

H2 HARDENER

1. Product And Company Identification

Supplier

Forbo Siegling, LLC
12201 Vanstory Dr.
Huntersville, NC 28078-8395

Company Contact: Mr. Jay Leighton
Telephone Number: 704-948-0800

Supplier Emergency Contacts & Phone Number

CHEMTREC: (800) 424-9300

Issue Date: 03/02/2007

Product Name: H2 HARDENER
CAS Number: Not Avail.
Chemical Formula: Mixture
MSDS Number: 426

Synonyms

EXTREMULTUS H2 HARDENER

2. Composition/Information On Ingredients

Ingredient Name	CAS Number	Percent Of Total Volume
CHLOROBENZENE	108-90-7	0.5 - 3
ETHYL ACETATE	141-78-6	70 - 72.5
THIOPHOSPHORIC ACID-3-(P-ISOCYANATE PHENYL ESTER)	4151-51-3	27

EMERGENCY OVERVIEW

Flammable. Harmful if inhaled or swallowed. CONTACT YOUR LOCAL POISON CONTROL CENTER IF SWALLOWED! Contact with eyes or skin causes irritation. May cause gastrointestinal irritation and central nervous system effects. Fire may produce irritating and poisonous gases.

Hazards Identification (Pictograms)



3. Hazards Identification

Primary Routes(s) Of Entry

Eye, skin and inhalation.

Eye Hazards

May cause slight irritation. Avoid contact with eyes at all times.

Skin Hazards

Repeated prolonged contact may cause defatting of skin and dermatitis. Contact may cause reddening and irritation. Skin contact may cause allergic sensitization in certain individuals, with resultant allergic dermatitis.

Ingestion Hazards

May cause vomiting, headache, nausea, dizziness, and unconsciousness. Irritation of mucous membranes likely.

Inhalation Hazards

Inhalation may cause upper respiratory irritation, headache, nausea, dizziness, and unconsciousness in high concentrations. Vapors and mists may irritate eyes, nose and throat. Symptoms include watering of the eyes, dryness of throat, coughing, headache, tightness in chest or burning sensation.

H2 HARDENER

3. Hazards Identification - Continued

Inhalation Hazards - Continued

Allergic respiratory or skin reaction may occur in some individuals, especially allergy prone individuals. Respiratory sensitivity may result in asthma-like symptoms on subsequent exposure. Skin sensitivity results in allergic dermatitis which may include rash, itching, hives and swelling of extremities.

Conditions Aggravated By Exposure

Asthmatic or individuals prone to allergy may be hypersusceptible to the effects of this product.

First Aid (Pictograms)



4. First Aid Measures

Eye

In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention if irritation persists.

Skin

Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or waterless hand cleanser. Obtain medical attention if irritation or redness develops. High pressure injections are serious medical emergencies. Launder clothing before reuse.

Ingestion

DO NOT INDUCE VOMITING BECAUSE OF THE DANGER OF BREATHING LIQUID INTO LUNGS (ASPIRATION). Seek immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulty.

CALL YOUR LOCAL POISON CONTROL CENTER IMMEDIATELY FOR ADVICE!

Inhalation

Remove person to fresh air. If person is not breathing, ensure an open airway and administer CPR. If necessary, provide additional air or oxygen once breathing is restored. Do not administer liquids to an unconscious victim. Seek medical attention.

Fire Fighting (Pictograms)



5. Fire Fighting Measures

Flash Point: 23 °F -5 °C

Autoignition Point: 860 °F 460 °C

Flammability Class: IB

Lower Explosive Limit: 2.1

Upper Explosive Limit: 11.5

Fire And Explosion Hazards

Flammable! Keep away from open flame, heat sources and fire. Vapors may form flammable/explosive mixtures with air in confined areas with poor ventilation. Vapors may flow along surfaces to distant ignition sources and flash back. Do not cut open or apply heat sources to containers. Closed containers may rupture and explode when exposed to extreme heat.

H2 HARDENER

5. Fire Fighting Measures - Continued

Extinguishing Media

Dry chemical, carbon dioxide, foam. Avoid use of water except to cool fire-exposed containers.

Fire Fighting Instructions

Always wear fire fighting protective gear and respiratory protection when fighting fires. During a fire highly irritating and toxic gases and smoke are present from decomposition/combustion products.

6. Accidental Release Measures

1. Remove/extinguish all ignition sources such as open flames.
2. Ventilate area of spill or leak.
3. For small quantities absorb on paper towels or similar material. Allow to evaporate in a safe place such as a fume hood. Never dispose of with trash since spontaneous combustion may occur!
4. Large quantity: dike area with suitable absorbent such as vermiculite or kitty litter to prevent spread of material. If available use alcohol type foam to cover spill in order to prevent ignition. Do not allow material to enter confined areas such as pits or sewers since vapors may form explosive mixture with air. Use more absorbent material to soak up material and place in drums or other container for disposal. Spilled product must be disposed of as an ignitable characteristics (EPA) hazardous waste via incineration or other acceptable method.

