



**SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION**

Product name: **STRONGSEAL PLUS**  
 Product Code: **PART A**  
 Product Use: Aqueous polyurethane dispersion  
 Manufacturer/Supplier: CoverTec Products LLC  
 10821 NW 50<sup>th</sup> Street  
 Sunrise, FL 33351  
 United States of America  
 Product Information : 754-223-2465  
 Transport Emergency : INFOTRAC: +1-800-535-5053  
 Revision Date: 12/19/2021  
 Preparation Date: 06/25/2015

**SECTION 2 – HAZARDS IDENTIFICATION**

**2.1 Classification of substance or mixture**

Product definition: Mixture  
 Classification (Regulation (EC) No 1272/2008)  
 Skin Irritation - Category 2 [H315]  
 Eye Irritation - Category 2A [H319]  
 Specific Target Organ Toxicity, Single Exposure - Category 3; STOT RE 3 [H335]

**2.2 Label Elements**

This material is not considered hazardous according to OSHA HazCom 2012 (29 CFR 1910.1200)

Signal Word: None required

Hazard Statement(s): H315 – May Cause skin irritation  
 H319 – May Cause eye irritation

**Precautionary Statements:**

**[Prevention]**  
 H335– May Cause respiratory irritation  
 P261 – Avoid breathing dust fumes and vapors  
 P264 - Wash hands and other skin areas exposed to material thoroughly after handling.  
 P271 - Use in a well-ventilated area.  
 P280 - Wear protective gloves, protective clothing and eye protection.

**[Response]**  
 P302 + P352 – If on skin: Wash with soap and water  
 P362 - Take off contaminated clothing and wash before reuse.  
 P332 + P313 - If skin irritation occurs: Get medical attention.  
 P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if the victim feels unwell.  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 - If eye irritation persists: Get medical attention.  
 P321 - Specific treatment: Call a POISON CENTER or doctor, or refer to Section 4 of this SDS.

**[Storage]**  
 P405 – Store above 41

**[Disposal]**  
 P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.  
 P501 – Dispose of contents in accordance with national and local regulations

**SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS**

| <u>INGREDIENT</u>                | <u>CAS NO.</u> | <u>OSHA PEL</u> | <u>ACGIH TLV</u> | <u>OSHA STEL</u> | <u>WEIGHT %</u> |
|----------------------------------|----------------|-----------------|------------------|------------------|-----------------|
| Acrylic Polymer                  | Trade Secret   | NONE            | NONE             | NONE             | <45             |
| Diethylene Glycol Monbutyl Ether | 112-34-5       | NONE            | NONE             | NONE             | <10             |
| Triethanolamine                  | 102-71-6       | NONE            | NONE             | NONE             | <3              |

There are no additional components above the relevant concentration limits according to OSHA HazCom 2012.

**SECTION 4 – FIRST AID MEASURES**

**4.1 Description of first aid measures**

**Inhalation:** If product mist or vapor causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is



difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Loosen tight fitting clothing such as a collar, tie, belt or waistband. Seek medical attention immediately.

**Eyes:** Immediately flush eyes with large amounts of water for at least 15 minutes, holding the eyes open with finger tips and occasionally lifting the upper and lower lids. Use lukewarm water if possible. Remove contact lenses, if present and easy to do, after the first 2 minutes and continue rinsing. If eye irritation persists, seek immediate medical attention, preferably from an ophthalmologist.

**Skin:** Flush skin with large amounts of water while removing contaminated clothing and continue rinsing for at least 15 minutes. Use lukewarm water, if possible. Wash contaminated clothing and shoes thoroughly before reuse. If skin irritation persists, if rash develops or if victim feels unwell, seek medical attention. Cured material may be difficult to remove from skin.

**Ingestion:** Rinse mouth thoroughly with water if victim is conscious. Remove dentures, if any. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. To prevent aspiration of swallowed product, lay victim on side the head lower than the waist. If victim feels unwell, seek medical attention.

