SAFETY DATA SHEET
TRINIC H12, Part B

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier
Product Name: TRINIC H12,
Product Codes(s): TRINIC H12, Part B
Synonyms: Catalyst based on Hexamethylene Diisocyanate
REACH Registration: No data available

1.2 Relevant identified uses of the substance or mixture and uses advised against
General Use: Crosslinking agent for two-component waterborne polyurethane coatings
Uses advised against: No uses advised against

1.3 Details of the supplier and of the safety data sheet
Manufacturer/Distributor
CoverTec Products LLC.
10857 NW 50th Street.
Sunrise , Fl 33351
754-223-2465

1.4 Emergency telephone number: 800-535-5053 (Infotrac)

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]
Skin Sensitization - Category 1 [H317]
Eye Irritation - Category 2B [H320]
Acute Toxicity, Inhalation - Category 4 [H332]
Respiratory Sensitization - Category 1 [H334]
Specific Target Organ Toxicity, Single Exposure - Category 3 (STOT SE 3) [H335]
Aquatic Chronic - Category 3 [H412]

2.2 Label Elements
Labeling (Regulation (EC) No 1272/2008)

Hazard Symbo(ls):

GHS07 GHS09

Signal Word: Warning

Hazard Statement(s):
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H320 - Causes eye irritation
H332 - Harmful if inhaled
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 - May cause respiratory irritation
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements:

[Prevention]
P261 - Avoid breathing vapors and fumes.
P264 - Wash hands and other skin areas exposed to material thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P272 - Contaminated work clothing should not be allowed out of the workplace.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing and eye protection.
P285 - In case of inadequate ventilation wear respiratory protection.

[Response]
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P321 - Specific treatment: Refer to product label and Section 4 of this SDS. Seek medical advice as needed.
P333 + P313 - If skin irritation or rash occurs: Get medical attention.
P337 + P313 - If eye irritation persists: Get medical attention.
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P362 - Take off contaminated clothing and wash before reuse.

[Storage]
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.

[Disposal]
P501 - Dispose of contents in accordance with national and local regulations.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable

3.2 Mixtures

Chemical characterization (preparation)

% by Weight	Ingredient	CAS Number	EC Number	Annex Number	EC Classification
60 - 100	Hexamethylene Diisocyanate Homopolymer	28182-81-2	500-060-2	----------	----------
15 - 25	Hydrophilic Aliphatic Polyisocyanate (based on Hexamethylene Diisocyanate)	666723-27-9	----------	----------	----------
0.1 - 1.0	N, N-dimethylcyclohexylamine	98-94-2	202-715-5	----------	----------
0.1 - 1.0	Hexamethylene-1,6-diisocyanate	822-06-0	212-485-8	615-011-00-1	----------

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to the health or the environment and hence require reporting in this section.

SECTION 4 - FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: If product mist or spray 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. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening.

Eyes: Immediately flush eyes with large amounts of water for at least 15 minutes, holding the eyes open with fingers 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, Seek immediate medical attention, preferably from an ophthalmologist, if irritation develops.

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. For severe exposures, immediately get victim under a safety shower and begin rinsing. Wash contaminated clothing and shoes thoroughly before reuse. If skin irritation occurs or persists, seek medical attention. Cured material is 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. Obtain medical immediate medical attention. To prevent aspiration of swallowed product, lay victim on side with head lower than waist.

4.2 Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Eyes: Causes serious eye irritation with symptoms of redness, swelling, stinging and tearing. May cause temporary corneal injury. Product vapor can cause eye irritation with symptoms of burning and tearing.

Skin: Causes skin irritation with symptoms of redness, itching and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reactions with symptoms of redness, itching, swelling and rash. May be harmful if absorbed through skin.

Inhalation: Diisocyanate or polyisocyanate mist or vapor at concentrations above the exposure limits or guidelines can irritate the mucous membranes in the respiratory tract with symptoms of burning sensation, runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (difficulty breathing). 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 be harmful if inhaled.

Ingestion: May cause gastrointestinal irritation with nausea, abdominal pain, vomiting and diarrhea. May be harmful in swallowed.

Chronic: Pre-existing disorders of the skin and respiratory system may be aggravated by exposure to this product. Prolonged vapor contact may cause conjunctivitis. Prolonged and repeated skin contact can cause redness, swelling, rash and possible skin sensitization. Animal tests and other research indicate that skin contact with diisocyanates can play a role in causing isocyanate sensitization and respiratory reaction. This data reinforces the need to prevent direct skin contact with isocyanates.

