

# SAFETY DATA SHEET



## 1. Identification

**Covestro LLC**  
**1 Covestro Circle**  
**Pittsburgh, PA 15205**  
**USA**

### TRANSPORTATION EMERGENCY

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

### NON-TRANSPORTATION

Emergency Phone: Call Chemtrec  
Information Phone: (844) 646-0545

**Product Name:** DESMODUR E 3265 MPA/SN  
**Material Number:** 00833452  
**Chemical Family:** Aliphatic Polyisocyanate in Organic Solvent  
**Use:** Raw material for coatings, adhesives, sealants, or elastomers in industrial applications  
**Restrictions on use:** Do-It-Yourself Applications

## 2. Hazards Identification

### GHS Classification

|                                                   |                                 |
|---------------------------------------------------|---------------------------------|
| Flammable liquids:                                | Category 3                      |
| Acute toxicity (Inhalation):                      | Category 4                      |
| Skin irritation:                                  | Category 2                      |
| Eye irritation:                                   | Category 2B                     |
| Skin sensitisation:                               | Category 1                      |
| Specific target organ toxicity - single exposure: | Category 3 (Respiratory system) |
| Aspiration hazard:                                | Category 1                      |

### GHS Label Elements

Hazard pictograms:



Signal word: Danger

Hazard statements:

- Flammable liquid and vapour.
- May be fatal if swallowed and enters airways.
- Causes skin and eye irritation.
- May cause an allergic skin reaction.
- Harmful if inhaled.
- May cause respiratory irritation.

Precautionary statements:

**Prevention:**

Keep away from heat, sparks, open flames, and hot surfaces. - No smoking  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical, ventilating and lighting equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Avoid breathing dust, mist, gas, vapors or spray.  
Wash skin and face thoroughly after handling.  
Use only outdoors or in a well-ventilated area.  
Contaminated work clothing must not be allowed out of the workplace.  
Wear permeation resistant protective gloves and clothing. Wear eye and face protection.

**Response:**

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.  
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
Call a doctor or emergency medical facility (i.e. 911) if you feel unwell.  
Do NOT induce vomiting.  
If skin irritation or rash occurs: Get medical attention.  
If eye irritation persists: Get medical attention.  
Take off contaminated clothing and wash before reuse.  
In case of fire: Use dry chemical, carbon dioxide (CO<sub>2</sub>), foam, or water spray (for large fires) to extinguish.

**Storage:**

Store in a well-ventilated place. Keep container tightly closed. Keep cool.  
Store locked up.

**Disposal:**

Dispose of contents and container in accordance with existing federal, state, and local environmental control laws.

### 3. Composition/Information on Ingredients

#### Hazardous Components

| <u>Weight Percent</u> | <u>Components</u>                     | <u>CAS-No.</u>         | <u>Classification</u>                                                                                                                                      |
|-----------------------|---------------------------------------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 60 - 100%             | Aliphatic Polyisocyanate based on HDI | CAS# is a trade secret | Acute toxicity Category 4 Inhalation.<br>Skin sensitisation Category 1.<br>Specific target organ toxicity - single exposure Category 3 Respiratory system. |

|          |                                           |            |                                                                                                                                                                                                                                                                                                        |
|----------|-------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10 - 30% | Petroleum Solvent                         | 64742-95-6 | Skin irritation Category 2.<br>Specific target organ toxicity - single exposure Category 3 Central nervous system.<br>Flammable liquids Category 3.                                                                                                                                                    |
| 7 - 13%  | 1,2,4-Trimethylbenzene                    | 95-63-6    | Flammable liquids Category 3.<br>Acute toxicity Category 4 Inhalation.<br>Skin irritation Category 2.<br>Eye irritation Category 2B.<br>Specific target organ toxicity - single exposure Category 3 Respiratory system.<br>Aspiration hazard Category 1.                                               |
| 3 - 7%   | Propylene Glycol Monomethyl Ether Acetate | 108-65-6   | Eye irritation Category 2B.<br>Flammable liquids Category 3.                                                                                                                                                                                                                                           |
| 1 - 5%   | 1,3,5-Trimethylbenzene                    | 108-67-8   | Skin irritation Category 2.<br>Eye irritation Category 2B.<br>Specific target organ toxicity - single exposure Category 3 Respiratory system.<br>Flammable liquids Category 3.                                                                                                                         |
| 1 - 5%   | N-Propylbenzene                           | 103-65-1   | Flammable liquids Category 3.<br>Eye irritation Category 2B.<br>Specific target organ toxicity - single exposure Category 3 Respiratory system.<br>Aspiration hazard Category 1.                                                                                                                       |
| 0.1 - 1% | Xylene                                    | 1330-20-7  | Skin irritation Category 2.<br>Specific target organ toxicity - single exposure Category 3 Respiratory system.<br>Central nervous system.<br>Flammable liquids Category 3.                                                                                                                             |
| <=0.26%  | Hexamethylene-1,6-Diisocyanate            | 822-06-0   | Acute toxicity Category 4 Oral.<br>Acute toxicity Category 1 Inhalation.<br>Skin corrosion Category 1.<br>Serious eye damage Category 1.<br>Respiratory sensitisation Category 1.<br>Skin sensitisation Category 1.<br>Specific target organ toxicity - single exposure Category 3 Respiratory system. |

The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.

#### 4. First Aid Measures

##### Most Important Symptom(s)/Effect(s)

**Acute:** Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms

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of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the exposure limits or guidelines 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.

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

Causes eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing. May cause irritation of the digestive tract; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Inhalation of the solvents may cause central nervous system depression with symptoms of nausea, lightheadedness, drowsiness, dizziness and loss of co-ordination. Ingestion and/or vomiting may cause aspiration into the lungs resulting in chemical pneumonitis (inflammation of the lungs). May cause defatting of the skin with symptoms of dryness and cracking.