#### 4.2 Most important symptoms and effects, both acute and delayed

##### Potential health symptoms and effects

**Eyes:** Causes eye irritation. Symptoms may include redness, swelling, stinging and tearing.

**Skin:** Causes mild, transient skin irritation. Symptoms include localized redness, itching and discomfort. May cause skin rash in susceptible individuals. Mist or vapor may cause irritation of the nose, throat and respiratory tract. Symptoms may include sore throat, coughing, headache, nausea and shortness of breath.

**Ingestion:** May cause gastrointestinal irritation with nausea, abdominal pain, vomiting and diarrhea. May cause headache and dizziness.

Repeated ingestion may be harmful.

**Chronic:** Pre-existing disorders of the skin and respiratory system may be aggravated by exposure to this product. Triethanolamine is a suspected carcinogen (refer to Section 11.2).

#### 4.3 Indication of any immediate medical attention and special treatment needed

**Advice to Doctor and Hospital Personnel:** Treat symptomatically and supportively.

### SECTION 5 – FIRE FIGHTING MEASURES

#### 5.1 Extinguishable media

**Suitable methods of extinction:** Use dry chemical, carbon dioxide, foam and water spray

**Unsuitable methods of extinction:** None known

#### 5.2 Special hazards arising from the substance or mixture

Closed containers may explode due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

#### 5.3 Advice for firefighters

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. If possible, firefighters should control runoff water to prevent environmental contamination.

### SECTION 6 – ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear appropriate protective clothing designated in Section 8. Remove all sources of ignition. Ventilate the area,

#### 6.2 Environmental precautions

Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways.

#### 6.3 Methods and materials for containment and cleaning up

Cover drains and contain spill. Cover with a large quantity of inert absorbent. Do not use combustible material such as saw dust. Shovel or sweep up product and place into an approved container for proper disposal. Clean contaminated area with soap and water.

#### 6.4 Reference to other sections

For indications about waste treatment, see Section 13.

### SECTION 7 – HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Observe label precautions. Wear all appropriate protective equipment specified in Section 8. Keep containers closed when not in use.

##### Advice on protection against fire and explosion

No special precautions against fire and explosion are required.

#### 7.2 Conditions for safe storage, including any incompatibilities

Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10.5), food and drink. Transfer only to approved containers having correct labeling. Keep container tightly closed. Keep from freezing. Protect container against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Containers of this material may be hazardous when empty as they contain product residue. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internally. Keep out of reach of children.

#### 7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

### SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

#### 8.1 Control parameters



**CAS Number**

102-71-6

**Ingredient**

Tetraethanolamine

**OSHA PEL**

.....

**ACGIH TLV**

5 mg/m<sup>3</sup> TWA

**NIOSH**

**8.2 Exposure controls**

**Engineering Measures:** Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1.

**Individual protection measures:** Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

**Hygiene measures:** Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking or using the lavatory.

**Eye/face protection:** Wear protective goggles or safety glasses with unperforated side shields during use. Refer to 29 CFR 1910.133, ANSI Z87.1 or European Standard EN 166.

**Hand Protection:** Wear gloves recommended by glove supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

**Other protective equipment:** Protective clothing. Protective boots, if the situation requires.

**Respiratory Protection:** None required with normal use. Always use an approved respirator when vapor/aerosols are generated. Where risk assessment shows air-purifying respirators are appropriate use a full-faced respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Environmental exposure controls:** Do not empty into drains

**SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

**Form:** Milky white liquid

**Odor:** slight

**Autoignition temperature** No Data Available

**Flash Point** > 200 °C (>392 °F)

**Flammable Limits - LEL** Not Applicable

**Flammable Limits - UEL** Not Applicable

**Boiling point** 100 degrees Celsius, 212 degrees Fahrenheit

**Freezing point** similar to water

**Density** Not determined

**Vapor Density** No Data Available

**Vapor Pressure** No Data Available

**Specific Gravity** 1.1

**pH** No Data Available

**Melting point** Not Applicable

**Solubility in Water** Soluble

**Volatile Organic Compounds** = >80%

**SECTION 10 – STABILITY AND REACTIVITY**

**10.1 Reactivity**

No specific test data related to reactivity is available for this product.

