



Safety Data Sheet

DOW CHEMICAL COMPANY LIMITED
Safety Data Sheet according to Reg. (EC) N. 453/2010

Product Name: DURAMOULD™ 5234 Isocyanate

Revision Date: 18.09.2013

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DOW CHEMICAL COMPANY LIMITED encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

Section 1. Identification of the substance/preparation and of the company/undertaking

1.1 Product identifiers

Product Name

DURAMOULD™ 5234 Isocyanate

Chemical Name: Toluene Diisocyanate, Glycerol Ethoxylated/Propoxylated, Copolymer

CAS-No. 71343-01-6

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Component(s) for the manufacture of urethane polymers. For industrial use.

1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

DOW CHEMICAL COMPANY LIMITED
DIAMOND HOUSE, LOTUS PARK,
KINGSBURY CRESCENT,
STAINES
England
TW18 3AG
UNITED KINGDOM

Customer Information Number:

0203 139 4000

SDSQuestion@dow.com

1.4 EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact:

0031 115 694 982

Local Emergency Contact:

00 31 115 69 4982

Section 2. Hazards Identification

2.1 Classification of the substance or mixture

® ™ TRADEMARK OF THE DOW CHEMICAL COMPANY ("DOW") OR AN AFFILIATED COMPANY OF DOW

Classification - REGULATION (EC) No 1272/2008

Acute toxicity (Inhalation)	Category 4	H332	Harmful if inhaled.
Serious eye damage/eye irritation	Category 2	H319	Causes serious eye irritation.
Skin sensitization	Category 1	H317	May cause an allergic skin reaction.
Respiratory sensitization	Category 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xn	R20	Harmful by inhalation.
Xi	R36	Irritating to eyes.
	R42/43	May cause sensitization by inhalation and skin contact.

Additional Information

Contains isocyanates. See information supplied by the manufacturer.

2.2 Label elements**Labelling - REGULATION (EC) No 1272/2008****Hazard pictograms**

Signal Word: Danger

Hazard statements:

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

Precautionary Statements:

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P501 Dispose of contents and container to licensed, permitted incinerator, or other thermal destruction device.

EUH204 Contains isocyanates. May produce an allergic reaction.

2.3 Other Hazards

No information available.

Section 3. Composition/information on ingredients

3.1 Substance

This product is a substance.

CAS-No. / EC-No. / REACH No. Index	Amount	Component	Classification: REGULATION (EC) No 1272/2008
CAS-No. 71343-01-6 EC-No. Polymer	— > 90.0 %	Toluene Diisocyanate, Glycerol Ethoxylated/Propoxylated, Copolymer	Resp. Sens., 1, H334 Skin Sens., 1, H317 Eye cor/irr, 2, H319
CAS-No. 26471-62-5 EC-No. 247-722-4 Index 615-006-00-4	— 0.1 - 0.9 %	m-Tolyldiene diisocyanate; toluene-diisocyanate (TDI)	Acute Tox., 1, H330 Carc., 2, H351 Eye cor/irr, 2, H319 STOT SE, 3, H335 Skin cor/irr, 2, H315 Resp. Sens., 1, H334 Skin Sens., 1, H317 Aquatic Chronic, 3, H412

CAS-No. / EC-No. / Index	Amount	Component	Classification: 67/548/EEC
CAS-No. 71343-01-6 EC-No. Polymer	> 90.0 %	Toluene Diisocyanate, Glycerol Ethoxylated/Propoxylated, Copolymer	Xi: R36; R42/43
CAS-No. 26471-62-5 EC-No. 247-722-4 Index 615-006-00-4	0.1 - 0.9 %	m-Tolyldiene diisocyanate; toluene-diisocyanate (TDI)	Carc. 3: R40; T+: R26; Xi: R36/37/38; R42/43; R52, R53

For the full text of the H-Statements mentioned in this Section, see Section 16.
See Section 16 for full text of R-phrases.

Section 4. First-aid measures

4.1 Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin Contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation persists. Wash clothing before reuse. An MDI skin decontamination study demonstrated that cleaning very soon after exposure is important, and that a polyglycol-based skin cleanser or corn oil may be more effective than soap and water. This may also apply to other isocyanates. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye Contact: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Do not induce vomiting. Give one cup (8 ounces or 240 ml) of water or milk if available and transport to a medical facility. Do not give anything by mouth unless the person is fully conscious.

4.2 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), no additional symptoms and effects are anticipated.

4.3 Indication of immediate medical attention and special treatment needed

Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. Bronchodilators, expectorants, antitussives and corticosteroids 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. Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest endotracheal/esophageal control if lavage is done. 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).