**Delayed:** Symptoms affecting the respiratory tract can also occur several hours after overexposure.

#### **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 if irritation develops.

#### **Skin Contact**

If direct skin contact with isocyanates occurs, immediately remove contaminated clothing and shoes. Wipe off the isocyanate product from the skin using dry towels or other similar absorbent fabric. If readily available, apply a polyglycol-based cleanser (e.g. Colorimetric Laboratories, Inc. (CLI) D-TAM™ Skin Cleanser) or corn oil. Wash with soap and warm water and pat dry. If a polyglycol-based cleanser is not available, wash with soap and warm water for 15 minutes. If available, use a wipe test pad to verify decontamination is complete (e.g. CLI SWYPE™). Get medical attention if irritation develops. Discard or wash contaminated clothing before reuse.

#### **Inhalation**

Move to an area free from further exposure. Extreme asthmatic reactions that may occur in sensitized persons can be life threatening. 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.

#### **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. Firefighting Measures

**Suitable Extinguishing Media:** Dry chemical, Carbon dioxide (CO<sub>2</sub>), Foam, water spray for large fires.

**Unsuitable Extinguishing Media:** High volume water jet

### Fire Fighting Procedure

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.

### 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

### 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. Flammable Liquid. Vapors may spread long distances and ignite. Vapors or mist may be a fire and explosion hazard when exposed to high temperature or ignition. Vapors are heavier than air and may travel a considerable distance to a source of ignition and flashback. Vapors or fumes may form explosive mixture with air.

## 6. Accidental Release Measures

### Spill and Leak Procedures

Implement site emergency response plan. Evacuate non-emergency personnel. The magnitude of the evacuation depends upon the quantity released, site conditions, and the ambient temperature. Isolate the area and prevent access of unauthorized personnel. Notify management. Call CHEMTREC at 1-800-424-9300 for assistance and advice.

Wear necessary personal protective equipment (PPE) as specified in the SDS or the site emergency response plan. Ventilate and remove ignition sources. Control the source of the leak. Contain the released material by damming, diking, retaining, or diverting into an appropriate containment area. Absorb or pump off as much of the spilled material as possible. When using absorbent, completely cover the spill area with suitable absorbent material (e.g., vermiculite, kitty litter, Oil-Dri®, etc...). Allow for the absorbent material to absorb the spilled liquid. Shovel the absorbent material into an approved metal container (i.e., 55-gallon salvage drum). Do not fill the container more than 2/3 full to allow for expansion, and do not tighten the lid on the container. Repeat application of absorbent material until all liquid has been removed from the surface. For spills involving a solid product, remove mechanically (sweep up, vacuum, shovel etc.) and collect and place into an approved metal container.

Decontaminate the spill surface area using a neutralization solution (see list of solutions on the SDS); scrubbing the surface with a broom or brush helps the decontamination solution to penetrate into porous surfaces. Wait at least 15 minutes after first application of the neutralization solution. Cover the area with absorbent material and shovel this into an approved metal container. Residual surface contamination can be

checked using a wipe test pad to verify decontamination is complete (e.g. CLI Surface Swype™). If the wipe test pad demonstrates that isocyanate remains on the surface (red color on pad), repeat applications of neutralization solution, with scrubbing, followed by absorbent until the surface is decontaminated (no color change on wipe pad). Apply lid loosely to metal waste container (do not tighten the lid because carbon dioxide gas and heat can be generated from the neutralization process). With the lid still loosely in place, move the container to an isolated, well-ventilated area to allow release of carbon dioxide. After 72 hours, seal the container, and properly dispose of the waste material and any contaminated equipment (i.e., broom or brush) in accordance with existing federal, state and local regulations.

#### **Additional Spill Procedures/Neutralization**

Products or product mixtures that have been shown to be effective neutralization solutions for decontaminating surfaces, tools, or equipment that have been in contact with an isocyanate include, but are not limited to:

- Colorimetric Laboratories, Inc. (CLI): 1-847-803-3737
  - o Isocyanate Decontamination Solution
- Spartan Chemical Company: 1-800-537-8990
  - o Spartan® ShineLine Emulsifier Plus (stripping solution)
  - o Spartan® SC-200 Heavy Duty Cleaner
- ZEP Commercial Heavy Duty Floor Stripper
- A mixture of 90% water, 10% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10)
- A mixture of 75% water, 20% non-ionic surfactant, and 5% n-propanol
- A mixture of 80% water, 10% non-ionic surfactant, 5% isopropanol, 5% ammonium hydroxide (household ammonia)

For more information about neutralization solutions, please refer to spill cleanup and neutralization information available on Covestro's Product Safety First website. [www.productsafetyfirst.covestro.com](http://www.productsafetyfirst.covestro.com)  
Note: Always wear proper PPE when cleaning up an isocyanate spill or when decontaminating surfaces, tools, or equipment using a neutralization solution. It may take two or more applications of the neutralization solution to decontaminate the surface. Residual surface contamination can be checked using a surface wipe method such as the CLI Swype™ pad.

## **7. Handling and Storage**

### **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 material is heated, sprayed, 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 spray 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. Ground and bond containers and equipment before transferring to avoid static sparks. Protect from moisture.

### **Storage Period:**

6 Months @ 25 °C (77 °F): after receipt of material by customer

### **Storage Temperature**

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**Minimum:** 10 °C (50 °F)  
**Maximum:** 30 °C (86 °F)

**Storage Conditions**

Store separate from food products.

Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communication Standard 29 CFR 1910.1200.

**Substances to Avoid**

Water, Amines, Strong bases, Alcohols, Copper alloys

**8. Exposure Controls/Personal Protection**

The recommendations in this section should not be a substitute for a personal protective equipment (PPE) assessment performed by the employer as required by 29 CFR 1910 Subpart I.

**Exposure Limits**

**1,2,4-Trimethylbenzene (95-63-6)**

US. ACGIH Threshold Limit Values  
Time Weighted Average (TWA): 25 ppm

**Propylene Glycol Monomethyl Ether Acetate (108-65-6)**

Covestro Exposure Limit  
Time weighted average 100 ppm

Covestro Exposure Limit  
Short term exposure limit 150 ppm

**Xylene (1330-20-7)**

US. ACGIH Threshold Limit Values  
Time Weighted Average (TWA): 100 ppm

US. ACGIH Threshold Limit Values  
Short Term Exposure Limit (STEL): 150 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)  
Permissible exposure limit: 100 ppm, 435 mg/m<sup>3</sup>

US. ACGIH Threshold Limit Values  
Hazard Designation: Group A4 Not classifiable as a human carcinogen.

