



Ultra-Flex Part B

1 Identification

GHS Product Identifier

Ultra-Flex 5000 Part B

Other means of identification

Polymeric Diisocyanate

This product is one part of a 2 part product. Read and understand the hazard information on the SDS for Part A before using this product.

Recommended use of the chemical and restriction on use

Crosslinking Catalyst, Component material for use with Ultra-Flex ECO-5000 Part A or Ultra-Flex FR-5000 Part A. INDUSTRIAL USE ONLY.

Supplier's details

Lava-Liner, Ltd.
1550 G Tiburon Blvd. Suite 418
Tiburon, CA 94920
Ph. 415-829-9114 Fax: 415-829-9203
www.lava-liner.com

Emergency phone number

Chemtrec 800-424-9300

2 Hazard(s) identification

Classification of the substance or mixture

Acute Toxicity: Inhalation	Category 4 Inhalation H332
Skin Corrosion/Irritation	Category 2 H315
Serious Eye Damage/ Eye Irritation	Category 2 H319
Respiratory Sensitization	Category 1
Skin Sensitization	Category 1
Specific Target Organ Toxicity (Single Exposure) [Respiratory Tract Irritation]	Category 3

1 =Highest severity 2=High severity 3=Low severity 4=Lowest severity

GHS label elements

Danger



Causes skin and eye irritation

May cause an allergic skin reaction

Causes serious eye irritation

Harmful if inhaled

May cause respiratory irritation

Suspected of causing cancer (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)

May cause damage to organs (state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard)

If medical advice is needed, have product container or label at hand.

Do not handle until all safety precautions have been read and understood.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

Use personal protective equipment as required.

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

IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.

IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

Remove contact lenses, if present and easy to do. Continue rinsing.

Rinse cautiously with water for several minutes.

Take off contaminated clothing and wash it before reuse.

Other hazards which do not result in classification

Emergency overview

CAUTION: CONTAINS DIPHENYLMETHANE DIISOCYANATE (CAS No. 101-68-8). INHALATION OF MDI MISTS OR VAPORS MAY CAUSE RESPIRATORY IRRITATION, BREATHLESSNESS, CHEST DISCOMFORT AND REDUCED PULMONARY FUNCTION. OVEREXPOSURE WELL ABOVE THE PEL MAY RESULT IN BRONCHITIS, BRONCHIAL SPASMS AND PULMONARY EDEMA. LONG-TERM EXPOSURE TO ISOCYANATES HAS BEEN REPORTED TO CAUSE LUNG DAMAGE, INCLUDING REDUCED LUNG FUNCTION WHICH MAY BE PERMANENT. ACUTE OR CHRONIC OVEREXPOSURE TO ISOCYANATES MAY CAUSE SENSITIZATION IN SOME INDIVIDUALS, RESULTING IN ALLERGIC RESPIRATORY REACTIONS INCLUDING WHEEZING, SHORTNESS OF BREATH AND DIFFICULTY BREATHING. Potential health effects Primary routes of exposure Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation.

3 Composition/information on ingredients

Description	CAS Number	EINECS Number	%	Note
Polymeric Diphenylmethane Diisocyanate (PMDI)	9016-87-9		80 - 99	
4,4'-Diphenylmethane Diisocyanate (approximately 65 % of PMDI)	101-68-8		52 - 99	
MDI Homopolymer (Dimers and Trimers)	25686-28-6		0	

4 First-aid measures

Description of necessary first-aid measures

Eyes: IF IN EYES: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin: IF ON SKIN: After contact with skin, wash immediately with plenty of warm soapy water: Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. An MDI study has demonstrated that a poly glycol-based skin cleanser (such as D-Tam™, PEG-400) or corn oil may be more effective than soap and water. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation: IF INHALED: Move exposed person to fresh air. Get medical attention immediately. Treatment is symptomatic for primary irritation or bronchospasm. If breathing is labored, oxygen should be administered by qualified personnel.

