

PU-S PASTE

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: 03/19/2007

Product Name: PU-S PASTE
CAS Number: Not Avail.
Chemical Formula: mixture
MSDS Number: 796

2. Composition/Information On Ingredients

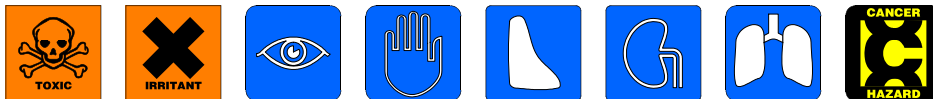
Ingredient Name	CAS Number		Percent Of Total Weight
4,4'-METHYLENEDIANILINE	101-77-9	<	0.4
4,4'-METHYLENE DIANILINE SODIUM CHLORIDE	55280-13-2		9.5
DI(2-ETHYLHEXYL) PHTHALATE	117-81-7		9
POLYURETHANE	9009-54-5	<	79.9
TOLUENE 2,4-DIISOCYANATE	584-84-9		0.2
TOLUENE 2,6-DIISOCYANATE	91-08-7		1.3

EMERGENCY OVERVIEW

DANGER! Harmful if inhaled, swallowed or by contact with the skin. **CONTACT YOUR LOCAL POISON CONTROL CENTER IF SWALLOWED!** Contact with eyes or skin may cause irritation and rash. Contact or inhalation may cause irritation, allergic sensitization and damage to target organs. Potentially Carcinogenic. Fire may produce irritating and poisonous gases.

CONTAINS METHYLENEDIANILINE. Consult OSHA 29 CFR 1910.1050 before use. MDA is recognized as a carcinogen to the liver, kidneys and other organs. Use engineering controls and respiratory protection to reduce exposures as low as possible.

Hazards Identification (Pictograms)



3. Hazards Identification

Primary Route(s) Of Entry

Eye contact, skin contact, ingestion. Inhalation is considered relatively unlikely due to the physical form, but may result in hazardous effects if it occurs.

Eye Hazards

Eye contact or exposure to vapors may cause moderate to severe eye irritation, burning sensation and watering.

Skin Hazards

Skin contact may cause mucous membrane and skin irritation, and an allergic skin reaction resulting in redness and rash. Certain components of this product are considered to be skin sensitizers.

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3. Hazards Identification - Continued

Ingestion Hazards

Harmful or fatal if swallowed. May cause gastrointestinal upset, nausea and vomiting. Ingestion may also cause serious damage or cancer to organs, such as the liver, kidney, spleen and bladder.

Inhalation Hazards

Inhalation of even low vapor concentrations may cause moderate to severe respiratory tract irritation. A sensation of chest constriction, cough and difficulty breathing may occur. Chronic inhalation or inhalation of high vapor concentrations may cause chemical bronchitis, severe bronchospasm, hypersensitivity pneumonitis, pulmonary edema, headache and insomnia. Loss of pulmonary function may occur from chronic inhalation. Certain components of this product are considered to be potent lung sensitizers, resulting in severe respiratory allergic reactions, bronchospasms and possibly chronic lung disease.

Chronic/Carcinogenicity Effects

Certain components of this product are considered to be potentially carcinogenic -

4,4-methylene dianiline
 toluene 2,4-diisocyanate
 toluene 2,6-diisocyanate
 di(2-ethylhexyl)phthalate

Mutagenicity (Genetic Effect)

Methylenedianiline, 2,4- and 2,6-toluene diisocyanate and di(2-ethylhexylphalate) are considered to be mutagenic.

Conditions Aggravated By Exposure

Individuals with liver, kidney, bladder or blood disorders should avoid exposure. Pregnant women should avoid exposure.

First Aid (Pictograms)



4. First Aid Measures

Eye

DO NOT let the victim rub his eye(s). If eye contact occurs, flush eyes immediately, including under eyelids, with plenty of water for at least 15 minutes. Get medical attention.

Skin

Use good personal hygiene. Wash thoroughly after handling. If skin contamination occurs, wash immediately with plenty of soap and water. Contact a physician if redness, rash or irritation develops.