**10.2 Chemical stability**

Stable under normal conditions of use and recommended storage conditions

**10.3 Possibility of hazardous reactions**

None known

Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Extreme temperatures, incompatible materials

**10.5 Incompatible materials**

Isocyanates, strong alkalis, strong acids, strong oxidizing agents

**10.6 Hazardous decomposition products**

Thermal decomposition products include oxides of carbon, oxides of nitrogen and other toxic gases.

**SECTION 11 – TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Acute Oral Toxicity**

Expected to have low acute oral toxicity

**Acute inhalation toxicity**

No data available

**Acute dermal toxicity**

Expected to have low acute dermal toxicity

**Skin irritation**



May cause mild, transient skin irritation.

**Eye irritation**

Causes eye irritation.

**Sensitization**

May cause skin sensitization in susceptible individuals.

**Genotoxicity in vitro**

No data available

**Mutagenicity**

No data available

**Specific organ toxicity - single exposure**

No data available

**Specific organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**11.2 Further information**

Triethanolamine: IARC Class 3 carcinogen: Not classifiable as to its carcinogenicity to humans. Not classified as a carcinogen by OSHA, NTP or ACGIH.

No data is available regarding the mutagenicity or teratogenicity of this product, nor is there any available data that indicates that it causes adverse developmental or fertility effects.

Handle in accordance with good industrial hygiene and safety practice.

**SECTION 12 – ECOLOGICAL INFORMATION**

**12.1 Toxicity**

The aquatic toxicity of this product has not been experimentally determined. However, it is expected to have low acute aquatic toxicity based on the acute aquatic toxicity of the individual components and their concentrations in this composition.

**12.2 Persistence and degradability**

Product is not readily biodegradable.

**12.3 Bioaccumulation potential**

Product is not expected to bioaccumulate.

**12.4 Mobility**

No data available

**12.5 Results of PBT and vPvB assessment**

No data available

**12.6 Other adverse effects**

**Additional ecological information**

Do not allow material to run into surface waters, wastewater or soil.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

**SECTION 13 – DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Methods of disposal:** The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues; observe all precautions for product. Do not heat or cut empty containers with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning. If containers are to be disposed, ensure that all product residues are removed prior to disposal.

This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff contact with soil and entry into waterways, drains and sewers.

**Hazardous waste:** The classification of this product may meet the criteria for a hazardous waste.

**SECTION 14 – TRANSPORTATION INFORMATION**

**Not regulated for transport**

**Note:** Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

**SECTION 15 – REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for substance or mixture**

**U. S. Federal Regulations**



**OSHA Hazard Communication Standard:** This material is classified as hazardous in accordance with OSHA 29 CFR 1910-1200.

**TSCA Status:** All components of this product are listed on the Toxic Substance Control Act (TSCA) Inventory.

**Superfund Amendments and Reauthorization Act (SARA)**

**SARA Section 311/312 Hazard Categories:** Acute Health Hazard, Chronic Health Hazard

**SARA 313 Information:** Glycol Ethers (SARA code N230) are subject to the reporting levels established by Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.

**SARA 302/304 Extremely Hazardous Substance:** No components of the product exceed the threshold (de minimis) reporting levels established by of these sections of Title III of SARA.

**SARA 302/304 Emergency Planning & Notification:** No components of the product exceed the threshold (de minimis) reporting levels established by of these sections of Title III of SARA.

**Comprehensive Response Compensation and Liability Act (CERCLA):** This product contains the following CERCLA reportable substances: Glycol Ethers - There is no RQ assigned to this broad class, although the class is a CERCLA hazardous substances. Refer to 50 Federal Register 13456 (April 4, 1985).