Ingestion: IF SWALLOWED: Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Provided the patient is conscious, wash out mouth with water. Get medical attention if symptoms appear.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information

Indication of any immediate medical attention and special treatment needed

Notes to physician: Maintain adequate ventilation and oxygenation of the patient. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants and antitussives may be of help. Treat bronchospasm with inhaled beta2 agonist and oral or parenteral corticosteroids. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Excessive exposure may aggravate preexisting asthma and other respiratory disorders (e.g. emphysema, bronchitis, reactive airways dysfunction syndrome).

Most important symptoms/effects, acute and delayed

H315	Causes skin irritation.
H317	May cause an allergic skin reaction
H318	Causes serious eye irritation.
H335	May cause respiratory irritation.

Indication of immediate medical attention and special treatment needed, if necessary

P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P301 + P312 + P330	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P337 + P313	If eye irritation persists: Get medical advice/ attention.

5 Fire-fighting measures

Suitable extinguishing media

Suitable extinguishing media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable extinguishing media: Do not use direct water stream. May spread fire.

Specific hazards arising from the chemical**Special hazards arising from the substance or mixture**

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Isocyanates. Hydrogen cyanide. Carbon monoxide. Carbon dioxide.

Unusual Fire and Explosion Hazards: Material reacts slowly with water, releasing carbon dioxide which can cause pressure buildup and rupture of closed containers. Elevated temperatures accelerate this reaction. Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Dense smoke is produced when product burns.

Special protective actions for fire-fighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Stay upwind. Keep out of low areas where gases (fumes) can accumulate. Water is not recommended, but may be applied in large quantities as a fine spray when other extinguishing agents are not available. Do not use direct water stream. May spread fire. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container.

Move container from fire area if this is possible without hazard. Use water spray to cool fire-exposed containers and fire-affected zone until fire is out. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Keep personnel out of low areas. Keep upwind of spill. Spilled material may cause a slipping hazard. Ventilate area of leak or spill. If available, use foam to smother or suppress. Refer to section 7, Handling, for additional precautionary measures. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions

Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up

Contain and absorb large spillages onto an inert, non-flammable adsorbent carrier (such as earth, vermiculite or sand). Shovel into open-top drums or plastic bags for further decontamination, if necessary. Wash the spillage area clean with liquid decontaminant. Test atmosphere for MDI vapor. Neutralize small spillages with decontaminant. Remove and dispose of residues. Notify applicable government authorities if release is reportable. The CERCLA RQ for MDI is 5,000 lbs. (see CERCLA in Section 15).

Decontamination: Preparation of Decontamination Solution: Prepare a decontamination solution of 0.2-0.5% liquid detergent and 3-8% concentrated ammonium hydroxide in water (5-10% sodium carbonate may be substituted for the ammonium hydroxide). Follow the precautions in Section 3, and Section 5 in material safety data sheets when preparing and using solution.

Use of Decontamination Solution: Allow deactivated material to stand for at least 30 minutes before shoveling into drums. Do not tighten the bungs. Mixing with wet earth is also effective, but slower.

7 Handling and storage

Precautions for safe handling

Avoid personal contact with the product or reaction mixture. Use only with adequate ventilation to ensure that the defined occupational exposure limit is not exceeded. Avoid breathing aerosols, mists and vapors. When the product is sprayed or heated, an approved MSHA/NIOSH positive-pressure, supplied-air respirator may be required. Product is not expected to vaporize under ordinary manual application measures and temperatures. Decomposes above 400°F (204°C) and not expected to vaporize without mechanical dispersion in unblended form. Testing in permitted confined space indicates that no accumulation of vapors or change in air quality occurs with adequate ventilation.

Conditions for safe storage, including any incompatibilities

Keep containers properly sealed and when stored indoors, in a well ventilated, dry area. Keep contents away from moisture. Due to reaction with water, producing CO₂-gas, a hazardous build-up of pressure could result if contaminated containers are improperly re-sealed. Do not reseal contaminated containers. Uncontaminated containers, free of moisture, may be resealed only after placing under a nitrogen blanket. Ideal storage temperature is 16-38°C (60-100°F). Isocyanates react quickly with bases, secondary or primary amines, acids, and alcohols. They should not be stored near these chemicals. Isocyanates may also react with water to produce a water-insoluble urea and carbon dioxide. Isocyanates should, therefore, be stored in closed containers to prevent water from entering because the water-isocyanate reaction can generate enough pressure to rupture containers. Stored isocyanates should also be protected from heat and direct sunlight because breakdown of the product may occur in such conditions.