Section 5. Fire Fighting Measures

5.1 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.

Extinguishing Media to Avoid: Do not use direct water stream. May spread fire.

5.2 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: Product reacts with water. Reaction may produce heat and/or gases. This reaction may be violent. 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.

5.3 Advice for firefighters

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. 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. Do not use direct water stream. May spread fire. 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.

Section 6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures: Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to Section 7, Handling, for additional precautionary measures. 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. See Section 10 for more specific information. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

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

6.3 Methods and materials for containment and cleaning up: Contain spilled material if possible. Absorb with materials such as: Dirt. Vermiculite. Sand. Clay. Do NOT use absorbent materials such as: Cement powder (Note: may generate heat). Collect in suitable and properly labeled open containers. Do not place in sealed containers. Suitable containers include: Metal drums. Plastic drums. Polylined fiber pacs. Wash the spill site with large quantities of water. Attempt to neutralize by adding suitable decontaminant solution: Formulation 1: sodium carbonate 5 - 10%; liquid detergent 0.2 - 2%; water to make up to 100%, OR Formulation 2: concentrated ammonia solution 3 - 8%; liquid detergent 0.2 - 2%; water to make up to 100%. If ammonia is used, use good ventilation to prevent vapor exposure. Contact Dow for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

Section 7. Handling and Storage

7.1 Precautions for safe handling

Handling

General Handling: Avoid contact with eyes. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Avoid breathing vapor. Use with adequate ventilation. Keep container tightly closed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

7.2 Conditions for safe storage, including any incompatibilities

Storage

Store in a dry place. Protect from atmospheric moisture. Do not store product contaminated with water to prevent potential hazardous reaction. See Section 10 for more specific information. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage Period:

6 Months

Storage temperature:

18 - 40 °C

7.3 Specific end uses

See the technical data sheet on this product for further information.

Section 8. Exposure Controls / Personal Protection

8.1 Control parameters

Exposure Limits

Component	List	Type	Value
4-Methyl-m-phenylene diisocyanate	Ireland OELV	TWA as NCO	0.02 mg/m3 SEN
	Ireland OELV	STEL as NCO	0.07 mg/m3 SEN

	ACGIH	TWA	0.005 ppm	SEN
	ACGIH	STEL	0.02 ppm	SEN
	UK WEL	TWA as NCO	0.02 mg/m3	SEN
	UK WEL	STEL as NCO	0.07 mg/m3	SEN
	Dow IHG	TWA	0.005 ppm	R-SEN, D-SEN
	Dow IHG	Ceiling	0.02 ppm	R-SEN, D-SEN
2-Methyl-m-phenylene diisocyanate; toluene-2,4-di-isocyanate	ACGIH	TWA	0.005 ppm	SEN
	ACGIH	STEL	0.02 ppm	SEN
	Ireland OELV	TWA as NCO	0.02 mg/m3	SEN
	Ireland OELV	STEL as NCO	0.07 mg/m3	SEN
	UK WEL	TWA as NCO	0.02 mg/m3	SEN
	UK WEL	STEL as NCO	0.07 mg/m3	SEN
	Dow IHG	TWA	0.005 ppm	R-SEN, D-SEN
	Dow IHG	Ceiling	0.02 ppm	R-SEN, D-SEN

A "SEN" notation following the exposure guideline refers to the potential to produce sensitization, as confirmed by human or animal data.

An R-SEN notation following the exposure guideline refers to the potential to produce respiratory sensitization, as confirmed by human or animal data.

A D-SEN notation following the exposure guideline refers to the potential to produce dermal sensitization, as confirmed by human or animal data.

8.2 Exposure controls

Personal Protection

Eye/Face Protection: Use chemical goggles. Chemical goggles should be consistent with EN 166 or equivalent.

Skin Protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. Remove contaminated clothing immediately, wash skin area with soap and water. Contaminated clothing should be disposed of properly or decontaminated and laundered before reuse. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

Hand protection: Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. **NOTICE:** The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

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 particulate pre-filter, type AP2.

Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Engineering Controls

Ventilation: 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.