**Clean Air Act (CAA)**

Glycol Ethers (EDF-109) are listed as Hazardous Air Pollutants (HAPs) designated in CAA Section 112(b).

This product does not contain any Class 1 Ozone depleters.

This product does not contain any Class 2 Ozone depleters.

**Clean Water Act (CWA)**

Glycol Ethers (EDF-109) are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**U.S. State Regulations**

**California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986**

This product contains trace amounts of substances known to the State of California to cause cancer.

**Other U.S. State Inventories:**

Tetraethanolamine (CAS #102-71-6) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: CA, MA, MN, NJ, PA.

**Canada**

**WHMIS Hazard Symbol and Classification:** None allocated

**Canadian Controlled Products Regulations (CPR):** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations, and the SDS contains all the information required by the Controlled Products Regulations.

**Canadian Ingredient Disclosure List (IDL):** Tetraethanolamine and 2 proprietary components contained at <1% each are listed on the IDL.

**Canadian National Pollutant Release Inventory (NPRI):** A proprietary component is listed on the NPRI.

**European Economic Community**

**Labeling (67/548/EEC or 1999/45/EC):** None allocated

**WGK, Germany (Water danger/protection): 1**



**SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION**

Product name: **STRONGSEAL PLUS**  
Product Code: **PART B**  
Product Use: Catalyst based on Hexamethylene Diisocyanate  
Manufacturer/Supplier: CoverTec Products LLC  
10821 NW 50<sup>th</sup> Street  
Sunrise, FL 33351  
United States of America  
Product Information : 754-223-2465  
Transport Emergency : INFOTRAC: +1-800-535-5053  
Revision Date: 12/19/2021  
Preparation Date: 06/25/2015

**SECTION 2 – HAZARDS IDENTIFICATION**

GHS Classification  
Acute toxicity (Inhalation): Category 4  
Skin sensitization: Category 1  
Specific target organ toxicity - single exposure: Category 3 (Respiratory system)

GHS Label Elements  
Hazard pictograms:

Signal word:



Warning

Hazard statements: May cause an allergic skin reaction  
Harmful if inhaled.  
May cause respiratory irritation.

Precautionary statements: Prevention:  
Wear protective gloves.

Response:

IF ON SKIN: Wash with plenty of soap and water.

Storage:

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

Store locked up.

**Disposal:**

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

**SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS**

**Hazardous Components**

| Concentration | Components   | CAS-No.     |
|---------------|--|-------------|
| 60 - 80%      | Homopolymer of Hexamethylene Diisocyanate                                | 28182-81-2  |
| 10 - 30%      | Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate | 666723-27-9 |
| <0.5%         | Hexamethylene-1,6-Diisocyanate   | 822-06-0    |

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

**OTHER INGREDIENTS**

**Concentration**                      **Components**                      **CAS-No.**



0.1 - 1%

N,N-dimethylcyclohexylamine 98-94-2

This product contains an amine neutralizing agent which is bound in the matrix of this product as a salt. This amine salt is considered essentially unreactive at room temperature. Generation of amine vapors is expected when this product is processed (heated) during the drying/hardening of the coating.

### SECTION 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 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.

May cause 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.

May cause 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.

**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. SKC, Inc. (SKC) 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. SKC 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

### SECTION 5 – FIRE FIGHTING 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. Exposure to heated diisocyanate can be extremely dangerous.

#### 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



## SECTION 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. SKC 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:

SKC, Inc. (SKC): 1-800-752-8472

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 SKC Swype™ pad.