As a result of previous repeated overexposures or a single large dose, certain individuals may develop sensitization ot diisocyanates or polyisocyanates (asthma or asthma-like symptoms) that may cause them to react to a later exposure to these materials 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 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, several years. Sensitization can be permanent. Chronic over-exposure to diisocyanates has also been reported to cause lung damage (including fibrosis, decrease in lung function) that may be permanent.

4.3 Indication of any immediate medical attention and special treatment needed

Advice to Doctor and Hospital Personnel:

Eye Contact: Stain eye for evidence of corneal injury. If the cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision.

Skin Contact: This material 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 material.

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

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 or when contents are contaminated with water (CO_2 is formed). 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 dangerous. Overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain immediate 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. 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. If possible, firefighters should control run-off 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 run-off 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. Saturate absorbent material with neutralization solution and mix. Wait 15 minutes. Collect material and place into an approved, open-head metal container. Repeat applications of decontamination solution, with scrubbing, followed by absorbent until the surface is decontaminated. Check for residual surface contamination. Swype test kits have been used for this purpose. Apply lid loosely and allow container to vent for 72 hours to let carbon dioxide escape. Dispose of waste via a licensed waste disposal contractor.

Additional spill procedures - neutralization solutions

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

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

Do not breathe vapors, mist or dust. Use adequate ventilation to keep airborne isocyanate levels below exposure limits. Wear respiratory protection if this material is heated, sprayed or used in a confined space, or if the exposure limit is exceeded. Warning symptoms (irritation of the eyes, nose or 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 (see Section 8). Wash thoroughly after handling product. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating. Keep containers closed when not in use.

Advice on protection against fire and explosion

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 dangerous.

7.2 Conditions for safe storage, including any incompatibilities

Minimum storage temperature: 7 °C (44.6 °F)
Maximum storage temperature: 25 °C (77 °F)

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. Protect container against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent moisture contamination and leakage. Do not reseal container if moisture contamination is suspected. Containers of this material may be hazardous when empty as they contain product residues. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internally. Keep locked up and out 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	Ingredient	OSHA PEL - TWA	ACGIH TLV	Manufacturer
28182-81-2	Hexamethylene Diisocyanate Homopolymer	----------	----------	0.5 mg/m3 TWA 1.0 mg/m3, 15 min. STEL
822-06-0	Hexamethylene-1,6-diisocyanate	----------	0.005 ppm TWA	0.02 ppm

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. When such controls are not feasible to achieve full protection, the use of respirators and other personal protective equipment is mandated. Exhause 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.

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. Employees should be educated and trained in the safe use and handling of this product.

Eye/face protection: Wear protective goggles or safety goggles in combination with a full face shield where there is a greater risk of splashing. Refer to 29 CFR 1910.133, ANSI Z87.1 or European Standard EN 166.

Hand Protection: Wear Nitrile rubber, butyl rubber or Neoprene gloves, or 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: Avoid all skin contact. Depending of the conditions of use, cover as much of the exposed skin as possible with with appropriate protective clothing to prevent skin contact. Wear gloves, long sleeved shirts, long pants without cuffs and boots if the situation requires.

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 outline in the following sections. Observe OSHA regulations for respirator use (29 CFR 1910.134).

Spray Operations

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 coating containing this product the use of a supplied-air (either positive pressure or continuous flow-type) is mandatory when ONE OR MORE of the following conditions exist:

- the airborne isocyanate concentrations are not known
- the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over 8 hours (10 times the 8 hour TWA exposure limit)
- the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m3 averaged over 8 hours or 10 mg/m3 averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits)
- operations are performed in a confined space (see OSHA Confined Space Standard 29 CFR 1910.146)

A properly fitting air-purified (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 concentrations are known to be below 0.05 ppm averaged over 8 hours (10 times the 8 hour TWA exposure limit) and

-the airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m3 averaged over 8 hours or 10 mg/m3 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, pre-filters should be changed whenever breathing resistance increases due to particulate buildup.

Non-Spray Operations

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
- the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over 8 hours (10 times the 8 hour TWA exposure limit)
- the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m3 averaged over 8 hours or 10 mg/m3 averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits)
- operations are performed in a confined space (see OSHA Confined Space Standard 29 CFR 1910.146)

A properly fitting air-purified (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:

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-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, pre-filters should be changed whenever breathing resistance increases due to particulate buildup.

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 comprensive 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.