**Hexamethylene-1,6-Diisocyanate (822-06-0)**

US. ACGIH Threshold Limit Values  
Time weighted average 0.005 ppm

Any component which is listed in section 3 and is not listed in this section does not have a known ACGIH TLV, OSHA PEL or supplier recommended occupational exposure limit.

### **Industrial Hygiene/Ventilation Measures**

Good industrial hygiene practice dictates that worker protection should be achieved through engineering controls, such as ventilation, whenever feasible. When such controls are not feasible to achieve full protection, the use of respirators and other personal protective equipment is mandated. Exhaust air may need to be cleaned by scrubbers or filters to reduce environmental contamination. Curing ovens must be ventilated to prevent emissions into the workplace. If oven off-gases are not vented properly (i.e. they are released into the work area), it is possible to be exposed to airborne monomeric HDI.

### **Respiratory Protection**

A respirator that is recommended or approved for use in isocyanate-containing environments (air-purifying or fresh air-supplied) may be necessary for spray applications or other situations such as high temperature use which may produce inhalation exposures. A supplied-air respirator (either positive pressure or continuous flow-type) is recommended. Before an air-purifying respirator can be used, air monitoring must be performed to measure airborne concentrations of HDI monomer and HDI polyisocyanate. Specific conditions under which air-purifying respirators can be used are outlined in the following sections. Observe OSHA regulations for respirator use (29 CFR 1910.134). **SPRAY APPLICATION:** A. Good industrial hygiene practice dictates that when isocyanate-based coatings are spray applied, some form of respiratory protection should be worn. During the spray application of coatings containing this product the use of a supplied-air (either positive pressure or continuous flow-type) respirator is mandatory when ONE OR MORE of the following conditions exists: -the airborne isocyanate concentrations are not known; or -the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit); or -the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m<sup>3</sup> averaged over 8 hours or 10 mg/m<sup>3</sup> averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits); or -operations are performed in a confined space (See OSHA Confined Space Standard, 29 CFR 1910.146). A properly fitted air-purifying (combination organic vapor and particulate) respirator, proven by test to be effective in isocyanate-containing spray paint environments, and used in accordance with all recommendations made by the manufacturer, can be used when ALL of the following conditions are met: -The airborne isocyanate monomer concentrations are known to be below 0.05 ppm averaged over eight (8) hours (10 times 8 hour TWA exposure limit); and -the airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m<sup>3</sup> averaged over 8 hours or 10 mg/m<sup>3</sup> averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits). In addition, prefilters should be changed whenever breathing resistance increases due to particulate buildup. **NON-SPRAY OPERATIONS:** A. During non-spray operations such as mixing, batch-making, brush or roller application, etc., at elevated temperatures (for example, heating of material or application to a hot substrate), it is possible to be exposed to airborne isocyanate vapors. Therefore, when the coatings system will be applied in a non-spray manner, a supplied-air (either positive pressure or continuous flow-type) respirator is mandatory when ONE OR MORE of the following conditions exists: - the airborne isocyanate concentrations are not known; or - the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit); or - the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m<sup>3</sup> averaged over 8 hours or 10 mg/m<sup>3</sup> averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits); or - operations are performed in a confined space (See OSHA Confined Space Standard, 29 CFR 1910.146). A properly fitted air-purifying (combination organic vapor and particulate) respirator, proven by test to be effective in isocyanate-containing paint environments, and used in accordance with all recommendations made by the manufacturer, can be used when ALL of the following conditions are met: -the airborne concentrations of the isocyanate monomer are below 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit); and - the airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m<sup>3</sup> averaged over eight (8) hours or 10 mg/m<sup>3</sup> averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits) and - a NIOSH-certified End of Service Life Indicator or a change schedule based upon objective information or data is used to ensure that cartridges are replaced before the end of their service life. In addition, prefilters should be changed whenever breathing resistance increases due to particulate buildup.

### **Hand Protection**

Ensure gloves remain in good condition during use and replace if any deterioration is observed.

Gloves should be worn. For protection from isocyanates, nitrile rubber, butyl rubber, or neoprene gloves are recommended. For protection from solvents in this product, nitrile rubber gloves may be appropriate, but a personal protective equipment (PPE) assessment should be performed by the employer.

#### **Eye Protection**

When handling liquid product, chemical goggles should be worn., Chemical safety goggles in combination with a full face shield if a splash hazard exists.

#### **Skin 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., Gloves, long sleeved shirts and pants.

#### **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 Covestro 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>State of Matter:</b>                        | liquid                                                               |
| <b>Color:</b>                                  | Yellow                                                               |
| <b>Odor:</b>                                   | solvent-like                                                         |
| <b>Odor Threshold:</b>                         | No Data Available                                                    |
| <b>pH:</b>                                     | No Data Available                                                    |
| <b>Boiling Point:</b>                          | ca. 165 °C (329 °F) @ 1,013 hPa                                      |
| <b>Flash Point:</b>                            | ca. 50 °C (122 °F) (DIN EN 22719)                                    |
| <b>Evaporation Rate:</b>                       | No Data Available                                                    |
| <b>Lower Explosion Limit:</b>                  | 1.0 %(V) for the solvent                                             |
| <b>Upper Explosion Limit:</b>                  | 10.8 %(V) for the solvent                                            |
| <b>Vapor Pressure:</b>                         | HDI Polyisocyanate: 9.3 X 10-6 @ 68 F (20 C) mmHg                    |
| <b>Vapor Density:</b>                          | No Data Available                                                    |
| <b>Density:</b>                                | ca. 1.05 g/cm <sup>3</sup> @ 20 °C (68 °F) (DIN 53217)               |
| <b>Relative Vapor Density:</b>                 | No Data Available                                                    |
| <b>Specific Gravity:</b>                       | No Data Available                                                    |
| <b>Solubility in Water:</b>                    | Insoluble - Reacts slowly with water to liberate CO <sub>2</sub> gas |
| <b>Partition Coefficient: n-octanol/water:</b> | No Data Available                                                    |
| <b>Auto-ignition Temperature:</b>              | ca. 480 °C (896 °F) (DIN 51794)                                      |
| <b>Decomposition Temperature:</b>              | No Data Available                                                    |
| <b>Dynamic Viscosity:</b>                      | ca. 1,200 mPa.s @ 23 °C (73.4 °F) (DIN EN ISO 3219/A.3)              |
| <b>Kinematic Viscosity:</b>                    | No Data Available                                                    |
| <b>Bulk Density:</b>                           | Approximately 1,042 kg/m <sup>3</sup>                                |
| <b>Pour point:</b>                             | ca. -25 °C (-13 °F)                                                  |

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**Self Ignition:** not applicable

## 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

### Stability

Stable under normal conditions of use and storage.

