

# MATERIAL SAFETY DATA SHEET

# LANXESS

Energizing Chemistry

**LANXESS Corporation**  
**Product Safety & Regulatory Affairs**  
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USA

## TRANSPORTATION EMERGENCY

CALL CHEMTREC: (800) 424-9300  
INTERNATIONAL: (703) 527-3887

## NON-TRANSPORTATION

LANXESS Emergency Phone: (800) 410-3063  
LANXESS Information Phone: (800) LANXESS

## 1. Product and Company Identification

**Product Name:** BONDING AGENT TP LXS 51066  
**Material Number:** 56521198  
**Chemical Family:** Alkyl sulphonic acid ester of phenol and polyisocyanate

## 2. Hazards Identification

### Emergency Overview

**DANGER!** **Color:** Yellow **Form:** Liquid **Odor:** pungent, strong.  
Toxic gases/fumes may given off during burning or thermal decomposition. Closed container may forcibly rupture under extreme heat or when contents have been contaminated with water. Use cold water spray to cool fire-exposed containers to minimize the risk of rupture. Causes respiratory tract irritation. May cause allergic respiratory reaction. Harmful if inhaled. Respiratory sensitizer. Causes skin irritation. May cause allergic skin reaction. Skin sensitizer. Causes eye irritation. May cause lung damage.

### Potential Health Effects

**Primary Routes of Entry:** Inhalation, Skin Contact, Eye Contact

**Medical Conditions Aggravated by Exposure:** Asthma, Respiratory disorders, Skin Allergies, Eczema

## HUMAN EFFECTS AND SYMPTOMS OF OVEREXPOSURE

### Inhalation

#### Acute Inhalation

**For Product:** **BONDING AGENT TP LXS 51066**

Diisocyanate vapors or mist at concentrations above the TLV or PEL 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

preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the TLV or PEL with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the TLV or PEL may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g., fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

**For Component: Toluene Diisocyanate Mixed Isomers**

May cause respiratory tract irritation with symptoms of coughing, sore throat and runny nose. Expected to be highly toxic by inhalation. May cause allergic respiratory reaction with symptoms of coughing, wheezing, shortness of breath, bronchospasm, and reduced lung function.

**Chronic Inhalation**

**For Product: BONDING AGENT TP LXS 51066**

As a result of previous repeated overexposures or a single large dose, certain individuals may develop sensitization to diisocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to diisocyanates at levels well below the TLV or PEL. 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. Extreme asthmatic reactions can be life threatening. 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. Sensitization can be permanent. Chronic overexposure to diisocyanates has also been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent.

**Skin**

**Acute Skin**

**For Product: BONDING AGENT TP LXS 51066**

Causes irritation with symptoms of reddening, itching, and swelling. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

**For Component: Toluene Diisocyanate Mixed Isomers**

May cause allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Causes irritation with symptoms of reddening, itching, and swelling. Essentially non-toxic by skin absorption.

**Chronic Skin**

**For Product: BONDING AGENT TP LXS 51066**

Prolonged contact can cause reddening, swelling, rash, and, in some cases, skin sensitization.

**Eye**

**Acute Eye**

**For Product: BONDING AGENT TP LXS 51066**

Causes irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor may cause irritation with symptoms of burning and tearing.

**For Component: Toluene Diisocyanate Mixed Isomers**

Causes irritation with symptoms of reddening, tearing, stinging, and swelling. May cause corneal injury.

**Chronic Eye**

**For Product: BONDING AGENT TP LXS 51066**

Prolonged vapor contact may cause conjunctivitis.

**Ingestion**

**Acute Ingestion**

**For Product: BONDING AGENT TP LXS 51066**

May cause irritation; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

**For Component: Toluene Diisocyanate Mixed Isomers**

Symptoms of ingestion may include abdominal pain, nausea, vomiting, and diarrhea.

**Carcinogenicity:**

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

Toluene Diisocyanate Mixed Isomers	<b>NTP</b> - Hazard Designation: Anticipated carcinogen.
	<b>IARC</b> - Overall evaluation: 2B Possible carcinogen.
	<b>IARC</b> - Evidence of carcinogenicity in humans: Inadequate data.
	<b>IARC</b> - Evidence of carcinogenicity in animals: Sufficient data.

