

MATERIAL SAFETY DATA SHEET

DATE OF ISSUE: 02/26/2010

Supersedes: 2/17/2010

SECTION I - GENERAL INFORMATION

MANUFACTURER'S NAME: W.M. Plastics, Inc
ADDRESS: 4237 Raleigh Street
Charlotte, NC 28213
EMERGENCY TELEPHONE: 800-424-9300 (CHEMTREC)
INFORMATION TELEPHONE (704) 599-0511
PRODUCT CLASS: Alkyl sulphonic acid ester of phenol and polyisocyanate
TRADE NAME: Nylon Bonding Agent
MANUFACTURER'S CODE: 79-0100 Nylon Bonding Agent / 79-0300 Nylon Bonding Agent Long Life
HMIS INFO: HEALTH: 3 (Chronic)
FLAMMABILITY: 1
REACTIVITY: 1
PERSONAL PROTECTION: Ref: Section VII

SECTION II - HAZARDOUS INGREDIENTS

Table with 4 columns: II. HAZARDOUS INGREDIENTS COMPONENTS, %, OSHA-PEL, ACGIH-TLV. Row 1: Toluene Diisocyanate (Mixed Isomers) (CAS# 26471-62-5), 0.1-1.0%, 5mg/m3 TWA, 0.02 ppm

III. PHYSICAL DATA

APPEARANCE: Liquid
COLOR: Yellow
ODOR: Pungent, strong
FREEZE POINT: Unknown
BOILING POINT: 251.67 - 253.89 deg C (485-489 deg F)
VAPOR PRESSURE: 6 hPa @20 deg C (68 deg F)
SPECIFIC GRAVITY: 1.13 at 20° C
BULK DENSITY: 9.43 lbs/gal
SOLUBILITY IN WATER: Insoluble

IV. FIRE & EXPLOSION DATA

FLASH POINT: 225 deg C (437 deg F) (Closed Cup)

EXTINGUISHING MEDIA: dry chemical, carbon dioxide (CO2), foam, water spray for large fires

Caution: Reaction between water or foam and hot TDI can be vigorous.

SPECIAL FIRE FIGHTING PROCEDURES/UNUSUAL FIRE OR EXPLOSION HAZARDS: Firefighters should wear NPA compliant structural firefighting protective equipment, including self containing breathing apparatus and NFPA compliant helmet, hood, boots, and gloves. Exposure to heated diisocyanate can be extremely dangerous.

V. HUMAN HEALTH DATA (Chronic Health Hazard Classification)

PRIMARY ROUTE(S) OF EXPOSURE: Inhalation, Skin & Eye Contact from liquid, vapors or aerosols.

HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE:

INHALATION:

Acute Exposure: TDI vapors or mist at concentrations above the suggested TLV can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) causing runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing obstruction). Persons with a pre-existing, nonspecific bronchial hyper reactivity can respond to concentrations below the TLV with similar symptoms as well as an asthma attack. Exposure well above the TLV may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitive pneumonitis, with flu-like symptoms (e.g. fever chills) has also been reported. These symptoms can be delayed up to several hours after exposure.

Chronic Exposure: As a result of previous repeated overexposures or a single large dose, certain individuals may develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the TLV. These symptoms, which can include chest tightness, wheezing, cough, shortness of breath or asthmatic attack, could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses,

there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic over-exposure to isocyanates has also been reported to cause lung damage (including decrease in lung function), which may be permanent. Sensitization may be either temporary or permanent

SKIN CONTACT:

Acute Exposure: Isocyanates react with skin protein and moisture and can cause irritation which may include the following symptoms: reddening, swelling, rash, scaling or blistering. Some persons may develop skin sensitization from skin contact. Reacted product may be difficult to remove from the skin.

Chronic Exposure: Prolonged contact with the isocyanate can cause reddening, swelling, rash, scaling, blistering and in some cases, skin sensitization. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material or even as a result of vapor-only exposure.

EYE CONTACT:

Acute Exposure: Liquid, aerosols or vapors are severely irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and maybe a feeling like that of fine dust in the eyes. If left untreated, corneal damage can occur and injury is slow to heal. See Section VI for treatment.

Chronic Exposure: Prolonged vapor contact may cause conjunctivitis.

INGESTION:

Acute Exposure: Can result in irritation and possible corrosive action in the mouth, stomach tissue and digestive tract. Symptoms can include sore throat, abdominal pain, nausea, vomiting and diarrhea. Vomiting may cause aspiration of the solvent resulting in chemical pneumonitis.

CARCINOGENICITY:

NTP and IARC evaluated TDI as a mixture of the 2,4 and 2,6 isomers.

Toluene diisocyanate mixed isomers NTP: hazard designation: Anticipated carcinogen

IARC: Overall evaluation: 2B Possible carcinogen

IARC: Evidence of carcinogenicity in humans: inadequate data

IARC: Evidence of carcinogenicity in animals: sufficient data

VI. EMERGENCY & FIRST AID PROCEDURES

EYE CONTACT: Flush with clean, lukewarm water (low pressure) for at least 15 minutes, holding eyelids open all the time. Obtain medical attention. Refer individual to an ophthalmologist for immediate follow-up.

SKIN CONTACT: Remove contaminated clothing immediately. Wash affected areas thoroughly with soap or tincture of green soap and water for at least 15 minutes. Wash contaminated clothing thoroughly before reuse. For severe exposures, get under safety shower after removing clothing, get medical attention, and consult physician. For lesser exposures, seek medical attention if irritation develops or persists after the area is washed.