8 Exposure controls/personal protection

Control parameters

Exposure Limits:

4, 4'-Diphenylmethane Diisocyanate:

ACGIH TLV	0.005 ppm (8-hour, 40 hours/week)
OSHA PEL CEILING	0.02 ppm
NIOSH REL TWA	0.005 ppm (10-hour, 40 hours/week)
NIOSH REL/CEILING	0.02 ppm (10-minute)

Derived No Effect Level Workers

<i>Acute - systemic effects</i>		<i>Acute – local effects</i>		<i>Long-term – systemic effects</i>		<i>Long-term – local effects</i>	
Dermal	Inhalation	Dermal	Inhalation	Dermal	Inhalation	Derm	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n	n.a.

Consumers

<i>Acute - systemic effects</i>			<i>Acute – local effects</i>		<i>Long-term – systemic effects</i>			<i>Long-term – local effects</i>	
Dermal	Inhalation	Oral	Dermal	Inhalation	Dermal	Inhalation	Oral	Dermal	Inhalation
n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.

Appropriate engineering controls

Engineering controls: Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapor/aerosol generation and people working at this point. The odor and irritancy of this material are inadequate to warn of excessive exposure. Under normal manual application by roller, brush or squeegee, no special ventilation is required unless in confined spaces. Adequate ventilation will avoid any potential for exceeding exposure limits.

Individual protection measures

Protective Clothing: Avoid prolonged or repeated contact with skin. Wear chemical-resistant gloves and other clothing as required to minimize contact. Test data from published literature and/or glove and clothing manufacturers indicate the best protection is provided by nitrile, neoprene and natural rubber gloves.

Eye Protection: Avoid contact with eyes. Wear chemical goggles if there is likelihood of contact with eyes. Maintain eye wash fountain and quick-drench facilities in work area.

Respiratory protection: Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapor sorbent and a particle filter. For situations where the atmospheric levels may exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplying respirator (air line or self-contained breathing apparatus). For emergency response or for situations where the atmospheric level is unknown, use an approved positive-pressure self-contained breathing apparatus or positive-pressure air line with auxiliary self-contained air supply.

Use the following CE approved air-purifying respirator: Organic vapor cartridge with a highly toxic particulate pre-filter, type AP3.

Work/Hygienic Practices: Wash with soap and water before eating, drinking, smoking or using toilet facilities. Launder contaminated clothing before reuse.

9 Physical and chemical properties

Physical and chemical properties

Appearance/Odor:	Liquid, slight musty odor
Physical State:	Liquid
Color:	Amberto dark brown
pH:	N/A
Melting Point:	N/A
Vapor Pressure (mmHg):	Approx. 4×10^{-6}
Vapor Density (Air=1):	8.5 approx.
Boiling Point:	406°F (208°C) Decomposes on boiling.
Solubility in Water:	(Reacts with water)
Solubility (Other):	Soluble in most organic solvents
Specific Gravity (Water=1):	1.24
Evaporation (N-Butyl Acetate=1):	N/A
VOC's:	0 g/l

Flash Point:	390°F (199°C)
Auto-Ignition temperature:	>600°C
Decomposition temperature:	Not available
Dynamic Viscosity	160 - 240 mPa.s at 25 °C <i>ASTM D4889</i>

10 Stability and reactivity

Reactivity

Reactivity: Diisocyanates react with many materials and the rate of reaction increases with temperature as well as increased contact; these reactions can become violent. Contact is increased by stirring or if the other material mixes with the diisocyanate. Diisocyanates are not soluble in water and sinks to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Reaction with water will generate carbon dioxide and heat.

Chemical stability

Stable at Room Temperature and recommended storage conditions.