NOTE: ALWAYS WEAR PROTECTIVE EQUIPMENT SUCH AS ORGANIC VAPOR RESPIRATOR, GLOVES AND EYE PROTECTION WHEN HANDLING CONTAMINATED MATERIALS!

7. Handling And Storage

Handling And Storage Precautions

Store away from ignition sources. Keep containers closed when not in use. Store in a cool, dry, well ventilated, flammable liquid storage area.

Protective Clothing (Pictograms)



8. Exposure Controls/Personal Protection

Engineering Controls

If large quantities are used, local exhaust ventilation should be used.

Eye/Face Protection

Use safety glasses, goggles or face shield to prevent accidental eye contact.

Skin Protection

Nitrile or butyl rubber gloves may be used if repeated contact will occur.

Respiratory Protection

Respiratory protection should not be necessary under normal conditions of anticipated use in small quantities. However, such decisions should be made by qualified professionals with knowledge of the working conditions. If necessary, use a chemical cartridge respirator equipped with organic vapor cartridges for levels up to 1000 ppm ethyl acetate.

Ingredient(s) - Exposure Limits

CHLOROBENZENE

ACGIH TLV-TWA: 10 ppm

OSHA PEL-TWA: 75 ppm

ETHYL ACETATE

ACGIH TLV-TWA: 400 ppm

OSHA PEL-TWA: 400 ppm

H2 HARDENER

8. Exposure Controls/Personal Protection - Continued

Ingredient(s) - Exposure Limits - Continued

THIOPHOSPHORIC ACID-3-(P-ISOCYANATE PHENYL ESTER)

No Exposure Limits Established By ACGIH or OSHA

Miles, Inc. recommends an exposure guideline of 0.005 ppm as a time weighted average (TWA) and 0.02 ppm as a short term exposure limit (STEL) based on the established exposure limits for Toluene Diisocyanate that may be produced from decomposition of thiophosphoric acid-3-(p-isocyanate phenyl ester).

9. Physical And Chemical Properties

Appearance

Yellowish brown liquid

Odor

Sweet solvent-like odor.

Chemical Type: Mixture

Boiling Point: 171 °F 77 °C

Specific Gravity: 1.0

Percent Volatiles: 73

Vapor Pressure: 97 mbar

Soluble in acetone and methylene chloride.

10. Stability And Reactivity

Stability: Stable

Hazardous Polymerization: Will Not Occur

Incompatible Materials

Can react vigorously with chlorosulfonic acid, sulfuric acid (oleum) and potassium-tert-butoxide (2). Exothermic reactions with amines, alcohols, acids and bases. Reacts with water releasing CO₂.

Hazardous Decomposition Products

May emit toxic combustion products of cyanide and others of an unknown identity. Releases CO₂ upon contact with water. No decomposition up to boiling point.

11. Toxicological Information

Acute Oral Effects

LD50 (RAT)-oral: 11300 mg/kg (ethyl acetate); LD50 (RABBIT)-oral: 4935 mg/kg (ethyl acetate)

Chronic/Carcinogenicity

NEITHER THIS PRODUCT NOR ANY COMPONENT CONSTITUTING $\geq 0.1\%$ ARE LISTED BY THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), THE NATIONAL TOXICOLOGY PROGRAM (NTP) OR THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) AS A SUSPECT OR KNOWN HUMAN CARCINOGEN.

12. Ecological Information

Other Environmental Information

No effects known.

13. Disposal Considerations

Incineration by licensed facilities only. Convert residue in empty container to polycarbamide and remove danger label. Disposal at an approved secure landfill.

RCRA Information

Ethyl acetate is a RCRA hazardous waste U112 (40 CFR 261.33) and F003 (40 CFR 261.31).

H2 HARDENER

14. Transport Information

Proper Shipping Name

ADHESIVES, containing a flammable liquid

Hazard Class

3 (Flammable Liquid)

DOT Identification Number

UN1133

DOT Shipping Label

FLAMMABLE LIQUID

Packaging Exceptions

173.150

Packaging Requirements

173.173

Additional Shipping Paper Description

Adhesives, containing a flammable liquid, 3, UN1133, III, (ethyl acetate)
International Air Transport Association (IATA) packing instruction Y309, (packing group III).

Product shipped in glass bottles (5.8g) within expanded plastic boxes.

Meets the DOT limited quantity exception when the conditions of 49 CFR 173.150 are met.

Meets the DOT small quantity exception when the conditions of 49 CFR 173.4 are met.

Germany: "ArbStoffV" danger symbol "F".