Environmental exposure controls: Do not empty into drains.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Clear, light yellow liquid
Odor	Slight
Odor Threshold	No data available
Molecular Weight	500 (approximate value for the polyisocyanate)
Chemical Formula	Not applicable
pH	No data available
Freezing/Melting Point, Range	No data available
Initial Boiling Point	Decomposes
Evaporation Rate	Not established
Flammability (solid, gas)	Not applicable
Flash Point	185 °C (365 °F) calculated
Autoignition Temperature	445 °C (833 °F) calculated
Decomposition Temperature	181 °C (357.8 °F) calculated
Lower Explosive Limit (LEL)	Not established
Upper Explosive Limit (UEL)	Not established
Vapor Pressure	HDI Polyisocyanate: 5.2 x 10-9 mm Hg @ 20 °C
Vapor Density	No data available
Specific Gravity	~1.15 g/cm3 @ 20 °C
Viscosity, Dynamic	~800 mPa.s @ 20 °C
Solubility in Water	Insoluble - reacts slowly with water to liberate carbon dioxide gas
Partition Coefficient: n-octanol/water	~ 6.62 (log Pow)
Volatiles by Volume	No data available

9.2 Other data

No data available

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

Stable under recommended storage and handling conditions

10.2 Chemical stability

Stable under normal conditions of use and recommended storage conditions

10.3 Possibility of hazardous reactions

Contact with moisture, other materials that react with isocyanates or temperatures >177 °C (>350 °F)

10.4 Conditions to avoid

Extreme temperatures; incompatible materials; moisture

10.5 Incompatible materials

Water, strong bases, alcohols, copper alloys

10.6 Hazardous decomposition products

Thermal decomposition products include oxides of carbon, oxides of nitrogen, hydrogen cyanide, dense black smoke, isocyanic acid.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral Toxicity

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

Acute inhalation toxicity

Hexamethylene Diisocyanate Homopolymer

LC50, rat: 390 - 453 mg/m3, 4 h
RD50, rat: 20.8 mg/m3, 3 h
NOAEL, rat: 3.7 - 4.3 mg/m3, 3 weeks inhalation (irritation to lungs and nasal cavity)
NOAEL, rat: 3.3 - 3.4 mg/m3, 90 d inhalation (irritation to lungs and nasal cavity)

Hydrophilic Aliphatic Polyisocyanate based on HDI

LC50, rat: 0.158 mg/m3, 4 h (toxicogical studies of a comparable product)
Converted acute toxicity point estimate: 0.5 mg/l (expert judgment)
This substance was tested in a form (i.e. specific particle size distribution) that is different from the forms in which the substance is placed on the market and in which it can reasonably be expected to be used. A modified classification for acute inhalation toxicity is justified based on the "split-entry" concept and available data on particle size during end-use of the substance.

Acute dermal toxicity

LD50, rabbit: >5,000 mg/kg

Skin irritation

Causes skin irritation.

Eye irritation

Causes eye irritation.

Sensitization

May cause skin and respiratory sensitization.

Genotoxicity in vitro
Negative

Mutagenicity
No data available

Specific organ toxicity - single exposure
May cause respiratory irritation.

Specific organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Further information

No component of this product present at levels greater than or equal to the 0.1% threshold (de minimis) is identified as a probable, possible, potential or confirmed carcinogen by ACGIH, IARC, NTP or OSHA. No data is available regarding the mutagenicity and/or teratogenicity of this product, nor is there any available data that indicates that it causes adverse developmental and/or fertility effects.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic Ecotoxicity - Hexamethylene Diisocyanate Homopolymer

Acute and prolonged toxicity to fish: LC0 - Danio rerio (Zebra fish), 96 h: 35.2 mg/l
Toxicity to aquatic invertebrates: EC0 - Daphnia magna (Water flea), 48 h: >100 mg/l
Toxicity to aquatic plants: EC50 - Scenedesmus subspicatus (Green algae), 72 h: >1,000 mg/l
Toxicity to aquatic microbes: EC50 - Activated sludge microorganisms, 3 h: >1,000 mg/l

Aquatic Ecotoxicity - Hydrophilic Aliphatic Polyisocyanate based on HDI

Ecotoxicological data reported is for a comparable product.
Acute and prolonged toxicity to fish: LC50 - Brachydanio rerio (Zebra fish), 96 h: >100 mg/l
Toxicity to aquatic invertebrates: EC50 - Daphnia magna (Water flea), 48 h: >100 mg/l
Toxicity to aquatic plants: IC50 - Desmodesmus subspicatus (Green algae), 72 h: >72 mg/l
Toxicity to aquatic microbes: EC50 - Activated sludge microorganisms, 3 h: >10,000 mg/l

Aquatic Ecotoxicity - N,N-dimethylcyclohexylamine

Acute and prolonged toxicity to fish: LC50 - Leuciscus idus (golden orfe), 96 h: >22 mg/l
Toxicity to aquatic invertebrates: EC50 - Daphnia magna (Water flea), 48 h: 75 mg/l
Toxicity to aquatic plants: EC50 - Scenedesmus subspicatus (Green algae), 72 h: 0.31 mg/l
Toxicity to aquatic microbes: EC50 - Pseudomonas putida (Bacteria), 17 h: 206 mg/l

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 - TRANSPORT INFORMATION

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.