Possibility of hazardous reactions

Polymerization may occur at elevated temperatures (406°F) and in the presence of alkalis, tertiary amines and metal compounds. Reaction with water (moisture) produces CO₂ gas. Exothermic reaction with materials containing active hydrogen groups. The reaction becomes progressively more vigorous and can be violent at higher temperatures if the miscibility of the reaction partners is good or is supported by stirring or by the presence of solvents. PMDI is insoluble with and heavier than water and sinks to the bottom reacting slowly at the interface. A solid water-insoluble layer of polyurea is formed at the interface by liberating CO₂ gas.

Conditions to avoid

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Pressure build-up can be rapid. Avoid moisture. Material reacts slowly with water, releasing carbon dioxide which can cause pressure buildup and rupture of closed containers. Elevated temperatures accelerate this reaction. Avoid freezing.

Incompatible materials

This product will react with any materials containing active hydrogens such as water, alcohol, amines, bases and acids. The reaction with water is very slow under 50° C (122° F) but is accelerated at higher temperatures.

Hazardous decomposition products

Highly unlikely under normal industrial use. Exposure to fire or extreme heat may generate oxides of carbon, oxides of nitrogen, and traces of hydrogen cyanide.

11 Toxicological information

Toxicological (health) effects

Information on toxicological effects

Acute toxicity

Acute oral toxicity

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

Typical for this family of materials.

LD50, Rat, > 10,000 mg/kg

Information on the likely routes of exposure

Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Typical for this family of materials.

LD50, Rabbit, > 9,400 mg/kg

Acute inhalation toxicity

At room temperature, vapors are minimal due to low volatility. However, certain operations may generate vapor or mist concentrations sufficient to cause respiratory irritation and other adverse effects. Such operations include those in which the material is heated, sprayed or otherwise mechanically dispersed such as drumming, venting or pumping. Excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in the lungs.) Effects may be delayed. Decreased lung function has been associated with overexposure to isocyanates.

Skin corrosion/irritation

Prolonged contact may cause slight skin irritation with local redness.

May stain skin.

Serious eye damage/eye irritation

May cause moderate eye irritation.

May cause slight temporary corneal injury.

Symptoms related to the physical, chemical and toxicological characteristics**Sensitization**

Skin contact may cause an allergic skin reaction.

Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause respiratory irritation.

Route of Exposure: Inhalation

Target Organs: Respiratory Tract

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols.

Delayed and immediate effects and also chronic effects from short and long term exposure

Chronic Effects: A study was conducted where groups of rats were exposed for 6 hours/day, 5 days/week for a lifetime to atmospheres of respirable polymeric MDI aerosol. Overall, the tumor incidence, both benign and malignant, and the number of animals with tumors were not different from controls. Only at the top level (6 mg/m³), there was a significant incidence of a benign tumor of the lung (adenoma) and one malignant tumor (adenocarcinoma). There were no lung tumors at 1 mg/m³ and no effects at 0.2 mg/m³. The increased incidence of lung tumors is associated with prolonged respiratory irritation and the concurrent accumulation of yellow material in the lung, which occurred throughout the study. In the absence of prolonged exposure to high concentrations leading to chronic irritation and lung damage, it is highly unlikely that tumor formation will occur.

There are reports that chronic exposure may result in permanent decrease in lung function.

Carcinogenicity: The ingredients of this product are not classified as carcinogenic by ADGIH or IARC, not regulated as carcinogens by OSHA, and not listed as carcinogens by NW.

Mutagenicity: There is no substantial evidence of mutagenic potential.

Reproductive Effects: No adverse reproductive effects are anticipated.

Teratogenicity and Fetotoxicity: No birth defects were seen in two independent animal (rat) studies. Fetotoxicity was observed at doses that were extremely toxic (including lethal) to the mother. Fetotoxicity was not observed at doses that were not maternally toxic. The doses used in these studies were maximal, respirable concentrations well in excess of the defined occupational limits.

Numerical measures of toxicity (such as acute toxicity estimates)

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

Dermal LD50 (rabbit) > 5,000 mg/kg

Inhalation LD50 (rat) =490 mg/m³ (respirable aerosol)

Other information

Carcinogenicity

Lung tumors have been observed in laboratory animals exposed to respirable aerosol droplets of MDI/Polymeric MDI (6 mg/m³) for their lifetime. Tumors occurred concurrently with respiratory irritation and lung injury. Current exposure guidelines are expected to protect against these effects reported for MDI.