### Materials to Avoid

Water, Amines, Strong bases, Alcohols, Copper alloys

### Conditions to Avoid

Heat, flames and sparks.

### 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

### Likely Routes of Exposure:

Skin Contact  
Inhalation  
Eye Contact  
Ingestion

### Health Effects and Symptoms

**Acute:** Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the exposure limits or guidelines 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.

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

Causes eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing. May cause irritation of the digestive tract; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

,Inhalation of the solvents may cause central nervous system depression with symptoms of nausea, lightheadedness, drowsiness, dizziness and loss of co-ordination.,Ingestion and/or vomiting may cause aspiration into the lungs resulting in chemical pneumonitis (inflammation of the lungs),,May cause defatting of the skin with symptoms of dryness and cracking.

**Chronic:** As a result of previous repeated overexposures or a single large dose, certain individuals may develop sensitization to isocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to isocyanates at levels well below the exposure limits or guidelines. 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.

Prolonged contact with skin can cause reddening, swelling, rash, and, in some cases, skin sensitization. Animal tests and other research indicate that skin contact with isocyanates can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

Prolonged vapor contact with the eyes may cause conjunctivitis.

,Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling solvents may be harmful or fatal.

**Delayed:** Symptoms affecting the respiratory tract can also occur several hours after overexposure.

#### **Toxicity Data for: DESMODUR E 3265 MPA/SN**

Data is based on a similar product.

##### **Acute Oral Toxicity**

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

##### **Mutagenicity**

Genetic Toxicity in Vitro:

Salmonella/microsome test (Ames test): No indication of mutagenic effects.

Toxicological studies at the product

#### **Toxicity Data for: Aliphatic Polyisocyanate based on HDI**

##### **Toxicity Note**

Data is based on a similar product, including residual monomer.

##### **Acute Oral Toxicity**

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

##### **Acute Inhalation Toxicity**

LC50: 0.943 mg/l, 4 h, dust/mist (rat, male)

Toxicological studies at the productThe test atmosphere generated in the animal study is not representative of workplace environments, how the substance is placed on the market, and how it can reasonably be expected to be used. Therefore the test result cannot be directly applied for the purpose of assessing hazard. Based on expert judgment and the weight of the evidence, a modified classification for acute inhalation toxicity is justified.

##### **Acute Dermal Toxicity**

LD50: > 2,000 mg/kg (rat) (OECD Test Guideline 402)

##### **Skin Irritation**

|                                       |                           |
|---------------------------------------|---------------------------|
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|---------------------------------------|---------------------------|

rabbit, OECD Test Guideline 404, slight irritant  
Toxicological studies of a comparable product.

#### **Eye Irritation**

rabbit, OECD Test Guideline 405, slight irritant  
Toxicological studies of a comparable product.

#### **Sensitization**

Skin sensitization (local lymph node assay (LLNA)):: positive (Mouse, OECD Test Guideline 429)  
Toxicological studies of a comparable product.

#### **Mutagenicity**

Genetic Toxicity in Vitro:  
Salmonella/microsome test (Ames test): No indication of mutagenic effects.  
Studies at the product containing solvent

#### **Toxicity Data for: Petroleum Solvent**

##### **Acute Oral Toxicity**

LD50: > 5,000 mg/kg (rat, male/female) (OECD Test Guideline 401)

##### **Acute Dermal Toxicity**

LD50: > 2,000 mg/kg (rabbit, male/female) (OECD Test Guideline 402)

##### **Skin Irritation**

rabbit, Draize, Exposure Time: 24 h, Slightly irritating

##### **Eye Irritation**

rabbit, Draize, Exposure Time: 24 h, Slightly irritating

Non-irritating

##### **Sensitization**

dermal: non-sensitizer (Guinea pig, Maximization Test)

dermal: non-sensitizer (Human, Other method)

##### **Repeated Dose Toxicity**

90 D, Inhalation: NOAEL: 6.6 mg/l, (rat)  
Chronic exposure damages the brain and the central nervous system.

14 D, dermal: NOAEL: 3,750 mg/kg, (rabbit)  
Chronic exposure damages the brain and the central nervous system.

##### **Mutagenicity**

Genetic Toxicity in Vitro:  
Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

##### **Carcinogenicity**

Mouse, male, dermal, 2 Ynegativerat, Male/Female, inhalation, 109 w, 6 hrs/day 7 days/week positive  
Kidney carcinomas were found in male rats only at all dose levels.

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

Two generation study, inhalation, 6 hrs/day 7 days/week, (rat, Male/Female) NOAEL (F1): 500 ppm,  
NOAEL (F2): 500 ppm No effects on Reproductive parameters observed at doses tested. Three generation  
study, inhalation, 6 hrs/day 7 days/week, (rat, Male/Female) No effects on Reproductive parameters

observed at doses tested.

**Developmental Toxicity/Teratogenicity**

rat, female, inhalation, NOAEL (teratogenicity): > 1,573 ppm, No Teratogenic effects observed at doses tested. Rat, Female, inhalation, GD6-GD19, 6 hours/day, NOAEL (teratogenicity): 23.9 mg/l, NOAEL (maternal): 23.9 mg/l,

**Other Relevant Toxicity Information**

May cause drowsiness or dizziness.