**3. Composition/Information on Ingredients**

**Hazardous Components**

The 2,4-TDI (CAS# 584-84-9) and the 2,6-TDI (CAS# 91-08-7) isomer mixture is known as Toluene Diisocyanate (CAS# 26471-62-5). For Regulatory and State Right to Know information on this product CAS# 26471-62-5 and its isomers 2,4-TDI and 2,6-TDI please refer to regulatory information section of this MSDS.

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
0.1 - 1%	Toluene Diisocyanate Mixed Isomers	26471-62-5

**4. First Aid Measures**

**Eye Contact**

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Use lukewarm water if possible. Use fingers to ensure that eyelids are separated and that the eye is being irrigated. Then remove contact lenses, if easily removable, and continue eye irrigation for not less than 15 minutes. Get medical attention.

**Skin Contact**

Immediately remove contaminated clothing and shoes. Wash off with soap and water. Use lukewarm water if possible. Wash contaminated clothing before reuse. For severe exposures, immediately get under safety shower and begin rinsing. Get medical attention if irritation develops.

**Inhalation**

Move to an area free from further exposure. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening.

**Ingestion**

Do not induce vomiting. Wash mouth out with water. Do not give anything by mouth to an unconscious person. Get medical attention.

**Notes to physician**

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision. Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn. Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound. Inhalation: Treatment is essentially symptomatic. An individual having

a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

## 5. Fire-Fighting Measures

**Suitable Extinguishing Media:** dry chemical, carbon dioxide (CO<sub>2</sub>), foam, water spray for large fires.

### Special Fire Fighting Procedures

Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be extremely dangerous.

### Unusual Fire/Explosion Hazards

Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO<sub>2</sub> formed). Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture. Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous.

## 6. Accidental release measures

### Spill and Leak Procedures

Evacuate non-emergency personnel. Isolate the area and prevent access. Remove ignition sources. Notify management. Put on protective equipment. Control source of the leak. Ventilate. Contain the spill to prevent spread into drains, sewers, water supplies, or soil. Call Lanxess at 800-410-3063 for assistance and advice. Major Spill or Leak (Standing liquid): To minimize vapor, cover the spillage with fire fighting foam (AFFF). Released material may be pumped into closed, but not sealed, metal container for disposal. Process can generate heat. Minor Spill or Leak (Wet surface): Cover spill area with suitable absorbent material (Kitty Litter, Oil-Dri®, etc). Saturate absorbent material with neutralization solution and mix. Wait 15 minutes. Collect material in open-head metal containers. Repeat applications of decontamination solution, with scrubbing, followed by absorbent until the surface is decontaminated. Check for residual surface contamination. Swype® test kits have been used for this purpose. Apply lid loosely and allow containers to vent for 72 hours to let carbon dioxide (CO<sub>2</sub>) escape.

### Additional Spill Procedures/Neutralization

Neutralization solutions:

- (1) Colorimetric Laboratories Inc. (CLI) decontamination solution.
- (2) A mixture of 75% water, 20% non-ionic surfactant (e.g. Poly-Tergent SL-62, Tergitol TMN-10) and 5% n-propanol.
- (3) A mixture of 80% water, 20% non-ionic surfactant (e.g. Poly-Tergent SL-62, Tergitol TMN-10).
- (4) A mixture of 90% water, 3-8% ammonium hydroxide or concentrated ammonia, and 2% liquid detergent.

LANXESS requires that CHEMTREC be immediately notified (800-424-9300) when this product is unintentionally released from its container during its course of distribution, regardless of the amount released. Distribution includes transportation, storage incidental to transportation, loading and unloading. Such notification must be immediate and made by the person having knowledge of the release.

## 7. Handling and Storage

### Storage Temperature:

**minimum:** 21 °C (69.8 °F)  
**maximum:** 43 °C (109.4 °F)

### Storage Period

6 Months

### Handling/Storage Precautions

Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if there is a potential for exposure or if material is heated, used in a confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.

## 8. Exposure Controls / Personal Protection

The sum of the 2,4 and 2,6 isomer concentration should not exceed the guideline limits.

### Toluene Diisocyanate Mixed Isomers (26471-62-5)

US. ACGIH Threshold Limit Values

Time Weighted Average (TWA): 0.005 ppm

US. ACGIH Threshold Limit Values

Short Term Exposure Limit (STEL): 0.02 ppm

US. ACGIH Threshold Limit Values

Hazard Designation: Sensitiser.