Section 9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance

Physical State	Liquid.
Color	Yellow to amber
Odor	Mild
Odor Threshold	0.05 - 0.2 ppm <i>Based on Literature for TDI.</i> Odor is inadequate warning of excessive exposure.
pH	Not applicable
Melting Point	No test data available
Freezing Point	No test data available
Boiling Point (760 mmHg)	> 200 °C <i>Estimated.</i>
Flash Point - Closed Cup	> 100 °C <i>Estimated.</i>
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Flammable Limits In Air	Lower: No test data available Upper: No test data available
Vapor Pressure	< 0.01 mmHg @ 25 °C <i>Literature</i>
Vapor Density (air = 1)	No test data available
Specific Gravity (H ₂ O = 1)	1.02 - 1.06 20 °C/20 °C <i>Supplier</i>
Solubility in water (by weight)	insoluble, reacts, evolution of CO ₂
Partition coefficient, n-octanol/water (log Pow)	Reacts with water.
Autoignition Temperature	No test data available
Decomposition Temperature	No test data available
Dynamic Viscosity	6,000 - 10,000 mPa.s @ 25 °C <i>Vendor</i>
Explosive properties	Not explosive
Oxidizing properties	No

9.2 Other information

Molecular Weight	No test data available
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Section 10. Stability and Reactivity

10.1 Reactivity

Products based on diisocyanates like TDI and MDI react with many materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent., Contact is increased by stirring or if the other material acts as a solvent. Products

based on diisocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface., The reaction forms carbon dioxide gas and a layer of solid polyurea.

10.2 Chemical stability

Stable under recommended storage conditions. See Storage, Section 7.

10.3 Possibility of hazardous reactions

Can occur. Elevated temperatures can cause hazardous polymerization. Polymerization can be catalyzed by: Strong bases. Water.

10.4 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.

10.5 Incompatible Materials: Avoid contact with: Acids. Alcohols. Amines. Water. Ammonia. Bases. Metal compounds. Moist air. Strong oxidizers. Products based on diisocyanates like TDI and MDI react with many materials to release heat. The reaction rate increases with temperature as well as with increased contact; these reactions can become violent. Contact is increased by stirring or if the other material acts as a solvent. Products based on diisocyanates such as TDI and MDI are not soluble in water and will sink to the bottom, but react slowly at the interface. The reaction forms carbon dioxide gas and a layer of solid polyurea. Avoid contact with metals such as: Aluminum. Zinc. Brass. Tin. Copper. Galvanized metals. Avoid contact with absorbent materials such as: Moist organic absorbents. Avoid unintended contact with polyols. The reaction of polyols and isocyanates generate heat.

10.6 Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Gases are released during decomposition.

Section 11. Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity

Ingestion

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. Swallowing may result in gastrointestinal irritation or ulceration.

As product: Single dose oral LD50 has not been determined.

Estimated. LD50, rat > 5,000 mg/kg

Aspiration hazard

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

Dermal

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

As product: The dermal LD50 has not been determined.

Estimated. LD50, rabbit > 2,000 mg/kg

Inhalation

Vapor concentrations are attainable which could be hazardous on single exposure. Excessive exposure to TDI may cause severe irritation of the upper respiratory tract and lungs, fluid in the lungs, permanent decrease of lung function, neurologic disorders, cholinesterase depression and gastrointestinal distress. Effects may be delayed.

As product: The LC50 has not been determined.

Eye damage/eye irritation

May cause moderate eye irritation. May cause moderate corneal injury.

Skin corrosion/irritation

Prolonged contact may cause slight skin irritation with local redness.

Sensitization

Skin

Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

Respiratory

May cause allergic respiratory response. Reexposure to extremely low isocyanate concentrations may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest. Occasionally, breathing difficulties may be life threatening.

Repeated Dose Toxicity

For the minor component(s): Toluene diisocyanate (TDI). Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Chronic Toxicity and Carcinogenicity

An oral study in which high doses of TDI were reported to cause cancer in animals has been found to contain numerous deficiencies which compromise the validity of the study. TDI did not cause cancer in laboratory animals exposed by inhalation, the most likely route of exposure.

Developmental Toxicity

TDI did not cause birth defects in laboratory animals. Slight effects were observed in the fetus but only at doses which caused toxic effects to the mother.

Reproductive Toxicity

In animal studies, TDI has been shown not to interfere with reproduction.

Genetic Toxicology

In vitro genetic toxicity studies were negative. The data presented are for the following material: Toluene diisocyanate (TDI). Animal genetic toxicity studies were negative. Results of a Drosophila study were reported to be weakly positive; however, these positive findings are believed to be due to degradation of TDI in the solvent delivery vehicle.

Component Toxicology - Toluene-diisocyanate, mixture of toluene-2,4-di-isocyanate and toluene-2,6-di-isocyanate

Inhalation	LC50, 6 h, Aerosol, mouse 0.1 mg/l
Inhalation	LC50, 1 h, Vapor, rat 0.47 mg/l

Section 12. Ecological Information

12.1 Toxicity

Data for Component: **Toluene Diisocyanate, Glycerol Ethoxylated/Propoxylated, Copolymer**

Material is not classified as dangerous to aquatic organisms.