**Toxicity Data for: 1,2,4-Trimethylbenzene**

**Acute Oral Toxicity**

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

**Acute Inhalation Toxicity**

LC50: 18 mg/l, 18,000, 4 h, vapour (rat)

**Acute Dermal Toxicity**

LD50: > 3,160 mg/kg (rabbit)

**Skin Irritation**

rabbit, Moderately irritating

**Eye Irritation**

rat, Slightly irritating

**Sensitization**

dermal: non-sensitizer (Guinea pig, Maximization Test)

Skin sensitisation according to Magnusson/Kligmann (maximizing test):: negative (Guinea pig)

**Repeated Dose Toxicity**

20 Days, inhalation: NOAEL: < 100 ppm, (rat, )  
CNS depression.

28 Days, oral: NOAEL: < 500 mg/kg, (rat, )  
Changes in: kidney

3 months, inhalation: NOAEL: 1230 mg/m<sup>3</sup>, (rat, male/female, 6 hrs/day 5 days/week)

**Mutagenicity**

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Sister Chromatid Exchange: (Mouse, )

Positive and negative results were seen in various in vivo studies.

Cytogenetic assay: (Rat, )

negative

Micronucleus Assay: negative (Mouse, Male/Female, intraperitoneal)

negative

**Developmental Toxicity/Teratogenicity**

|                                       |                           |
|---------------------------------------|---------------------------|
| Material Name: DESMODUR E 3265 MPA/SN | Material Number: 00833452 |
|---------------------------------------|---------------------------|

rat, female, inhalation, daily, NOAEL (teratogenicity): 0.19%, No Teratogenic effects observed at doses tested.

No fetotoxicity observed at doses tested.

**Other Relevant Toxicity Information**

May cause irritation of respiratory tract.

May be fatal if swallowed and enters airways.

**Toxicity Data for: Propylene Glycol Monomethyl Ether Acetate**

**Acute Oral Toxicity**

LD50: 6,190 mg/kg (rat, male/female) (OECD Test Guideline 401)

LD50: 5,155 mg/kg (rat, female) (OECD Test Guideline 401)

**Acute Inhalation Toxicity**

LC0: > 70.458 mg/l, 4 h, vapour (rat, male) (OECD Test Guideline 403)  
4 hour test is calculated.

LC0: > 4,345 ppm, 6 h, vapour (rat, male) (OECD Test Guideline 403)

**Acute Dermal Toxicity**

LD50: > 5,000 mg/kg (rat, male/female) (OECD Test Guideline 402)

**Skin Irritation**

rabbit, OECD Test Guideline 404, Non-irritating

**Eye Irritation**

rabbit, Slightly irritating

**Sensitization**

dermal: non-sensitizer (Guinea pig, Magnusson/Kligmann (Maximization Test))

Skin sensitisation according to Magnusson/Kligmann (maximizing test):: negative (Guinea pig, OECD Test Guideline 406)

**Repeated Dose Toxicity**

14 Days, inhalation: NOAEL: 300 ppm, LOAEL: 1,000 ppm, (Rat)

45 Days, Oral: NOAEL: >= 1,000 mg/kg, (Rat, male/female, daily)

9 Days, inhalation: NOAEL: 300 ppm, LOAEL: 1,000 ppm, (Rat, male/female, 6 hrs/day)

**Mutagenicity**

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

**Developmental Toxicity/Teratogenicity**

Rat, Female, inhalation, 6 hrs/day 7 days/week, NOAEL (teratogenicity): > 4,000 ppm, No Teratogenic effects observed at doses tested. Rat, Female, inhalation, GD 6-15, 6 hrs/day 7 days/week, NOAEL (teratogenicity): > 4,000 ppm, NOAEL (maternal): 500 ppm

**Toxicity Data for: 1,3,5-Trimethylbenzene**

**Acute Oral Toxicity**

|                                       |                           |
|---------------------------------------|---------------------------|
| Material Name: DESMODUR E 3265 MPA/SN | Material Number: 00833452 |
|---------------------------------------|---------------------------|

LD50: 6,000 mg/kg (rat)

**Acute Inhalation Toxicity**

LC50: 24 mg/l, 24,000, 4 h, vapour (rat)

**Acute Dermal Toxicity**

LD50: > 2,000 mg/kg (rat, male/female)

**Skin Irritation**

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

**Eye Irritation**

rabbit, Draize, Mild eye irritation

**Repeated Dose Toxicity**

4 months, inhalation: NOAEL: < 1700 ppm, (Rat, )

Reduced body weight gain.Changes in blood parameters.CNS depression.

90 Days, oral: LOAEL: 54 gm/kg, (rat, )

Changes in:liver

90 Days, oral: NOAEL: 600 mg/kg, (rat, )

**Mutagenicity**

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Micronucleus Assay: negative (Mouse, Male/Female, intraperitoneal)

negative

**Developmental Toxicity/Teratogenicity**

6 hours/day, daily, NOAEL (teratogenicity): 5900 mg/m3, NOAEL (maternal): 492 mg/m3

**Other Relevant Toxicity Information**

May cause irritation of respiratory tract.

**Toxicity Data for: N-Propylbenzene**

**Acute Oral Toxicity**

LD50: 6,040 mg/kg (rat)

**Acute Inhalation Toxicity**

LC50: 159.76 mg/l, 65,000 ppm, 4 h, vapour (rat)

4 hour test is calculated.

**Eye Irritation**

irritating

**Other Relevant Toxicity Information**

May cause irritation of respiratory tract.

May be fatal if swallowed and enters airways.

**Toxicity Data for: Xylene**

**Acute Oral Toxicity**

LD50: 4,300 mg/kg (rat)

**Acute Inhalation Toxicity**

LC50: 29.091 mg/l, 4 h, vapour (rat, male) (EU Method B.2)

**Acute Dermal Toxicity**

LD50: > 4,400 mg/kg (rabbit, male)

assuming density = 0.88 g/cm<sup>3</sup>

**Skin Irritation**

rabbit, Exposure Time: 24 h, irritating

**Eye Irritation**

Human, Corrosive

**Sensitization**

negative (Human, Patch Test)

**Repeated Dose Toxicity**

90 Ds, inhalation: NOAEL: 810 ppm, (Rat)

There were no adverse effects seen at highest dose tested.