## SECTION 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

### Storage Period:

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

### Storage Temperature

Minimum: 0 °C (32 °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

## SECTION 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

#### Homopolymer of Hexamethylene Diisocyanate (28182-81-2)

Covestro Exposure Limit

Time weighted average 0.5 mg/m<sup>3</sup>

Covestro Exposure Limit

Short Term Exposure Limit (STEL): 1.0 mg/m<sup>3</sup> (15-min)

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

US. ACGIH Threshold Limit Values, as amended

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., Nitrile rubber gloves., Butyl rubber gloves., Neoprene gloves

### 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 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.

### SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

|   |  |
|---|--|
| State of Matter:                        | liquid   |
| Color:                                  | Light yellow   |
| Odor:                                   | slight   |
| Odor Threshold:                         | No Data Available  |
| pH:                                     | not applicable   |
| Freezing Point:                         | no data available  |
| Boiling Point:                          | Decomposition  |
| Flash Point:                            | ca. 185 °C (365 °F) (DIN EN 22719)                                   |
| Evaporation Rate:                       | No Data Available  |
| Lower Explosion Limit:                  | Not Established  |
| Upper Explosion Limit:                  | Not Established  |
| Vapor Pressure:                         | HDI Polyisocyanate: 5.2 X 10 <sup>-9</sup> @ 68 F (20 C) mmHg        |
| Vapor Density:                          | No Data Available  |
| Density:                                | ca. 1.15 g/cm <sup>3</sup> @ 20 °C (68 °F) (DIN 51757)               |
| Relative Vapor Density:                 | No Data Available  |
| Specific Gravity:                       | Approximately 1.15 @ 20 °C (68 °F)                                   |
| Solubility in Water:                    | Insoluble - Reacts slowly with water to liberate CO <sub>2</sub> gas |
| Partition Coefficient: n-octanol/water: | No Data Available  |
| Auto-ignition Temperature:              | ca. 445 °C (833 °F) (DIN 51794)                                      |
| Decomposition Temperature:              | ca. 181 °C (357.8 °F)  |
| Unblocking Temperature:                 | No Data Available  |
| Dynamic Viscosity:                      | Approximately 800 mPa.s @ 20 °C (68 °F)                              |
| Kinematic Viscosity:                    | No Data Available  |
| Bulk Density:                           | Approximately 1,150 kg/m <sup>3</sup>                                |
| Molecular Weight:                       | 500 Approximate Value, For the polyisocyanate                        |
| Self-Ignition:                          | not applicable   |

### SECTION 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, Moisture (water and high humidity) or high heat (temperatures greater than 350 F (177C)) can cause pressure build-up with possible explosive rupture.

#### 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. Protect from freezing.

#### 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

### SECTION 11 – TOXICOLOGICAL INFORMATION

#### Likely Routes of Exposure:

##### Skin Contact

##### Inhalation

##### Eye Contact

#### 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.

May cause 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.

May cause 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.



**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.

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

**Toxicity Data:**

Data on the product is not available.

Please find the data available for the components.

**Acute Inhalation Toxicity**

1.1 mg/l, dust/mist (Calculation method)

**Toxicity Data for: Homopolymer of Hexamethylene Diisocyanate**

**Toxicity Note**

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

Acute Oral Toxicity

LD50:  $\geq$  5,000 mg/kg (rat, female) (OECD Test Guideline 423)

Toxicological studies at the product

**Acute Inhalation Toxicity**

LC50: 0.39 mg/l, 4 h, dust/mist (rat, female) (OECD Test Guideline 403)

Toxicological studies of a comparable product. The 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, male/female) (OECD Test Guideline 402)

Studies of a comparable product.

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

Studies of a comparable product.

**Skin Irritation**

rabbit, OECD Test Guideline 404, slight irritant

Toxicological studies at the product

**Eye Irritation**

rabbit, OECD Test Guideline 405, slight irritant

Toxicological studies at the product

**Sensitization**

Skin sensitization (local lymph node assay (LLNA)):: Causes sensitization. (Mouse, OECD Test Guideline 429)

Toxicological studies at the product

**Respiratory sensitization:**

No pulmonary sensitization observed in animal tests. No pulmonary sensitization potential was observed in guinea pigs after either intradermal or inhalative induction with polyisocyanate based on hexamethylene diisocyanate.