US. ACGIH Threshold Limit Values

Hazard Designation: Group A4 Not classifiable as a human carcinogen.

### Industrial Hygiene/Ventilation Measures

Local exhaust should be used to maintain levels below the TLV and PEL whenever diisocyanate is handled, processed, or spray-applied. At normal room temperatures (70 F) TDI levels quickly exceed the TLV or PEL unless properly ventilated. Standard reference sources regarding industrial ventilation (e.g., ACGIH Industrial Ventilation Manual) should be consulted for guidance about adequate ventilation. To ensure that published exposure limits have not been exceeded, monitoring for airborne diisocyanate should become part of the overall employee exposure characterization program. NIOSH, OSHA, LANXESS, and others have developed sampling and analytical methods. LANXESS methods can be made available, upon request.

### Respiratory Protection

At normal room temperatures, airborne TDI can exceed the ACGIH TLV-TWA; therefore, in inadequately ventilated environments, respiratory protection must be worn. The type of respiratory protection selected must comply with the requirements set forth in OSHA's Respiratory Protection Standard (29 CFR 1910.134). The type of respiratory protection available includes (1) an atmosphere-supplying respirator such as a self-contained breathing apparatus (SCBA) or a supplied air respirator (SAR) in the positive pressure or continuous flow mode, or (2) an air-purifying respirator (APR). If an APR is selected then (a)

the cartridge must be equipped with an end-of-service life indicator (ESLI) certified by NIOSH, or(b) a change out schedule, based on objective information or data that will ensure that the cartridges are changed out before the end of their service life, must be developed and implemented. The basis for the change out schedule must be described in the written respirator program. Further, if an APR is selected, the airborne diisocyanate concentration must be no greater than 10 times the TLV or PEL. An organic vapor (OV) cartridge is recommended for APR use.

#### **Hand Protection**

Gloves should be worn. Nitrile rubber showed excellent resistance. Butyl rubber, neoprene, and PVC are also effective.

#### **Eye Protection**

When directly handling liquid product, eye protection is required. Examples of eye protection include a chemical safety goggle, or chemical safety goggle in combination with a full face shield when there is a greater risk of splash.

#### **Skin and body protection**

Avoid all skin contact. Depending on the conditions of use, cover as much of the exposed skin area as possible with appropriate clothing to prevent skin contact.

#### **Medical Surveillance**

All applicants who are assigned to an isocyanate work area should undergo a pre-placement medical evaluation. A history of eczema or respiratory allergies such as hay fever, are possible reasons for medical exclusion from isocyanate areas. Applicants who have a history of adult asthma should be restricted from work with isocyanates. Applicants with a history of prior isocyanate sensitization should be excluded from further work with isocyanates. A comprehensive annual medical surveillance program should be instituted for all employees who are potentially exposed to diisocyanates. Once a worker has been diagnosed as sensitized to any isocyanate, no further exposure can be permitted. Refer to the LANXESS pamphlet (Medical Surveillance Program for Isocyanate Workers) for additional guidance.

#### **Additional Protective Measures**

Emergency showers and eye wash stations should be available. Educate and train employees in the safe use and handling of this product. Follow all label instructions.

### **9. Physical and chemical properties**

<b>Form:</b>	Liquid
<b>Color:</b>	Yellow
<b>Odor:</b>	pungent, strong
<b>Boiling Point/Range:</b>	251.67 - 253.89 °C (485 - 489 °F)
<b>Flash Point:</b>	225 °C (437 °F) (closed cup)
<b>Lower Explosion Limit:</b>	0.9 %(V)
<b>Upper Explosion Limit:</b>	9.5 %(V)
<b>Vapor Pressure:</b>	6 hPa @ 20 °C (68 °F) 12 hPa @ 50 °C (122 °F) 13 hPa @ 55 °C (131 °F)
<b>Density:</b>	1.13 g/cm <sup>3</sup>
<b>Solubility in Water:</b>	Insoluble
<b>Autoignition Temperature:</b>	430 °C (806 °F)
<b>Decomposition Temperature:</b>	176.67 °C (350 °F)
<b>Viscosity, Dynamic:</b>	8,000 - 13,000 mPa.s

### **10. Stability and Reactivity**

**Hazardous Reactions**

Contact with moisture, other materials that react with isocyanates, or temperatures above 350 F (177 C), may cause polymerization.