Ingestion

Do Not induce vomiting unless instructed to do so by a physician. Call the Poison Control Center or get immediate medical attention. If the victim stops breathing: clear the airway and administer artificial respiration. If victim is fully conscious, give one or two cups of water or milk to drink. Do not give syrup of ipecac or activated charcoal unless instructed by Poison Control.

Inhalation

Remove victim from exposure to fresh air. Administer artificial respiration if breathing has stopped. Get immediate medical attention. Lay person on his/her back. Open the person's airway, loosen collar and belt. If vomiting, turn the head to the side.

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Fire Fighting (Pictograms)



5. Fire Fighting Measures

Flash Point: >350 °F >177 °C

Fire And Explosion Hazards

May release toxic vapors upon thermal decomposition. Diisocyanate are water sensitive. Avoid contact with water.

Extinguishing Media

Dry chemical, carbon dioxide, foam. Avoid use of water.

Fire Fighting Instructions

Wear self-contained breathing apparatus and full protective gear. Avoid contact with product or inhalation of vapors or fumes.

6. Accidental Release Measures

Wear self-contained breathing apparatus. Provide maximum explosion-proof exhaust or dilution ventilation. Carefully scoop into a sealed, labeled waste container for disposal. Avoid contact with the skin.

7. Handling And Storage

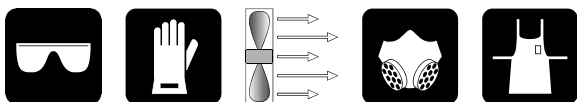
Handling And Storage Precautions

Store in a cool, well-ventilated area, away from heat sources. Do not store above 30°C. Avoid skin contact or inhalation of vapors.

Work/Hygienic Practices

Avoid skin and eye contact. Wash thoroughly after handling or if skin contamination occurs. Avoid inhalation of vapors.

Protective Clothing (Pictograms)



8. Exposure Controls/Personal Protection

Engineering Controls

Use with adequate general and local exhaust ventilation. Local exhaust ventilation is recommended when handling large amounts.

Eye/Face Protection

Chemical resistant goggles, face shield over safety glasses, or full-facepiece respirator are recommended.

Skin Protection

Chemical impervious rubber gloves made of butyl or nitrile rubber are recommended. Full body work clothing, aprons or coveralls may be required to prevent skin contact.

Respiratory Protection

An organic vapor respirator may be necessary if ventilation is inadequate. Consult OSHA 1910.1050(h)(3)(i) for respiratory protection requirements to MDA. Self-contained breathing apparatus required in fire or large spill situations.

Other/General Protection

Emergency eyewash, and other wash facilities. A change of work clothes may be necessary when contaminated.

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8. Exposure Controls/Personal Protection - Continued

Ingredient(s) - Exposure Limits

4,4'-METHYLENEDIANILINE
 ACGIH TLV-TWA: 0.1 ppm (skin)
 OSHA PEL-TWA: 0.01 ppm
 OSHA PEL-STEL: 0.1 ppm

4,4'-METHYLENE DIANILINE SODIUM CHLORIDE
 No Exposure Limits Established by OSHA or ACGIH.
 Referred to 4,4-methylenedianiline

DI(2-ETHYLHEXYL) PHTHALATE
 ACGIH TLV-TWA: 5 mg/m³
 OSHA PEL-TWA: 5 mg/m³

POLYURETHANE
 No Exposure Limits Established by OSHA or ACGIH

TOLUENE 2,4-DIISOCYANATE
 ACGIH TLV-TWA: 0.005 ppm
 ACGIH TLV-STEL: 0.02 ppm
 OSHA PEL-CEILING: 0.02 ppm

TOLUENE 2,6-DIISOCYANATE
 ACGIH TLV-TWA: 0.005 ppm (skin)
 ACGIH TLV-STEL: 0.02 ppm (skin)

9. Physical And Chemical Properties

Appearance

A viscous green-blue paste.

Odor

Unknown

Chemical Type: Mixture

Physical State: Solid

10. Stability And Reactivity

Stability: Stable

Hazardous Polymerization: None Known

Conditions To Avoid (Stability)

Excessive heating. Contact with water.