Data for Component: **m-Tolyldiene diisocyanate; toluene-diisocyanate (TDI)**

Material is harmful to aquatic organisms (LC50/EC50/IC50 between 10 and 100 mg/L in the most sensitive species).

Fish Acute & Prolonged Toxicity

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 h: 133 mg/l

Aquatic Invertebrate Acute Toxicity

EC50, Daphnia magna (Water flea), static test, 48 h: 12.5 mg/l

EC50, saltwater mysid Mysidopsis bahia, static test, 48 h: 18.3 mg/l

Aquatic Plant Toxicity

EC50, Skeletonema costatum, static test, 96 h: 3,230 mg/l

EC50, Chlorella vulgaris (Fresh water algae), static test, 96 h: 4,300 mg/l

Aquatic Invertebrates Chronic Toxicity Value

Daphnia magna (Water flea), static test, 21 d, number of offspring, NOEC: 1.1 mg/l, LOEC: 2.2 mg/l

12.2 Persistence and Degradability

Data for Component: **Toluene Diisocyanate, Glycerol Ethoxylated/Propoxylated, Copolymer**

For similar material(s): In the aquatic and terrestrial environment, material reacts with water forming predominantly insoluble polyureas which appear to be stable.

Data for Component: **m-Tolyldiene diisocyanate; toluene-diisocyanate (TDI)**

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.

12.3 Bioaccumulative potential

Data for Component: Toluene Diisocyanate, Glycerol Ethoxylated/Propoxylated, Copolymer

Bioaccumulation: For similar material(s): In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Data for Component: m-Tolylidene diisocyanate; toluene-diisocyanate (TDI)

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

12.4 Mobility in soil

Data for Component: Toluene Diisocyanate, Glycerol Ethoxylated/Propoxylated, Copolymer

Mobility in soil: For similar material(s); In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Data for Component: m-Tolylidene diisocyanate; toluene-diisocyanate (TDI)

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

12.5 Results of PBT and vPvB assessment

Data for Component: Toluene Diisocyanate, Glycerol Ethoxylated/Propoxylated, Copolymer

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Data for Component: m-Tolylidene diisocyanate; toluene-diisocyanate (TDI)

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6 Other adverse effects

Data for Component: Toluene Diisocyanate, Glycerol Ethoxylated/Propoxylated, Copolymer

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

Data for Component: m-Tolylidene diisocyanate; toluene-diisocyanate (TDI)

This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

Section 13. Disposal Considerations

13.1 Waste treatment methods

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 drums should be decontaminated (see Section 6) and either punctured and scrapped or given to an approved drum reconditioner.

Section 14. Transport Information

ADR/RID

14.1 UN number

Not applicable

14.2 UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3 Transport hazard class(es)

Not applicable

14.4 Packing Group

Not applicable

14.5 Environmental hazards

Not considered environmentally hazardous based on available data

14.6 Special precautions for user

Special Provisions: no data available

Hazard identification No: no data available

ADNR / ADN

14.1 UN number

Not applicable

14.2 UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3 Transport hazard class(es)

Not applicable

14.4 Packing Group

Not applicable

14.5 Environmental hazards

Not considered environmentally hazardous based on available data

14.6 Special precautions for user

no data available

IMDG

14.1 UN number

Not applicable

14.2 UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3 Transport hazard class(es)

Not applicable

14.4 Packing Group

Not applicable

14.5 Environmental hazards

Not considered environmentally hazardous based on available data

14.6 Special precautions for user

EMS Number: Not applicable

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

Not applicable

ICAO/IATA

14.1 UN number

Not applicable

14.2 UN proper shipping name

Proper Shipping Name: NOT REGULATED

14.3 Transport hazard class(es)

Not applicable

14.4 Packing Group

Not applicable

14.5 Environmental hazards

Not considered environmentally hazardous based on available data

14.6 Special precautions for user

no data available

Section 15. Regulatory Information

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

European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory or are exempt from inventory requirements.

15.2 Chemical Safety Assessment

Not applicable.

Section 16. Other Information

Other Information

Protective gloves should be worn when handling freshly-made polyurethane products to avoid skin contact with trace amounts of residual materials, some of which may be hazardous in contact with skin.

Hazard statement in the composition section

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer if swallowed.
H412	Harmful to aquatic life with long lasting effects.

Risk-phrases in the Composition section

R26	Very toxic by inhalation.
R36	Irritating to eyes.
R36/37/38	Irritating to eyes, respiratory system and skin.
R40	Limited evidence of a carcinogenic effect.
R42/43	May cause sensitization by inhalation and skin contact.
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Product Literature

Additional information on this product may be obtained by calling your sales or customer service contact.

Revision

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

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