**Materials to avoid**

Water, Amines, Strong bases, Alcohols, copper alloys, Aluminum

**Hazardous decomposition products**

By Fire and High Heat: Carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), oxides of nitrogen (NO<sub>x</sub>), dense black smoke, Hydrogen cyanide, Isocyanate, Isocyanic Acid, Other undetermined compounds

**11. Toxicological Information****Toxicity Data for BONDING AGENT TP LXS 51066****Toxicity Note**

Toxicity data is for TDI mixed isomers

**Acute Oral Toxicity**

LD50: 4,130 mg/kg (rat, female)

LD50: 5,110 mg/kg (rat, male)

**Acute Inhalation Toxicity**

LC50: 0.48 mg/l, 1 hrs (Rat, Male/Female)

LC50: 3.5 mg/l, 4 h (rat)

**Acute dermal toxicity**

LD50: > 9,400 mg/kg (rabbit)

**Skin Irritation**

rabbit, Draize Test, Exposure Time: 24 hrs, Moderately irritating

**Eye Irritation**

rabbit, Draize Test, Exposure Time: 24 hrs, Severely irritating

**Sensitization**

dermal: sensitizer (guinea pig, Maximisation Test (GPMT))

inhalation: sensitizer (Guinea pig)

**Repeated Dose Toxicity**

90 Days, Inhalation: NOAEL: 30 mg/kg, (rat, Male/Female, daily)

30 Days, Inhalation: NOAEL: 1.5 mg/kg, (guinea pig, )

120 Days, Inhalation: NOAEL: < 1.5 ppm, (dog, male, daily)

**Mutagenicity**

Genetic Toxicity in Vitro:

Ames: positive (Salmonella typhimurium, Metabolic Activation: with)

Sister Chromatid Exchange: positive (human lymphocytes)

Sister Chromatid Exchange: negative (Chinese hamster ovary (CHO) cells)

Genetic Toxicity in Vivo:

Micronucleus Assay: negative (rat, )

Unscheduled DNA synthesis: negative (rat, )

**Carcinogenicity**

Rat, Male/Female, oral, 106 Weeks, daily

positive

**Toxicity to Reproduction/Fertility**

Two generation study, inhalation, daily, (rat, Male/Female) NOAEL (parental): < 0.02 ppm (0.1 mg/m<sup>3</sup>), NOAEL (F1): 0.02 ppm (0.1 mg/m<sup>3</sup>), NOAEL (F2): 0.3 ppm (2 mg/m<sup>3</sup>)  
No effects on Reproductive parameters observed at doses tested.

**Developmental Toxicity/Teratogenicity**

rat, female, inhalation, Days 6 - 15, daily, NOAEL (teratogenicity): 0.5 ppm (3.6 mg/m<sup>3</sup>), NOAEL (maternal): 0.1 ppm (0.7mg/m<sup>3</sup>)  
Fetotoxicity seen only with maternal toxicity. No Teratogenic effects observed at doses tested.

**Toxicity Data for Alkylsulfonate, Phenyl Ester****Acute Oral Toxicity**

LD50: > 5,000 mg/kg (Rat)

**Acute dermal toxicity**

LD50: > 1,000 mg/kg (Rat)

**Skin Irritation**

rabbit, No skin irritation  
Human, Exposure Time: 24 hrs, No skin irritation

**Eye Irritation**

rabbit, No eye irritation

**Sensitization**

dermal: non-sensitizer (guinea pig)

**Toxicity Data for Toluene Diisocyanate Mixed Isomers****Acute Oral Toxicity**

LD50: 4,130 -5,110 mg/kg (Rat, Male/Female)

**Acute Inhalation Toxicity**

LC50: 66 ppm (480 mg/m<sup>3</sup>), 1 hrs (Rat, Male/Female)  
LC50: 49 - 50.4 ppm (350-360 mg/m<sup>3</sup>), aerosol, 4 h (Rat, Male/Female)  
RD50: 2.12 ppm, vapor, 3 h (Rat, male)