90 Ds, oral: LOAEL: 150 mg/kg, (Rat)

There were no adverse effects seen at highest dose tested. Chronic exposure damages the brain and the central nervous system.

90 Ds, oral: NOAEL: 150 mg/kg, LOAEL: 150 mg/kg, (Rat, male/female, daily)

13 weeks, Inhalation: NOAEL: > 3.515 mg/l, (Rat, male, 6 hrs/day 5 days/week)

**Mutagenicity**

Genetic Toxicity in Vitro:

Ames: negative (Salmonella typhimurium, Metabolic Activation: with/without)

Chromosome aberration test: negative (Chinese hamster ovary (CHO) cells, Metabolic Activation: with/without)

Sister Chromatid Exchange: negative (Chinese hamster ovary (CHO) cells, Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Dominant Lethal Assay: negative (Mouse, male/female, Other method)

negative

**Carcinogenicity**

Rat, Male/Female, oral, 103 Weeks negative Mouse, Male/Female, oral, 2 Years negative

**Toxicity to Reproduction/Fertility**

Two-generation study, Inhalative, daily, (rat, male/female) NOAEL (parental): 500, NOAEL (F1): > 500, NOAEL (F2): > 500 No toxicity to reproduction

**Developmental Toxicity/Teratogenicity**

rat, female, inhalation, gestation days 9-14, 24 hrs/day, NOAEL (teratogenicity): > 230 ppm, NOAEL (maternal): > 230 ppm No Teratogenic effects observed at doses tested. rat, female, inhalation, gestation days 6-20, 6 hours/day, NOAEL (teratogenicity): > 8.684 mg/l, NOAEL (maternal): 2.171 mg/l, No Teratogenic effects observed at doses tested.

**Other Relevant Toxicity Information**

May cause drowsiness or dizziness if inhaled.

May cause irritation of respiratory tract.

**Toxicity Data for: Hexamethylene-1,6-Diisocyanate****Acute Oral Toxicity**

LD50: 746 mg/kg (rat, male) (OECD Test Guideline 401)

LD50: 959 mg/kg (rat, male) (OECD Test Guideline 401)

**Acute Inhalation Toxicity**

LC50: 0.124 mg/l, 4 h, vapour (rat, male/female) (OECD Test Guideline 403)

**Acute Dermal Toxicity**

LD50: > 7,000 mg/kg (rat, male/female) (OECD Test Guideline 402)

**Skin Irritation**

rabbit, OECD Test Guideline 404, Corrosive

**Eye Irritation**

rabbit, OECD Test Guideline 405, Corrosive

**Sensitization**

dermal: sensitizer (Guinea pig, Maximisation Test)

dermal: sensitizer (Human, Case Report)

Respiratory sensitization: sensitizer (Guinea pig)

**Repeated Dose Toxicity**

2 years, inhalation: NOAEL: 0.005 ppm, (rat, Male/Female, 6 hrs/day 5 days/week)

Irritation to lungs and nasal cavity.

**Mutagenicity**

Genetic Toxicity in Vitro:

Salmonella/microsome test (Ames test): negative (Salmonella typhimurium, Metabolic Activation: with/without)

Point mutation in mammalian cells (HPRT test): negative (Metabolic Activation: with/without)

Genetic Toxicity in Vivo:

Micronucleus test: negative (Mouse, male/female, Inhalative)  
negative

**Carcinogenicity**

rat, male/female, Inhalative, 2 yrs, 6 hours/day, 5 days/week Did not show carcinogenic effects in animal experiments.

**Toxicity to Reproduction/Fertility**

Combined Repeated Dose Toxicity Study with the Reproduction/Developmental Toxicity Screening Test, Inhalative, 6 hours/day 7 days/week, (rat, male/female) NOAEL (F2): 0.3 ppm Fertility and developmental toxicity tests did not reveal any effect on reproduction.

**Developmental Toxicity/Teratogenicity**

|                                       |                           |
|---------------------------------------|---------------------------|
| Material Name: DESMODUR E 3265 MPA/SN | Material Number: 00833452 |
|---------------------------------------|---------------------------|

rat, female, Inhalative, 6 hours/day (Exposure duration: day 0 - 19 of gestation), NOAEL (teratogenicity): 0.3 ppm, NOAEL (maternal): 0.005 ppm Did not show teratogenic effects in animal experiments.

#### **Neurological Effects**

Rats exposed by inhalation, 6 hours/day, for approximately 3 weeks, to concentrations as high as 0.3 ppm showed no neurobehavioral effects or damage to nerve tissues.

#### **Carcinogenicity:**

No carcinogenic substances as defined by IARC, NTP and/or OSHA

## **12. Ecological Information**

### **Ecological Data for: DESMODUR E 3265 MPA/SN**

Ecotoxicological testing on a comparable product in a different supply form. Resin

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

No toxic effects with saturated solution.: (Danio rerio (zebra fish), 96 h)  
Ecotoxicological studies of the product

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

(Water flea (Daphnia magna), 48 h)  
No effects seen at saturation concentration.

#### **Toxicity to Aquatic Plants**

(other: algae, 72 h)  
No effects seen at saturation concentration.

### **Ecological Data for Aliphatic Polyisocyanate based on HDI**

#### **Biodegradation**

1 %, Exposure time: 28 d, i.e. not readily degradable  
Ecotoxicological reports on a comparable product

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

No toxic effects with saturated solution.: (Danio rerio (zebra fish), 96 h)  
Studies at the product containing solvent

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

No toxic effects with saturated solution.: (Daphnia magna (Water flea), 48 h)  
Studies at the product containing solvent

#### **Toxicity to Aquatic Plants**

No toxic effects with saturated solution.: (Scenedesmus subspicatus, 72 h)  
Studies at the product containing solvent

#### **Toxicity to Microorganisms**

EC50: 1,600 mg/l, (activated sludge, 3 h)  
Ecotoxicological reports on a comparable product

#### **Additional Ecotoxicological Remarks**

Data is based on a similar product, including residual monomer.