INHALATION: Move to an area free from risk of further exposure. Administer oxygen or artificial respiration as needed. Obtain medical attention. Asthmatic-type symptoms may develop and may be immediate or delayed up to several hours. Consult physician.

INGESTION: DO NOT INDUCE VOMITING. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. Give a glass of milk or water to drink. Consult physician.

NOTE TO PHYSICIAN: Persons with asthmatic-type conditions, chronic bronchitis, other chronic respiratory diseases or recurrent skin eczema or sensitization should be excluded from working with isocyanates. Once a person is diagnosed as sensitized to isocyanates, no further exposure can be permitted.

EYES: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic steroid preparation frequently. Workplace vapors have produced reversible corneal epithelial edema impairing vision.

SKIN: TDI is a known skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burns.

INGESTION: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of this compound.

RESPIRATORY: TDI is a known pulmonary sensitizer. Treatment is essentially symptomatic. An individual having a skin or pulmonary sensitization reaction to this material should be removed from exposure to any isocyanate.

VII. EMPLOYEE PROTECTION RECOMMENDATIONS

EYE PROTECTION: Liquid chemical goggles or full-face shield. Contact lenses should **not** be worn.

SKIN PROTECTION: Chemical resistant gloves (butyl rubber, nitrile rubber). Cover as much of the exposed skin area as possible with appropriate clothing.

VENTILATION AND RESPIRATORY PROTECTION: Exhaust ventilation sufficient enough to keep the airborne concentrations of the solvents and TDI below their respective TLV's must be utilized. In addition, a respirator that is recommended or approved for use in isocyanate containing environments may be necessary. Observe OSHA regulations for respirator use (29 CFR 1910.134).

OTHER: Safety showers and eyewash stations should be available. Educate employees in safe use of product. Follow all label instructions.

VIII. REACTIVITY DATA

STABILITY: Stable under normal conditions.

POLYMERIZATION: None under normal conditions.

INCOMPATIBILITY:

MATERIALS TO AVOID: Water, amines, strong bases, alcohols, metal compounds and surface active materials. Isocyanates react with water to form heat, CO₂ and insoluble urea's. This reaction can be vigorous.

HAZARDOUS DECOMPOSITION PRODUCTS: By high heat and fire: CO₂, CO oxides of nitrogen, HCN, TDI vapors and mist.

IX. SPILL OR LEAK PROCEDURES

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

Evacuate non-essential personnel. Remove all sources of ignition and ventilate area. Equip clean-up crew with appropriate protective equipment (i.e. clothing, respiratory, etc.) Cover spill with sawdust, vermiculite or other absorbent material. Pour liquid decontaminate over spill area and allow to react for at least 10 minutes. Collect material in open containers and add further amounts of decontamination solution. Remove containers to a safe place, cover loosely, and allow standing for 24 to 48 hours. Wash down spill area with decontamination solutions and flush spill area with water.

Decontamination solutions: concentrated ammonia (3-8%), detergent (2%) and water (90-95%). Respiratory protection is recommended during spill cleanup.

X. SPECIAL PRECAUTIONS & STORAGE DATA

STORAGE TEMPERATURE

(MIN. / MAX.): 32° F (0° C) / 122° F (50° C)

AVERAGE SHELF LIFE: 6 months @ 77° F (25° C)

XI. REGULATORY INFORMATION (US FEDERAL REGULATIONS)

OSAH Hazcom Standard Rating: Hazardous

US Toxic Substance Control Act: Listed in TSCA Inventory

SARA Section 311/312 Hazard Categories: acute health hazard, chronic health hazard, reactivity hazard

U.S. EPA Emergency Planning and Community Right to Know Act (EPCRA) SARA Title III, Section 302, Extremely Hazardous Substances (40 CFR 355 Appendix A): Components: None

U.S. EPA Emergency Planning and Community Right to Know Act (EPCRA) SARA Title III, Section 313, Toxic Chemicals 40 CFR 372.65, Supplier Notification Required: Components Toluene Diisocyanate Mixed Isomers

State Right to Information:

The following chemicals are specifically listed by individual states:

Massachusetts, New Jersey or Pennsylvania Right to Know Substance List:

<u>Weight %</u>	<u>Components</u>	<u>CAS #</u>
>=1%	Alkylsulfonate, Phenyl Ester	70775-94-9
>=1%	Benzene, 1,3 diisocyanato-2-methyl-, Polymer with 2,4-diisocyanato-1-Methyl benzene	31370-61-3

New Jersey Environmental Hazardous Substance and/or New Jersey RTK Special Hazardous Substance List:

<u>Weight %</u>	<u>Components</u>	<u>CAS #</u>
0.2%	Toluene Diisocyanate Mixed Isomers	26471-62-5

California Proposition 65:

Warning! This product contains chemical(s) known to the State of California to be carcinogenic.-Developmental Toxin,-
Female Reproductive Toxin –Male Reproductive Toxin

<u>Weight %</u>	<u>Components</u>	<u>CAS #</u>
0.1-1%	Toluene Diisocyanate Mixed Isomers	26471-62-5

XII: Other Information

NFPA 704 Rating

- Health 3
- Flammability 1
- Reactivity 1
- Other

0=Minimal 1=slight 2=Moderate 3=High 4=Extreme

HMIS Rating

- Health 3*
- Flammability 1
- Physical Hazard 1

0=Minimal 1=Slight 2=Moderate 3=Serious 4=Severe

*=Chronic Health Hazard

This information is furnished without warranty, expressed or implied. This information is believed to be accurate to the best knowledge of W.M. Plastics, Inc. The information in this MSDS relates only to the specific material designated herein. W.M. Plastics, Inc. assumes no legal responsibility for use or reliance upon the information in this MSDS