**Acute dermal toxicity**

LD50: > 9,400 mg/kg (rabbit, Male/Female)

**Skin Irritation**

rabbit, Draize, Exposure Time: 24 hrs, Moderately irritating

**Eye Irritation**

rabbit, Draize, Severely irritating

**Sensitization**

dermal: sensitizer (Guinea pig, Maximization Test)  
inhalation: sensitizer (Guinea pig, Other method)

**Repeated Dose Toxicity**

21 Days, inhalation: LOAEL: 0.24 ppm (1.71 mg/m<sup>3</sup>), (Rat, Male/Female, 6 hrs/day 5 days/week)  
78 d, inhalation: LOAEL: 0.1 ppm, (rat, Male/Female, 6 hrs/day 5 days/week)  
90 d, Oral: NOAEL: 30 mg/kg, LOAEL: 60 mg/kg, (rat, Male/Female, 5 days/week)

**Mutagenicity**

Genetic Toxicity in Vitro:



Ames: positive, negative (Salmonella typhimurium, Metabolic Activation: with/without)  
Positive and negative results were seen in various in vitro studies. Questionable validity of studies due to rapid hydrolysis in solvents.  
Genetic Toxicity in Vivo:  
Micronucleus Assay: negative (rat, )  
Unscheduled DNA synthesis: negative (rat, )

#### **Carcinogenicity**

rat, Male/Female, inhalation, 113 W, 6 hrs/day 5 days/week  
negative

Rat, Male/Female, oral, 106 Weeks, daily

Positive, study validity questioned due to dose exceeding maximum tolerated dose, irregularities in compound storage and analysis.

#### **Toxicity to Reproduction/Fertility**

Two generation study, inhalation, 6 hrs/day 7 days/week, (rat, Male/Female) NOAEL (parental): 0.08 ppm, NOAEL (F1): 0.02 ppm, NOAEL (F2): 0.3 ppm

No effects on Reproductive parameters observed at doses tested.

#### **Developmental Toxicity/Teratogenicity**

rat, female, inhalation, gestation days 6 - 15, 6 hrs/day 7 days/week, NOAEL (teratogenicity): 0.1ppm,

NOAEL (maternal): 0.1 ppm

No Teratogenic effects observed at doses tested. Fetotoxicity seen only with maternal toxicity.

## **12. Ecological Information**

### **Ecological Data for BONDING AGENT TP LXS 51066**

#### **Biodegradation**

0 %, Exposure time: 28 Days

#### **Bioaccumulation**

Not expected to bio-accumulate.

#### **Acute and Prolonged Toxicity to Fish**

LC50: 164 mg/l (Fathead minnow (Pimephales promelas), 96 hrs)

LC50: > 100 mg/l (Zebra fish (Brachydanio rerio), 96 hrs)

#### **Acute Toxicity to Aquatic Invertebrates**

EC50: 12.5 mg/l (Water flea (Daphnia magna), 48 hrs)

EC50: > 508 mg/l (Water flea (Daphnia magna), 96 hrs)

#### **Toxicity to Microorganisms**

EC50: > 100 mg/l, (Activated sludge microorganisms, 3 hrs)

#### **Additional Ecotoxicological Remarks**

Ecotoxicity data is for TDI mixed isomers

### **Ecological Data for Alkylsulfonate, Phenyl Ester**

#### **Biodegradation**

31 %, Exposure time: 28 Days

#### **Acute and Prolonged Toxicity to Fish**

LC0: 100 mg/l (Zebra fish (Brachydanio rerio), 96 hrs)

**Acute Toxicity to Aquatic Invertebrates**

EC50: 1,000 mg/l (Water flea (Daphnia magna), 48 hrs)

**Toxicity to Aquatic Plants**

EC50: > 10,000 mg/l, (Green algae (Scenedesmus subspicatus), 72 hrs)

No effects seen at saturation concentration.

**Toxicity to Microorganisms**

Respiration inhibition, EC50: > 10,000 mg/l, (Activated sludge microorganisms)

**Ecological Data for Toluene Diisocyanate Mixed Isomers****Biodegradation**

0 %, Exposure time: 28 Days, Not readily biodegradable.

**Bioaccumulation**

Carp, Exposure time: 56 d, < 1 BCF

Not expected to bio-accumulate.