### **Ecological Data for Petroleum Solvent**

#### **Biochemical Oxygen Demand (BOD)**

Material Name: DESMODUR E 3265 MPA/SN

Material Number: 00833452

5 Days, 190 mg/l

**Chemical Oxygen Demand (COD)**

440 mg/g

**Acute and Prolonged Toxicity to Fish**

LC50: 320 - 435 mg/l (Golden orfe (*Leuciscus idus*), 48 h)

LC50: 9.22 mg/l (Rainbow (Donaldson) Trout (*Oncorhynchus mykiss*), 96 h)

**Acute Toxicity to Aquatic Invertebrates**

EC50: 170 mg/l (Water flea (*Daphnia magna*), 24 h)

EC50: 226 mg/l (Water flea (*Daphnia magna*), 24 h)

**Toxicity to Aquatic Plants**

EC50: 56 mg/l, (Green algae (*Selenastrum capricornutum*), 72 h)

EC50: 19 mg/l, (Green algae (*Selenastrum capricornutum*), 72 h)

**Toxicity Other Non-Mammal Terrestrial Species**

> 2,250 mg/kg, (Bobwhite quail)

**Ecological Data for 1,2,4-Trimethylbenzene**

**Biodegradation**

4 %, Exposure time: 28 d, i.e. not readily degradable

**Biochemical Oxygen Demand (BOD)**

ca. 190 mg/l

**Chemical Oxygen Demand (COD)**

ca. 440 mg/g

**Bioaccumulation**

*Cyprinus carpio* (Carp), 31 - 207 BCF

**Acute and Prolonged Toxicity to Fish**

LC50: 7.72 mg/l (Fathead minnow (*Pimephales promelas*), 96 h)

**Acute Toxicity to Aquatic Invertebrates**

EC50: 3.6 mg/l (Water flea (*Daphnia magna*), 48 h)

**Toxicity to Microorganisms**

EC0: < 500 mg/l, (activated sludge, 24 h)

**Ecological Data for Propylene Glycol Monomethyl Ether Acetate**

**Biodegradation**

> 90 %, Exposure time: 28 d, i.e. readily biodegradable

Aerobic, 100 %, Exposure time: 8 d, i.e. degradable

**Acute and Prolonged Toxicity to Fish**

LC50: 161 mg/l (Fathead minnow (*Pimephales promelas*), 96 h)

LC50: > 100 mg/l (*Oryzias latipes* (Orange-red killifish), 96 h)

**Acute Toxicity to Aquatic Invertebrates**

EC50: 408 mg/l (Water flea (*Daphnia magna*), 48 h)

EC50: > 500 mg/l (*Daphnia magna* (Water flea), 48 h)

**Toxicity to Aquatic Plants**

EC50: > 1,000 mg/l, (*Pseudokirchneriella subcapitata* (green algae), 72 h)

**Toxicity to Microorganisms**

EC20: > 1,000 mg/l, (activated sludge, 0.5 h)

**Ecological Data for 1,3,5-Trimethylbenzene****Biodegradation**

0 %, Exposure time: 14 Days

**Bioaccumulation**

*Cyprinus carpio* (Carp), 23 - 342 BCF

**Acute and Prolonged Toxicity to Fish**

LC50: 13 ppm (Goldfish (*Carassius auratus*), 96 h)

LC50: 8.6 mg/l (Killifish (*Oryzias latipes*), 48 h)

**Acute Toxicity to Aquatic Invertebrates**

EC50: 50 mg/l (Water flea (*Daphnia magna*), 24 h)

**Toxicity to Aquatic Plants**

EC50: 25 - 53 mg/l, End Point: growth (Green algae (*Scenedesmus subspicatus*), 48 h)

**Ecological Data for N-Propylbenzene****Biodegradation**

i.e. readily biodegradable

**Biochemical Oxygen Demand (BOD)**

8 Days, 38 %

**Theoretical Biological Oxygen Demand (ThBOD)**

21.8 - 43.7 %

**Bioaccumulation**

ca. 38 - 304 BCF

**Ecological Data for Xylene****Biodegradation**

> 60 %, Exposure time: 28 d, i.e. readily biodegradable

**Biochemical Oxygen Demand (BOD)**

5 Days, 80 %

**Chemical Oxygen Demand (COD)**

83 mg/g

**Acute and Prolonged Toxicity to Fish**

LC50: 13.5 - 17.3 mg/l (Rainbow (Donaldson) Trout (*Oncorhynchus mykiss*), 96 h)

**Acute Toxicity to Aquatic Invertebrates**

|                                       |                           |
|---------------------------------------|---------------------------|
| Material Name: DESMODUR E 3265 MPA/SN | Material Number: 00833452 |
|---------------------------------------|---------------------------|

600 ug/L (Gammarus sp., 48 h)

**Toxicity to Aquatic Plants**

EC50: 10 mg/l, End Point: growth (other: algae, 72 h)

**Toxicity to Microorganisms**

EC50: 96 mg/l, (Bacteria, 24 h)

Studies of a comparable product.

**Ecological Data for Hexamethylene-1,6-Diisocyanate**

**Biodegradation**

aerobic, 42 %, Exposure time: 28 d, i.e. not readily degradable

**Bioaccumulation**

value calculated, 57.6 BCF

An accumulation in aquatic organisms is not to be expected.

value calculated, 3.2 BCF

An accumulation in aquatic organisms is not to be expected. Studies of hydrolysis products.

**Acute and Prolonged Toxicity to Fish**

LC0: >= 82.8 mg/l (Danio rerio (zebra fish), 96 h)

**Acute Toxicity to Aquatic Invertebrates**

EC0: >= 89.1 mg/l (Daphnia magna (Water flea), 48 h)

**Toxicity to Aquatic Plants**

ErC50: > 77.4 mg/l, (Desmodesmus subspicatus (Green algae), 72 h)

**Toxicity to Microorganisms**

EC50: 842 mg/l, (activated sludge, 3 h)

**13. Disposal Considerations**

**Waste Disposal Method**

Waste disposal should be in accordance with existing federal, state and 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.