**Repeated Dose Toxicity**

90 d, Inhalative: NOAEL: 3,3, (rat, male/female, 6 hours a day, 5 days a week)

Toxicological studies of a comparable product. Evidence of damage to organs other than the organs of respiration was not found.

**Mutagenicity**

Genetic Toxicity in Vitro:

Salmonella/microsome test (Ames test): No indication of mutagenic effects. (Metabolic Activation: with/without)

Toxicological studies at the product

Chromosome aberration test in vitro: negative (Chinese hamster V79 cell line, Metabolic Activation: with/without)

Toxicological studies of a comparable product.

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

Toxicological studies of a comparable product.

**Toxicity Data for: Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate**

**Toxicity Note**

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

**Acute Oral Toxicity**

LD50:  $\geq$  5,000 mg/kg (rat) (OECD Test Guideline 423)

Studies of a comparable product.

Acute Inhalation Toxicity

LC50: 0.158 mg/l, 4 h, dust/mist (rat, male/female) (OECD Test Guideline 403)

Toxicological studies of a comparable product. The 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, male/female) (OECD Test Guideline 402)

Studies of a comparable product.

**Skin Irritation**

rabbit, OECD Test Guideline 404, An irritant effect cannot be distinguished from a mechanical load caused the removal of the test specimen.



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.

Toxicological studies of a comparable product.

**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**

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

**SECTION 12 – ECOLOGICAL INFORMATION**

Data on the product is not available.

Please find the data available for the components.

**Ecological Data for Homopolymer of Hexamethylene Diisocyanate**

**Biodegradation**

aerobic, 2 %, Exposure time: 28 d, i.e. not readily degradable

Ecotoxicological studies of the product

aerobic, 0 %, Exposure time: 28 d, i.e. not inherently degradable

Ecotoxicological studies of the product

**Bioaccumulation**

706.2 BCF

The substance hydrolyzes rapidly in water. An accumulation in aquatic organisms is not to be expected.

10.11 BCF

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

**Acute and Prolonged Toxicity to Fish**

LC50: > 100 mg/l (Danio rerio (zebra fish), 96 h)

**Acute Toxicity to Aquatic Invertebrates**

EC50: > 100 mg/l (Daphnia magna (Water flea), 48 h)

**Toxicity to Aquatic Plants**

ErC50: 199 mg/l, (scenedesmus subspicatus, 72 h)

**Toxicity to Microorganisms**

EC50: > 10,000 mg/l, (activated sludge, 3 h)

**Additional Ecotoxicological Remarks**

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

**Ecological Data for Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate**

**Biodegradation:** 0 %, i.e., not readily degradable



Ecotoxicological reports on a comparable product

**Acute and Prolonged Toxicity to Fish**

LC50: 35.2 mg/l (Danio rerio (zebra fish), 96 h)

Ecotoxicological reports on a comparable product

**Acute Toxicity to Aquatic Invertebrates**

EC50: > 100 mg/l (Daphnia magna (Water flea), 48 h)

Ecotoxicological reports on a comparable product

**Toxicity to Aquatic Plants**

IC50: 72 mg/l, (Desmodesmus subspicatus (Green algae), 72 h)

Ecotoxicological reports on a comparable product

**Toxicity to Microorganisms**

EC50: > 10,000 mg/l, (activated sludge)

Ecotoxicological reports on a comparable product

**Additional Ecotoxicological Remarks**

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

**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)

## SECTION 13 – DISPOSAL CONSIDERATIONS

**Waste Disposal Method**

Waste disposal should be in accordance with existing federal, state and local environmental control laws

The Covestro preferred method for disposal of unused product is incineration. Contact and follow the guidance of a licensed disposal facility to properly dispose of unused product or chemical waste.