Teratogenicity

In laboratory animals, MDI/polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses which were toxic to the mother.

Reproductive toxicity

No relevant data found.

Mutagenicity

Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some in vitro studies; other in vitro studies were negative. Animal mutagenicity studies were predominantly negative.

Aspiration Hazard

Based on physical properties, not likely to be an aspiration hazard

12 Ecological information

Toxicity

Polymeric MDI.

LCO (Zebra Fish) > 1000 g/l

EC50 (Daphnia magna) (24 hour) > 1000 mg/l

EC50 (E. Cali) > 100 mg/l

Persistence and degradability

Biodegradability: In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

10-day Window: Not applicable

Biodegradation: 0 %

Exposure time: 28 d

Method: OECD Test Guideline 302C or Equivalent

Bioaccumulative potential

It is unlikely that significant environmental exposure in the air or water will arise; based on consideration of the normal industrial use of this product Lava-Liner, Ltd. has not conducted ecological studies on this product. However the following information on similar mixtures was found in a search of scientific literature.

Diphenylmethane Diisocyanate, isomers and homologues

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

4,4'-methylenediphenyl diisocyanate

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3). Reacts with water. In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Bioconcentration factor (BCF): 92 Cyprinus carpio (Carp) 28 d

Mobility in soil

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Other adverse effects

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

13 Disposal considerations

Disposal methods

US

The generation of waste should be avoided or minimized wherever possible. Disposal should be in accordance with local, state, provincial or national regulations. This material is not a hazardous waste under RCRA 40 CFR 261. Small quantities should be treated with a decontaminant solution (See Section 6). The treated waste is not a hazardous material under RCRA 40 CFR 261. Chemical waste, even small quantities, should never be poured down drains, sewers or waterways.

EC

This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required. Do not dump into any sewers, on the ground, or into any body of water. Incineration under approved, controlled conditions using incinerators suitable or designed for the disposal of hazardous chemical wastes, is the preferred method for disposal. Small quantities of waste may be pretreated for example with polyol, to neutralise prior to disposal.

Empty containers should be decontaminated and either passed to an approved drum recycler or destroyed.

14 Transport information

UN Number

Not Applicable

UN Proper Shipping Name

Not regulated for transport.

Transport hazard class(es)

Not classified as a dangerous good under transport regulations

Packing group, if applicable

Not classified as a dangerous good under transport regulations

Environmental hazards

Not considered environmentally hazardous based on available data.

Special precautions for user

No data available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SEA:

Transport in bulk according
to Annex I or II of MARPOL
73/78 and the IBC or IGC Code
AIR

Consult IMO regulations before transporting ocean bulk

Not regulated for transport

15 Regulatory information

Safety, health and environmental regulations specific for the product in question

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

REACH Regulation (EC) No 1907/2006

This product contains only components that have been either pre-registered, are exempt from registration or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH). The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer's/user's responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

Restrictions on the manufacture, placing on the market and use: The following substance/s contained in this product is/are subject through Annex XVII of REACH regulation to restrictions on the manufacture, placing on the market and use when present in certain

dangerous substances, mixtures and articles. Users of this product have to comply with the restrictions placed upon it by the aforementioned provision.

CAS-No.: 9016-87-9 Name: Diphenylmethane Diisocyanate, isomers and homologues
Restriction status: listed in REACH Annex XVII
Restricted uses: See Annex XVII to Regulation (EC) no 1907/2006 for Conditions of restriction

CAS-No.: 101-68-8 Name: 4,4'-methylenediphenyl diisocyanate
Restriction status: listed in REACH Annex XVII
Restricted uses: See Annex XVII to Regulation (EC) no 1907/2006 for Conditions of restriction

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

Listed in Regulation: Not applicable

16 Other information

Other information

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. If the product is used as a component in another product other than that provided by Lava-Liner, Ltd. this MSDS information may not be applicable. This SDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).