DOT (Pictograms)



TDG - Canada (Pictograms)



15. Regulatory Information

SARA Hazard Classes

Acute Health Hazard
Chronic Health Hazard
Fire Hazard

SARA Title III - Section 313 Supplier Notification

This product contains the following toxic chemicals that are subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act (EPCRA) of 1986 and of 40 CFR 372.

CHLOROBENZENE (108-90-7) 0.5 - 3 %

This information must be included on all MSDSs that are copied and distributed for this material.

Ingredient(s) - U.S. Regulatory Information

CHLOROBENZENE
SARA Title III - Section 313 Form "R"/TRI Reportable Chemical

H2 HARDENER

15. Regulatory Information - Continued

State Regulations

"Universal" Labeling:

CONTENTS	
Ethyl Acetate	141-78-6
Chlorobenzene	108-90-7
Thiophosphoric acid-3-(p-isocyanate phenyl ester)	4151-51-3

Ingredient(s) - State Regulations

CHLOROBENZENE

- New Jersey - Workplace Hazard
- New Jersey - Environmental Hazard
- New Jersey - Special Hazard
- Pennsylvania - Workplace Hazard
- Pennsylvania - Environmental Hazard
- Massachusetts - Hazardous Substance
- New York City - Hazardous Substance

ETHYL ACETATE

- New Jersey - Workplace Hazard
- New Jersey - Special Hazard
- Pennsylvania - Workplace Hazard
- Massachusetts - Hazardous Substance
- New York City - Hazardous Substance

Canadian Regulatory Information

- Class B - Combustible or Flammable Material
- Class D, Div 2 - Poisonous or Infectious Material: other toxic effects

Ingredient(s) - Canadian Regulatory Information

CHLOROBENZENE

- WHMIS - Ingredient Disclosure List

ETHYL ACETATE

- WHMIS - Ingredient Disclosure List

European Union (EU) Regulatory Information

- European Union Risk Phrases -
 - R11 - Highly Flammable
 - R36/37/38 - May be irritating to eyes, respiratory system and skin
 - R43 - May cause sensitization by skin contact

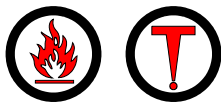
European Union Safety Phrases -

- S9 - Keep container in a well-ventilated place
- S16 - Keep away from sources of ignition - no smoking
- S23 - Do not breathe gas/fumes/vapor/spray.
- S24 - Avoid contact with skin
- S25 - Avoid contact with eyes
- S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
- S36/37/39 - Wear suitable protective clothing, gloves, and eye/face protection
- S51 - Use only in well ventilated areas

H2 HARDENER

15. Regulatory Information - Continued

WHMIS - Canada (Pictograms)



DSCL - Europe (Pictograms)



16. Other Information

HMIS Rating

Health: 2

Fire: 3

Reactivity: 1

Personal Protection: B

Revision/Preparer Information

This MSDS Supersedes A Previous MSDS Dated: 11/19/2003

Reference Documentation

Primary references used in the creation of this document:

- (1) Extremultus H2 Hardener MSDS (Siegling, Germany, 11/91)
- (2) NIOSH Registry Of Effects Of Chemical Substances (RTECS); U.S. Dept. HEW RTECS# AH5425000
- (3) Rumack Poison index 1975-present
- (4) Guide to Occupational Exposure Values - 2003, ACGIH.
- (5) 29 CFR 1910 OSHA General industry standards 1910.1000 et.seq.
- (6) Patty's Industrial Hygiene And Toxicology 3rd. Ed. (1978) John Wiley & Sons, New York
- (7) 8th Annual Report On Carcinogens
- (8) Documentation Of The Threshold Limit Values And Biological Exposure Indices, 1996, ACGIH
- (9) IARC Monographs Supplement 7.
- (10) Desmodur L67 MSDS - (Miles, Inc., 12/15/92)

NOTE: Data marked with an asterisk (*) are for the primary component of this product.

Other Information

Glossary -

ACGIH = American Conference of Governmental Industrial Hygienists
 API = American Petroleum Institute
 DOT = U.S. Department of Transportation
 EPA = U.S. Environmental Protection Agency
 IARC = International Agency For Research On Cancer
 MSHA = Mine Safety and Health Administration
 NFPA = National Fire Protection Association
 NIOSH = National Institute of Occupational Safety and Health
 NTP = National Toxicology Program
 OSHA = U.S. Occupational Safety & Health Administration
 PEL = Permissible Exposure Limit (OSHA)
 REL = Recommended Exposure Limit (NIOSH)
 STEL = Short-Term Exposure Limit
 TLV = Threshold Limit Value (ACGIH)
 TWA = Time Weighted Average (8 hr.)

H2 HARDENER

16. Other Information - Continued

Other Information - Continued

WHMIS = Canadian Workplace Hazardous Materials Information System

AP = approximately < = Less than > = Greater than

N/A = Not Applicable NE = Not Established ND = Not Determined

Disclaimer

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

Siegling America, Inc.