U.S. DOT (Domestic Ground Transportation)

Proper Shipping Name:	Other regulated substances, liquid, n.o.s. (contains Hexamethylene-1,6-diisocyanate)
Hazard Class:	9
NA:	3082
Packing Group:	III
NAERG:	Guide #171
Packaging Authorization:	Non-Bulk: 49 CFR 173.203; Bulk: 49 CFR 173.241
Packaging Exceptions:	49 CFR 173.155

IMO/IMDG (Water Transportation): Non-regulated

ICAO/IATA (Air Transportation): Non-regulated

Additional transportation information: Reportable Quantity: 9074 kg (20005 lb). When in individual containers of less than the Product RQ, this material ships as non-regulated.

SECTION 15 - REGULATORY INFORMATION

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

U. S. Federal Regulations This material is classified as hazardous in accordance with OSHA 29 CFR 1910-1200.

OSHA Hazard Communication Standard:

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: Hexamethylene-1,6-diisocyanate (CAS #822-06-0) is subject to the reporting levels established by Section 313 of the Emergency Planning and Community Right-to Know Act of 1986. No components of the product exceed the threshold (de minimis) reporting levels

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

SARA 302/304 Emergency Planning & Notification:
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:
Hexamethylene-1,6-diisocyanate (CAS #822-06-0), RQ - 45.4 kg (100 lbs)

Clean Air Act (CAA)
Hexylene-1,6-diisocyanate (CAS #822-06-0) is listed as a Hazardous Air Pollutant (HAP) designated in CAA Section 112 (b).
This product does not contain any Class 1 Ozone depletors.
This product does not contain any Class 2 Ozone depletors.

Clean Water Act (CWA)
None of the chemicals in this product 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 Contains trace amounts of formaldehyde.

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

Other U.S. State Inventories:
Hexamethylene-1,6-diisocyanate (CAS #822-06-0) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: CA, DE, ID, IL, ME, MA, MN, NJ, NY, WI.
Hexamethylene Diisocyanate (CAS #28182-81-2) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or and/or Air Quality/Air Pollutants lists: MA, NJ, PA.
Hydrophilic Aliphatic Polyisocyanate based on HDI (CAS #666723-27-9) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants List(s): MA, NJ, PA.
N,N-dimethylenecyclohexylamine (CAS #98-94-2) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants List(s): MA, NJ, PA.

Canada

WHMIS Hazard Symbol and Classification:

D2B - Skin irritation - Skin sensitizer - Respiratory system sensitizer

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 Controlled Products Regulations (CPR):

Canadian Ingredient Disclosure List (IDL): Hexamethylene-1,6-diisocyanate (CAS #822-06-0) is listed on the IDL. No components of the product are listed on the NPRI.

Canadian National Pollutant Release Inventory (NPRI):

European Economic Community

Labeling (67/548/EEC or 1999/45/EC)

Risk Phrases:
R43 - May cause sensitization by skin contact.
R53 - May cause long-term adverse effects in the aquatic environment.

Safety Phrases:
S2 - Keep out of reach of children.
S24 - Avoid contact with skin.
S28 - After contact with skin, wash with plenty of soap and water.

WGK, Germany (Water danger/protection):

Global Chemical Inventory Lists

Country	Inventory Name	Inventory Listing*
Canada:	Domestic Substance List (DSL).	Yes
Canada:	Non-Domestic Substance List (NDSL).	No
Europe:	Inventory of New and Existing Chemicals (EINECS)	Yes
United States:	Toxic Substance Control Act (TSCA)	Yes
Australia:	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand:	New Zealand Inventory of Chemicals (NZIoC)	Yes
China:	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan:	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea:	Existing Chemicals List (ECL)	Yes
Philippines:	Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*"Yes" indicates that all components of this product are in compliance with the inventory requirements administered by the governing country.
*"No" indicates that one or more components of this product are not on the inventory and are not exempt from listing.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

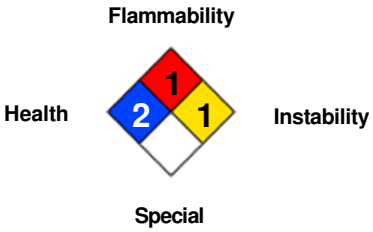
SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)

HMIS & NFPA Hazard Rating Legend

* = Chronic Health Hazard	2 = MODERATE
0 = INSIGNIFICANT	3 = HIGH
1 = SLIGHT	4 = EXTREME

National Fire Protection Association (NFPA)



Full Text of Risk (R) – Phrases Referenced in Section 3.

Version 1
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