Incompatible Materials

Strong Oxidizers, Acids and Bases.

Hazardous Decomposition Products

Thermal decomposition may generate oxides of carbon, nitrogen, cyanides and urethane.

Conditions To Avoid (Polymerization)

None known.

11. Toxicological Information

Acute Studies

The following are studies of effects of Toluene 2,4-Diisocyanate (TDI):

An accidental splash in the eyes of workmen has caused keratitis and conjunctivitis. One case describes "unusual amount of photophobia and blepharospasm." Another case described involved severe iridocyclitis and secondary glaucoma.

Workers have complained of neurological symptoms after single exposure to difficulty in concentration, poor

PU-S PASTE**11. Toxicological Information - Continued****Acute Studies - Continued**

memory and confusion within three weeks of exposure. Four years after exposure, personality changes, irritability, or depression was still noted.

Firemen exposed to fumes of TDI experienced symptoms during and after the fire. Symptoms were mainly gastrointestinal, respiratory, or neurological. Gastrointestinal symptoms subsided within two days of onset. Some firemen sustained long-term respiratory tract damage.

Patients with TDI induced asthma continued to be symptomatic months and even years after cessation of TDI exposure. It is thought that TDI may cause the airways to become hyperactive to many agents such as smoke and other air pollutants.

One study suggests that patients exposed to TDI may occasionally develop a hypersensitivity pneumonitis rather than the more usual asthmatic syndrome.

Some workers become exceedingly sensitive to TDI vapors and respond dramatically to minute amounts in the air.

TDI may produce a true hemorrhagic syndrome affecting the bone marrow and producing primarily thrombocyte series suppression.

Neurological symptoms were reported in 23 firemen heavily exposed to TDI during a manufacturing plant fire. Symptoms included euphoria, ataxia, and loss of consciousness with long lasting mild subjective symptoms of personality change, irritability, depression, and memory difficulties.

Several studies on the prognosis of TDI induced asthma show that a significant proportion of patients continue to experience asthmatic symptoms and nonspecific bronchial hyperresponsiveness after the cessation of work, and that further exposure in sensitized subjects leads almost invariably to persistence of respiratory symptoms and of bronchial hyperresponsiveness and the deterioration of airway function. Specific bronchial reactivity may change after cessation of work; however, some subjects continue to be sensitive to TDI several months after cessation of work.

Eye Effects

Methylenedianiline and toluene diisocyanate are potent mucous membrane and eye irritants.

Skin Effects

Methylenedianiline may cause toxic allergic skin reactions resulting in irritation, redness, rash, and itchiness from accidental exposure.

Acute Oral Effects

Ingestion of 4,4'-methylenedianiline (MDA), has resulted in liver and kidney damage, blood damage and endocrine system damage in animals. MDA may cause liver and myocardial damage in humans.

Di(2-Ethylhexyl)phthalate, given in the diet, was carcinogenic in rats and mice, producing increased liver cancers. However, since this product is not intended for use in food, food packaging or other related consumer products which could give rise to significant oral exposure, the likelihood of experiencing adverse effects from this route of exposure is remote.

Chronic/Carcinogenicity

Methylenedianiline is a confirmed animal carcinogen, IARC Group 2B - A chemical, industrial process, or occupational exposure with sufficient evidence for carcinogenicity in animals, but inadequate data in humans.

The National Cancer Institute reported a two year study which indicated that a specific strain of rat and mouse, when fed extremely high doses of Di(2-Ethylhexyl)phthalate exhibited a statistically significant increase in liver tumors. This single study was sufficient to satisfy the legislative requirement to list Di(2-Ethylhexyl)phthalate as a suspected animal carcinogen.

Di(2-Ethylhexyl)phthalate is listed as an IARC Group 2B Carcinogen - A chemical, industrial process, or occupational exposure with sufficient evidence for carcinogenicity in animals, but inadequate data in humans. Di(2-Ethylhexyl)phthalate is listed on the National Toxicology Program (NTP) 8th Annual Report on Carcinogens.

