marine life.

**7. HANDLING AND STORAGE**

**HANDLING & STORAGE PROCEDURES:**

Avoid water contamination and extreme temperatures to minimize product degradation. Keep container closed. Do not store with strong oxidizing agents. Do not store at temperatures above 120°F or in direct sunlight for extended periods of time.

Empty containers may contain product residues that can ignite with explosive force. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to flames, sparks, heat or other potential ignition sources. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling or disposing of empty containers and/or waste residues of this product.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>ENGINEERING CONTROLS:</b>	Provide exhaust ventilation or other engineering controls to keep the airborne concentration of mists and/or vapors below the recommended exposure limits. An eye wash station and safety shower should be located near the workstation.
<b>GLOVES PROTECTION:</b>	Use gloves constructed of chemical resistant materials such as neoprene or heavy nitrile rubber if frequent or prolonged contact is expected. Use heat protective gloves when handling product at elevated temperatures.
<b>EYE PROTECTION:</b>	Safety glasses equipped with side shields should be adequate protection under most conditions of use. Wear goggles and/or face shield if splashing or spraying is likely, especially if material is heated above 125° F (or 51° C). Have suitable eye wash water available.
<b>RESPIRATORY PROTECTION:</b>	Vaporization or misting is not expected at ambient temperatures. Therefore, the need for respiratory protection is not anticipated under normal use conditions and with adequate ventilation. If elevated airborne concentrations above applicable workplace exposure levels are anticipated, a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter should be used. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).
<b>CLOTHING RECOMMENDATION:</b>	Avoid prolonged and/or repeated skin contact, especially after this product has been used in a crankcase. If splashing or spraying is expected chemical-resistant (Tyvek®, nitrile or neoprene) clothing should be worn. This might include long-sleeves, apron, slicker suit, boots and additional facial protection. If general contact occurs, promptly remove soaked clothing and take a shower.
<b>OTHER COMMENTS:</b>	Use good personal hygiene practices. Wash hands and other exposed skin areas with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners. Since standards/control limits have not been established for this product, the exposure limits shown below are suggested as minimum control guidelines.
<b>Occupational exposure guidelines for highly-refined petroleum lubricant oils</b>	Applicable workplace exposure levels TWA: 5 STEL; 10 (mg/M <sup>3</sup> ) from ACGIH (TLV) TWA: 5 (mg/ M <sup>3</sup> ) from OSHA (PEL) TWA: 5 STEL; 10 (mg/ M <sup>3</sup> ) from NIOSH

M  
MULTI

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>APPEARANCE:</b>	Red liquid
<b>ODOR:</b>	Mild petroleum odor
<b>pH:</b>	N/A
<b>VAPOR PRESSURE, mm Hg (25°C):</b>	<0.0001
<b>VAPOR DENSITY:</b>	>1 (Air =1)
<b>MELTING POINT:</b>	Not available
<b>BOILING POINT, 760 mm Hg, °C:</b>	Not available
<b>SOLUBILITY IN WATER:</b>	Insoluble in cold water.
<b>SPECIFIC GRAVITY:</b>	0.88 (Water = 1)
<b>EVAPORATION RATE:</b>	N/A
<b>VISCOSITY 40°C (100°C)</b>	39 cSt @ 40 C (6.5 cSt @ 100°C)
<b>MOLECULAR WEIGHT:</b>	N/A
<b>PERCENT VOLATILE:</b>	Negligible volatility

**10. STABILITY AND REACTIVITY**

<b>STABILITY:</b>	Stable
<b>INCOMPATIBILITY:</b>	Strong oxidizers
<b>POLYMERIZATION:</b>	Not expected to occur
<b>THERMAL DECOMPOSITION:</b>	CO <sub>2</sub> , CO, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur, nitrogen, phosphorus and zinc.



**11. TOXICOLOGICAL INFORMATION**

<b>EYE IRRITATION:</b>	This product can cause mild, transient, eye irritation with short-term contact with liquid or sprays.
<b>DERMAL IRRITATION:</b>	This material can cause mild, transient skin irritation with short-term exposure.
<b>INHALATION TOXICITY:</b>	No significant adverse health effects are expected to occur upon short-term exposure to this product. Aspiration of liquid into the lungs can cause severe lung damage or death.
<b>INGESTION IRRITATION:</b>	If swallowed, no significant adverse health effects are anticipated. Ingestion can cause mild irritation to the digestive tract or cause a laxative effect.
<b>INJECTION SENSITATION:</b>	Injection under the skin, in muscle, or into the blood stream can cause irritation, inflammation, swelling, fever, and systemic effects and mild central nervous system depression. Injection of pressurized hydrocarbons can cause severe, permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.
<b>CHRONIC EXPOSURE SYMPTOMS</b>	Prolonged or repeated contact is toxic to lungs, digestive system, skin and eyes.
<b>OTHER REMARKS</b>	LD50 and LC 50 NOT AVAILABLE.