**14. Transportation Information**

**Land transport (DOT)**

**Proper Shipping Name:** Resin solution (contains Petroleum Solvent, Xylene, Hexamethylene-1,6-Diisocyanate)

**Hazard Class or Division:** 3

**UN/NA Number:** UN1866

**Packaging Group:** III

**Hazard Label(s):** FLAMMABLE LIQUID

Material Name: DESMODUR E 3265 MPA/SN

Material Number: 00833452

**RSPA/DOT Regulated Components:**

N-Propylbenzene  
Xylene  
Hexamethylene-1,6-Diisocyanate  
Benzene

**Reportable Quantity:** 4022 kg (8867 lb)

**Sea transport (IMDG)**

**Proper Shipping Name:** RESIN SOLUTION (contains Petroleum Solvent, Xylene, Hexamethylene-1,6-Diisocyanate)  
**Hazard Class or Division:** 3  
**UN number:** UN1866  
**Packaging Group:** III  
**Hazard Label(s):** FLAMMABLE LIQUIDS

**Air transport (ICAO/IATA)**

**Proper Shipping Name:** Resin solution (contains Petroleum Solvent, Xylene, Hexamethylene-1,6-Diisocyanate)  
**Hazard Class or Division:** 3  
**UN number:** UN1866  
**Packaging Group:** III  
**Hazard Label(s):** FLAMMABLE LIQUIDS

**15. Regulatory Information****United States Federal Regulations**

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

No substances are subject to TSCA 12(b) export notification requirements.

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

N-Propylbenzene Reportable quantity: 100 lbs

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

Acute Health Hazard  
Fire 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:**

1,2,4-Trimethylbenzene

**US. EPA Resource Conservation and Recovery Act (RCRA) Composite List of Hazardous Wastes and Appendix VIII Hazardous Constituents (40 CFR 261):**

Under RCRA, it is the responsibility of the person who generates a solid waste, as defined in 40 CFR 261.2, to determine if that waste is a hazardous waste. In its purchased form, this product meets the criteria of ignitability under 40 CFR 261.21(a), and, when discarded in that form, should be managed as a hazardous waste.

**State Right-To-Know Information**

Material Name: DESMODUR E 3265 MPA/SN

Material Number: 00833452

The following chemicals are specifically listed by individual states; other product specific health and safety data in other sections of the SDS 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 percent</u> | <u>Components</u>                     | <u>CAS-No.</u>         |
|-----------------------|---------------------------------------|------------------------|
| 60 - 100%             | Aliphatic Polyisocyanate based on HDI | CAS# is a trade secret |
| 10 - 30%              | Petroleum Solvent                     | 64742-95-6             |
| 7 - 13%               | 1,2,4-Trimethylbenzene                | 95-63-6                |
| 3 - 7%                | Propylene Glycol Monomethyl Ether     | 108-65-6               |
|                       | Acetate                               |                        |
| 1 - 5%                | 1,3,5-Trimethylbenzene                | 108-67-8               |
| 1 - 5%                | N-Propylbenzene                       | 103-65-1               |
| <=0.26%               | Hexamethylene-1,6-Diisocyanate        | 822-06-0               |

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

| <u>Weight percent</u> | <u>Components</u>              | <u>CAS-No.</u> |
|-----------------------|--------------------------------|----------------|
| 7 - 13%               | 1,2,4-Trimethylbenzene         | 95-63-6        |
| 1 - 5%                | N-Propylbenzene                | 103-65-1       |
| 0.1 - 1%              | Xylene                         | 1330-20-7      |
| <=0.26%               | Hexamethylene-1,6-Diisocyanate | 822-06-0       |

**Pennsylvania Right to Know Special Hazard Substance List:**

| <u>Weight percent</u> | <u>Components</u> | <u>CAS-No.</u> |
|-----------------------|-------------------|----------------|
| <0.1%                 | Benzene           | 71-43-2        |

**Massachusetts Right to Know Extraordinarily Hazardous Substance List:**

| <u>Weight percent</u> | <u>Components</u> | <u>CAS-No.</u> |
|-----------------------|-------------------|----------------|
| <0.1%                 | Benzene           | 71-43-2        |

**California Prop. 65:**

Warning! This product contains chemical(s) known to the State of California to be Carcinogenic. Developmental toxin. Male reproductive toxin.

| <u>Weight percent</u> | <u>Components</u> | <u>CAS-No.</u> |
|-----------------------|-------------------|----------------|
| <0.1%                 | Benzene           | 71-43-2        |

**CFATS (Chemical Facility Anti-Terrorism Standards) Chemicals**

To the best of our knowledge, this product does not contain Appendix A Chemicals of Interest (COI), at or above the Screening Threshold Quantity (STQ), as defined by the Department of Homeland Security Chemical Facility Anti-terrorism Standard (CFATS, 6 CFR Part 27.

Based on information provided by our suppliers, this product is considered "DRC Conflict Free" as defined by the SEC Conflict Minerals Final Rule (Release No. 34-67716; File No. S7-40-10; Date: 2012-08-22).

**16. Other Information**

The method of hazard communication for Covestro LLC is comprised of product labels and safety data sheets. Safety data sheets for all of our products and general product declarations are available for download at [www.productsafetyfirst.covestro.com](http://www.productsafetyfirst.covestro.com).

The handling of products containing reactive HDI polyisocyanate/prepolymer and/or monomeric HDI requires appropriate protective measures referred to in this SDS. 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: Product Safety Department  
Telephone: (412) 413-2835  
SDS Number: 112000014629  
Version Date: 12/31/2016  
SDS Version: 2.4

Information contained in this SDS is believed to be accurate but is furnished without warranty, express or implied, including warranties of merchantability or fitness for a particular purpose. The information relates only to the specific material designated herein. Covestro LLC. assumes no legal responsibility for use of or reliance upon the information in this SDS and such information shall in no case be considered a part of our terms and conditions of sale. The user is responsible for determining whether the Covestro product is suitable for user's method of use or application. Covestro is not liable for any failure to observe the precautionary measures described in this SDS or for any misuse of the product.

|| Changes since the last version are highlighted in the margin. This version replaces all previous versions.