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11. Toxicological Information - Continued

Chronic/Carcinogenicity - Continued

Toluene 2,4- and 2,6-Diisocyanates are listed as IARC Group 2B Carcinogens- chemicals, industrial processes, or occupational exposures with sufficient evidence for carcinogenicity in animals, but inadequate data in humans. 2,4 Toluene Diisocyanate is listed on the National Toxicology Program (NTP) Annual Report on Carcinogens.

TDI may also cause severe allergic respiratory reactions in sensitive individuals.

Carcinogenicity Indicators

- NTP Carcinogen
- IARC Carcinogen
- OSHA Carcinogen

Miscellaneous Toxicological Information

NOTE: The health effects of this product as noted above are based on extrapolations from the available data for the pure components. To the best of our knowledge, adverse health effects have not been determined for the final product formulation as a whole. Under the normal anticipated conditions of use of this product (in small quantities and for brief and intermittent periods) it is believed that the likelihood of experiencing adverse health effects is small.

Ingredient(s) - Carcinogenicity

- 4,4'-METHYLENEDIANILINE
 - OSHA Regulated Carcinogen
 - NTP - Listed On The National Toxicology Program
 - Listed In The IARC Monographs
- DI(2-ETHYLHEXYL) PHTHALATE
 - NTP - Listed On The National Toxicology Program
- TOLUENE 2,4-DIISOCYANATE
 - OSHA Regulated Carcinogen
 - NTP - Listed On The National Toxicology Program
 - Listed In The IARC Monographs
- TOLUENE 2,6-DIISOCYANATE
 - Listed In The IARC Monographs

12. Ecological Information

No Data Available...

13. Disposal Considerations

This material may be dissolved in a combustible solvent and incinerated in an incinerator with a suitable afterburner and scrubber, according to Federal, State and Local Government regulations. Waste product may be disposed of in a secured landfill.

Consult with environmental regulatory agencies for guidance on acceptable disposal practices.

RCRA Information

Urethane is a RCRA hazardous waste U238 (40 CFR 261.33)

14. Transport Information

Proper Shipping Name

None Required

Not regulated under DOT 49 CFR 172 as a hazardous material.

Germany: "ArbStoffV" danger symbol "Xn".

Product shipped in tubes (80g) within a plastic bag.

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15. Regulatory Information

SARA Hazard Classes

Acute Health Hazard
Chronic Health 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.

4,4'-METHYLENEDIANILINE (101-77-9) <0.4 %
BIS(2-ETHYLHEXYL) PHTHALATE (117-81-7) 9 %
TOLUENE 2,4-DIISOCYANATE (584-84-9) 0.2 %
TOLUENE 2,6-DIISOCYANATE (91-08-7) 1.3 %

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

Ingredient(s) - U.S. Regulatory Information

4,4'-METHYLENEDIANILINE
SARA Title III - Section 313 Form "R"/TRI Reportable Chemical
DI(2-ETHYLHEXYL) PHTHALATE
SARA Title III - Section 313 Form "R"/TRI Reportable Chemical
TOLUENE 2,4-DIISOCYANATE
SARA Title III - EPA Part 355 Extremely Hazardous Substance
SARA Title III - Section 313 Form "R"/TRI Reportable Chemical
TOLUENE 2,6-DIISOCYANATE
SARA Title III - EPA Part 355 Extremely Hazardous Substance
SARA Title III - Section 313 Form "R"/TRI Reportable Chemical

State Regulations

"Universal" labeling:

CONTENTS

Toluene 2,4-Diisocyanate	584-84-9
Toluene 2,6-Diisocyanate	91-08-7
4,4-Methylenedianiline	101-77-9
Di(2-EthylHexyl)Phthalate	117-81-7
Polyurethane	9009-54-5
4,4-Methylene Dianiline Sodium Chloride	55280-13-2