**Empty Container Precautions**

Containers that are empty as defined by RCRA (40 CFR part 261.7), may retain product residue; observe all precautions for product. Do not grind, torch cut, weld or heat an empty container that once held an isocyanate-containing product; highly toxic vapors or gases are formed.

**Drums**

One method for disposing of empty drums is to contract with an approved drum re-conditioner. A state-by-state listing of drum re-conditioners can be obtained from the Reusable Industrial Packaging Association (RIPA) at [www.reusablepackaging.org](http://www.reusablepackaging.org).

If not sent to a re-conditioner, it is important that the company contacted to dispose of the drums be notified of the hazards associated with the isocyanate-containing product. Metal recycling firms may require that the drum be thoroughly decontaminated with a neutralizing agent prior to disposal. Contact Covestro LLC for the proper procedure to neutralize and remove product residue from the drum. If not recycled, empty drums should be crushed by mechanical means, such that reuse is impossible. Consult federal, state and local regulations, as well as a licensed waste disposal facility to determine proper disposition of crushed drums.

**Bulk Containers**

Some Covestro products are shipped in portable tanks referred to as Monotainers®. Covestro LLC owns these Monotainers® and assists the customer in their return to Covestro LLC when empty. Other Covestro products may be shipped in composite intermediate bulk containers, commonly referred to as totes. These containers are returned to the tote manufacturer, not Covestro, when empty. Instructions on returning these containers when empty are provided with each container.

Flexible intermediate bulk containers, commonly referred to as supersacks, should be shredded when empty in such a way that reuse is impossible.

**Other Containers**

For all other packaging (e.g., aluminum bullet sample containers, and 1- and 5-gallon pails), these containers are non-returnable and should not be reused for any other purpose. Remove any remaining product and store in an appropriate waste container for proper disposal. Consult federal, state and local regulations, as well as a licensed waste disposal facility to determine proper disposition of these empty containers

## SECTION 14 – TRANSPORTATION INFORMATION

**Land transport (DOT)**

Proper Shipping Name: Other regulated substances, liquid, n.o.s. (contains Hexamethylene-1,6-Diisocyanate)

Hazard Class or Division: 9

UN/NA Number: NA3082

Packaging Group: III

Hazard Label(s): CLASS 9

**RSPA/DOT Regulated Components:**

Hexamethylene-1,6-Diisocyanate



**Reportable Quantity:** 9074 kg (20005 lb)

**Sea transport (IMDG) Non-Regulated**

**Air transport (ICAO/IATA) Non-Regulated**

Additional Transportation Information

When in individual containers of less than the Product RQ, this material ships as non-regulated.

## SECTION 15 – REGULATORY INFORMATION

### United States Federal Regulations

US. Toxic Substances Control Act: Listed on the Active Portion of the TSCA Inventory.

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

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

None

### SARA Section 311/312 Hazard Categories:

Refer to hazard classification information in Section 2.

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:

None

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.

### 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 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:

| Concentration | Components   | CAS-No.     |
|---------------|--|-------------|
| 60 - 100%     | Homopolyme of Hexamethylene Diisocyanate                                 | 28182-81-2  |
| 15 - 25%      | Hydrophilic Aliphatic Polyisocyanate based on Hexamethylene Diisocyanate | 666723-27-9 |
| 0.1 - 1%      | N,N-dimethylcyclohexylamine  | 98-94-2     |
| <0.5%         | Hexamethylene-1,6-Diisocyanate   | 822-06-0    |

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

| Concentration | Components                     | CAS-No.  |
|---------------|--------------------------------|----------|
| 0.1 - 1%      | N,N-dimethylcyclohexylamine    | 98-94-2  |
| <0.5%         | Hexamethylene-1,6-Diisocyanate | 822-06-0 |

California Proposition 65 List:

| Concentration | Components        | CAS-No.  |
|---------------|-------------------|----------|
| <1 ppm        | Hexachlorobenzene | 118-74-1 |

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).