**Acute and Prolonged Toxicity to Fish**

LC50: > 100 mg/l (Zebra fish (Brachydanio rerio), 96 hrs)

LC50: 133 mg/l (Rainbow (Donaldson)Trout (Oncorhynchus mykiss), 96 hrs)

**Acute Toxicity to Aquatic Invertebrates**

EC50: 12.5 mg/l (Water flea (Daphnia magna), 48 hrs)

EC50: > 500 mg/l (Grass shrimp, 24 hrs)

**Toxicity to Aquatic Plants**

EC50: 3,230 - 4,300 mg/l, End Point: growth (other: algae, 96 h)

**Toxicity to Microorganisms**

EC50: > 100 mg/l, (Activated sludge microorganisms, 3 hrs)

**13. Disposal considerations****Waste Disposal Method**

Waste disposal should be in accordance with existing federal, state, provincial, and/or local environmental control laws. Incineration is the preferred method.

**Empty Container Precautions**

Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed prior to disposal.

**14. Transport information****Land transport (DOT)**

**Proper Shipping Name:** Environmentally hazardous substances, liquid, n.o.s.

**Hazard Class or Division:** 9

**UN/NA Number:** UN3082

**Packaging Group:** III

**Hazard Label(s):** Class 9

**RSPA/DOT Regulated Components:**

Toluene Diisocyanate Mixed Isomers

**Reportable Quantity:** 12,500 lb

**Sea transport (IMDG)**

**Proper Shipping Name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

**Hazard Class or Division:** 9

**UN-No:** UN3082

**Packaging Group:** III

**Hazard Label(s):** Miscellaneous

**Air transport (ICAO/IATA)**

**Proper Shipping Name:** Environmentally hazardous substance, liquid, n.o.s.

**Hazard Class or Division:** 9

**UN-No:** UN3082

**Packaging Group:** III

**Hazard Label(s):** Miscellaneous

**15. Regulatory Information**

**United States Federal Regulations**

**OSHA Hazcom Standard Rating:** Hazardous

**US. Toxic Substances Control Act:** Listed on the TSCA Inventory.

**US. EPA CERCLA Hazardous Substances (40 CFR 302):**

**Components**

Toluene Diisocyanate Mixed Isomers Reportable quantity: 100 lbs

**SARA Section 311/312 Hazard Categories:**

Acute Health Hazard, Chronic Health Hazard, Reactivity Hazard

**US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A):**

**Components**

None

**US. 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-Know Information**

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the MSDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state.

**Massachusetts, New Jersey or Pennsylvania Right to Know Substance Lists:**

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
>=1%	Alkylsulfonate, Phenyl Ester	70775-94-9
>=1%	Benzene, 1,3-diisocyanato-2-methyl-, polymer with 2,4-diisocyanato-1-methylbenzene	31370-61-3

**New Jersey Environmental Hazardous Substances List and/or New Jersey RTK Special Hazardous Substances Lists:**

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
0.1 - 1%	Toluene Diisocyanate Mixed Isomers	26471-62-5

**California Prop. 65:**

**Warning! This product contains chemical(s) known to the State of California to be Carcinogenic.**

<u>Weight %</u>	<u>Components</u>	<u>CAS-No.</u>
0.1 - 1%	Toluene Diisocyanate Mixed Isomers	26471-62-5

**16. Other Information**

**NFPA 704M Rating**

<b>Health</b>	3
<b>Flammability</b>	1
<b>Reactivity</b>	1
<b>Other</b>	

0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme

**HMIS Rating**

<b>Health</b>	3*
<b>Flammability</b>	1
<b>Physical Hazard</b>	1

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

\* = Chronic Health Hazard

LANXESS Corporation's method of hazard communication is comprised of Product Labels and Material Safety Data Sheets. HMIS and NFPA ratings are provided by LANXESS Corporation as a customer service.

The handling of products containing reactive TDI polyisocyanate/prepolymer and/or monomeric TDI requires appropriate protective measures referred to in this MSDS. These products are therefore recommended only for use in industrial or trade (commercial) applications. They are not suitable for use in Do-It-Yourself applications.

Contact Person: Product Safety Department  
 Telephone: (800) LANXESS  
 MSDS Number: 00000008137  
 Version Date: 03/16/2009  
 Report Version: 1.7

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