Ingredient(s) - State Regulations

4,4'-METHYLENEDIANILINE
New Jersey - Workplace Hazard
New Jersey - Environmental Hazard
Pennsylvania - Workplace Hazard
California - Proposition 65
Massachusetts - Hazardous Substance
New York City - Hazardous Substance
DI(2-ETHYLHEXYL) PHTHALATE
New Jersey - Workplace Hazard
New Jersey - Environmental Hazard
New Jersey - Special Hazard
Pennsylvania - Workplace Hazard
Pennsylvania - Environmental Hazard
Pennsylvania - Special Hazard
California - Proposition 65
Massachusetts - Hazardous Substance
New York City - Hazardous Substance

PU-S PASTE**15. Regulatory Information - Continued****Ingredient(s) - State Regulations - Continued****TOLUENE 2,4-DIISOCYANATE**

- New Jersey - Workplace Hazard
- New Jersey - Environmental Hazard
- New Jersey - TCPA Extraordinarily Hazardous Substance
- Pennsylvania - Workplace Hazard
- California - Proposition 65
- California - CalARP Table 3 Regulated Substance
- Massachusetts - Hazardous Substance
- New York City - Hazardous Substance

TOLUENE 2,6-DIISOCYANATE

- New Jersey - Workplace Hazard
- New Jersey - Environmental Hazard
- New Jersey - Special Hazard
- Pennsylvania - Special Hazard
- California - CalARP Table 3 Regulated Substance
- Massachusetts - Hazardous Substance
- New York City - Hazardous Substance

Ingredient(s) - Canadian Regulatory Information**4,4'-METHYLENEDIANILINE**

- WHMIS - Ingredient Disclosure List

DI(2-ETHYLHEXYL) PHTHALATE

- WHMIS - Ingredient Disclosure List

TOLUENE 2,4-DIISOCYANATE

- WHMIS - Ingredient Disclosure List

TOLUENE 2,6-DIISOCYANATE

- WHMIS - Ingredient Disclosure List

European Union (EU) Regulatory Information**European Union Risk Phrases -**

- R22/24/25 - Toxic by inhalation, contact with skin or if swallowed.
- R48 - Danger of serious damage to health by prolonged exposure
- R42 - May cause sensitization by inhalation
- R36/37/38 - Irritating to skin, respiratory system and eyes
- R29 - Contact with water liberates toxic gas
- R45 - May cause cancer
- R40 - Possible risk of irreversible effects

European Union Safety Phrases -

- S1/2 - Keep locked up and out of reach of children
- S12 - Do not keep the container sealed
- S20 - When using, do not eat or drink
- S23 - Do not breathe gas/fumes/vapor/spray
- S24/25 - Avoid contact with skin and eyes
- S38 - In case of insufficient ventilation, wear suitable respiratory equipment
- S36/37/39 - Wear suitable protective clothing, gloves, and eye/face protection
- S9 - Keep container in a well-ventilated place

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15. Regulatory Information - Continued

WHMIS - Canada (Pictograms)



DSCL - Europe (Pictograms)



16. Other Information

HMIS Rating

Health: *3

Fire: 1

Reactivity: 1

Personal Protection: G

Revision/Preparer Information

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

Reference Documentation

N/A = Not Applicable

Primary references used in the preparation of this document:

1. Sigma-Aldrich Library of Chemical Safety Data, Edition 1
2. Guide to Occupational Exposure Values - 2006, ACGIH.
3. DIALOG Information Retrieval System - CHEMNAME Database #301
4. CRC Handbook of Identified Carcinogens and Non-Carcinogens
5. NIOSH Registry of Toxic Effects of Chemical Substances (RTECS, 1985, 2003)
6. Uniroyal Chemical Co. MSDS, Adiprene L-700. Middlebury CT, 5/92
7. Uniroyal Chemical Co. MSDS, Caytur 21. Middlebury CT, 10/92
8. Hazardous Substances Databank (HSDB) - methylenedianiline, 2,4-toluene diisocyanate, 2,6-diisocyanate, di(2-ethylhexylphthalate) as of 11/19/2003
9. OSHA 29 CFR 1910.1050

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.)

WHMIS = Canadian Workplace Hazardous Materials Information System

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16. Other Information - Continued

Other Information - Continued

AP = approximately < = Less than > = Greater than

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

Disclaimer

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