**12. HEALTH INFORMATION**

**HMIS CODE:**      **HEALTH:** 0    **FIRE:** 1    **REACTIVITY:** 0

No	<b>HIGHLY TOXIC</b>	No	<b>SENSITIZER</b>
No	<b>TOXIC</b>	No	<b>REPRODUCTIVE EFFECTS</b>
No	<b>CORROSIVE</b>	No	<b>MUTAGEN</b>
No	<b>IRRITANT</b>		

**13. DISPOSAL CONSIDERATIONS**

**WASTE DISPOSAL:**      It is the responsibility of the user to determine if the material is a hazardous waste at the time of disposal. Determine compliance status with all applicable requirements prior to disposal.

**14. TRANSPORT INFORMATION**

**DOT (DEPARTMENT OF TRANSPORTATION)**

<b>PROPER SHIPPING NAME:</b>	Petroleum lubricating oil.
<b>HAZARD CLASS:</b>	Not a DOT controlled material (United States).
<b>HAZARD IDENTIFICATION NUMBER:</b>	N/A
<b>DOT PLACARD:</b>	N/A
<b>COMPATIBILITY CATEGORY:</b>	N/A

**15. REGULATORY INFORMATION**

**SARA SECTION 313 - TOXIC CHEMICALS:**

This product does not contain toxic chemicals under SARA Section 313 and 40 CFR Part 372.

**SARA SECTION 311 - HAZARD CATEGORIES:**

This product may meet one or more of the criteria for the hazard categories defined in 40 CFR Part 370 as established by Sections 311 and 312 of SARA as indicated below:

NO	<b>IMMEDIATE (ACUTE) HEALTH HAZARD</b>	NO	<b>SUDDEN RELEASE OF PRESSURE HAZARD</b>
NO	<b>DELAYED (CHRONIC) HEALTH HAZARD</b>	NO	<b>REACTIVE HAZARD</b>
NO	<b>FIRE HAZARD</b>		

**SARA SECTION 302 – EXTREMELY HAZARDOUS WASTE:**

This product is not known to contain any components in concentrations greater than one percent that are listed as Extremely Hazardous Substances in 40 CFR Part 355 pursuant to the requirements of Section 302(a) of SARA.

**CLEAN WATER ACT (CWA):**

Under the CWA, discharges of crude oil and petroleum products to surface water without proper Federal and State permits must be reported immediately to the National Response Center at (800) 424-8802.

**CERCLA HAZARDOUS SUBSTANCES:**

As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof, which is not otherwise specifically listed or designated as a hazardous substance.

**U.S. TSCA INVENTORY**

All components of this material are listed on the U.S. TSCA Inventory.

**CALIFORNIA PROPOSITION 65**

This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

**NEW JERSEY RIGHT-TO-KNOW LABEL**

Petroleum oil.

**ADDITIONAL REGULATORY REMARKS**

None.

M  
MULTI

**16. OTHER INFORMATION**

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport, or otherwise be exposed to this product. This information was prepared for the guidance of plant engineering, operations and management and for persons working with or handling this product. Lubricants USA believes this information to be reliable and up to date as of the date of publication, but makes no warranty that it is.

<b>NFPA HAZARD RATING</b>	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4
<b>HMIS HEALTH RATING</b>	least - 0	slight - 1	moderate - 2	high - 3	extreme - 4

AP = approximately    EQ = equal    > = greater than    < = less than    NA = not applicable  
ND = no data    NE = not established

ACGIH = American Conference of Governmental Industrial Hygienists

AIHA = American Industrial Hygiene Association

CERCLA = Comprehensive Environmental Response, Compensation and Liability Act (1980)

EPA = Environmental Protection Agency

HMIS = Hazardous Materials Information System

IARC = International Agency for Research on Cancer

NFPA = National Fire Protection Association

NIOSH = National Institute of Occupational Safety and Health

NPCA = National Paint and Coating Manufacturers Association

OSHA = Occupational Safety and Health Administration

SARA = Superfund Amendments and Reauthorization Act (1986)

NLGI = National Lubricating Grease Institute

NTP = National Toxicology Program

RQ = Reportable quantity

TSCA = Toxic Substance Control Act