Company Details

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1.Product and Company Identification

Trade / Commercial Name	**Ultrathane 500B135**
Chemical Name	Isocyanates, toxic, N.O.S.
Formula	Isocyanate prepolymer
Chemical Family	Isocyanates
Synonyms	Ultrathane, isocyanate component - Use: Clear elastomer component for doming applications
Un No	2206 Hazchem Code
ERG No	155 EAC

2. Hazards Identification

Classification according to Regulation (EC) 1272/2008 - SANS 10234: 2008 (GHS):

Acute toxicity (Inhalation - Vapour) Category 2 (H330)
Skin corrosion/irritation Category 2 (H315)
Eye damage/eye irritation Category 2A (H319)
Respiratory sensitizer Category 1 (H334)
Skin sensitizer Category 1 (H317)
Specific target organ toxicity, single exposure Category 3 (H335)
Aquatic toxicity (Chronic) Category 3 (H412)

Label elements:
SYMBOL: Toxic; Health hazard

Signal word: DANGER

Hazard statements:
H330: Fatal if inhaled
H315: Causes skin irritation
H319: Causes serious eye irritation

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H317: May cause an allergic skin reaction
H412: Harmful to aquatic life with long lasting effects

Precautionary statements (Prevention):
P260: Do not breathe vapours
P264: Wash skin thoroughly after handling
P271: Use only outdoors or in well ventilated area
P272: Contaminated work clothing should not be allowed out of the workplace
P273: Avoid release into environment
P280: Wear protective gloves/protective clothing/eye protection/face protection
P284: Wear respiratory protection

Precautionary statements (Response):
P302+P352: IF ON SKIN: Wash with plenty of soap and water
P304+P340: IF INHALED: Remove victim to fresh air and keeep in a rest 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.
P312: Call a POISON CENTRE or doctor/physician if you feel unwell
P333+P313: If skin irritation or rash occurs: Get medical advice/attention
P337+P313: If eye irritation persists: Get medical advice/attention
P362: Take off contaminated clothing and wash before re-use

Precautionary statements (Storage):
P403+P233: Store in a well-ventilated place and keep the container tightly closed
P405: Store locked up

Precautionary statements (Disposal):
P501: Dispose of contents/container in accordance with local regulations

Classification according to SABS 0265:1999
Toxic T
Contains Isophorone diisocyanate >= 20 %
R23: Toxic by inhalation
R36/37/38: Irritating to eyes, respiratory system and skin
R42/43: May cause sensitisation by inhalation and skin contact

Classification according to directive 67/55548/EEC
Toxic T
Contains Isophorone diisocyanate >= 20 % < 25 %
R23: Toxic by inhalation
R36/37/38: Irritating to eyes, respiratory system and skin
R42/43: May cause sensitisation by inhalation and skin contact
R52/53: Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment

For their own protection, persons who suffer from hypersensitivity of the respiratory tract (e.g. asthmatics and chronic bronchitis sufferers) should avoid handling this product. Symptoms affecting the respiratory tract can also occur several hours after overexposure.

Vapours and aerosols are the primary risk to the respiratory tract.
Product will react with water and produce carbon dioxide which can lead to dangerous build up of pressure in sealed containers.
Reacts with common materials such as water, alcohols, bases and amines

3. Composition

Hazardous Components	Type of product: Mixture/Prepolymer Hazardous components: Isophorone diisocyanate >= 20 % < 25 % Classification according to Directive 67/548/EEC: T R23 Xi R36/37/38-42/43 N R51/53 CAS No: 4098-71-9 EINECS No: 223-861-6 Index No: 615-008-00-5 Specific threshold concentrations: Xn R20-42/43 >= 0.5 % < 2 % T R23-42/43 >= 2 % < 2.5 % T R23-42/43-52/53 >= 2.5 % < 20 % T R23-36/37/38-42/43-52/53 >= 20 % < 25 % T, N R23-36/37/38-42/43-51/53 >= 25 %

4. First Aid Measures

First Aid Skin	Remove & isolate contaminated clothing and shoes. For minor skin contact, avoid spreading material on unaffected skin. Flush body with plenty of water and soap for at least 5 minutes. Seek medical advice in the event of a skin reaction.
First Aid Eyes	Flush eyes with lukewarm water for 20 minutes. Hold eyelids open while washing. Seek medical advice
First Aid Ingested	Do not induce vomiting. Seek medical assistance.
First Aid Inhalation	Move victim to fresh air and keep him warm, let him rest. If there is difficulty in.breathing, seek medical advice. Effects of exposure may be delayed. Notes to physician: The product irritates the respiratory tract and may trigger sensitisation of the skin and respiratory tract. Treatment of acute irritation and bronchial constriction is pramarily symptomatic. Extended medical treatment may be required depending on the degree of exposure and the severity of the symptoms.

5. Fire Fighting Measures

Suitable extinguishing media: CO2, foam, extinguishing powder..
Large Fires:Use water spray.
Unsuitable extinguishing media: High volume water jet.
Under fire conditions, carbon oxides, oxides of nitrogen, isocyanate vapours and traces of

hydrogen cyanide are emitted. Do not breathe fumes from fire.
Reacts with water releasing carbon dioxide, may cause excessive pressure in confined areas or in closed containers.
Fire in the vicinity poses a risk of pressure build-up and rupture of containers..
Move containers from fire area if you can do so without risk.
Do not get water inside containers.
Cool containers with flooding quantities of water until well after fire is out.
Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate enclosed areas.
Wear positive pressure self-contained breathing apparatus (SCBA) and protective clothing.
Do not allow contaminated extinguishing water to enter soil, drains or surface waters.

6. Accidental Release Measures

Put on protective equipment, including breathing apparatus
Product will react with water and produce a solid polymer and carbon dioxide, the solid polymer is an insoluble product (polyurea).
Cover with damp, fluid-binding material (sand, sawdust or chemical binder based on calcium silicate hydrate)
Transfer to waste container after approx. 1 hour (CO_2 formation). Keep damp and in the open air in a safe place for 7 to 14 days.
PRECAUTIONS:
Restrict access to area.
Provide adequate protective equipment and ventilation.
Remove sources of heat and flame.
Notify occupational and environmental authorities.
SPILL OR LEAK:
ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
All equipment used when handling the product must be grounded.
Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
Stop leak if you can do it without risk.
A vapour suppressing foam may be used to reduce vapours.
DO NOT GET WATER inside containers.
Prevent entry into waterways, sewers, basements or confined areas.
Small Spills
Cover with earth, sand, or other non-combustible material followed with plastic sheet to minimize spreading.
Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal.
A 3 % protein based foam can be sprayed over the material to reduce vapours until an effective decontamination material can be obtained.
Use a solution of 8 - 10 % sodium carbonate and 2 % liquid soap in water to decontaminate and to convert the residue into harmles polyurea polymer and carbon dioxide.

7. Handling And Storage

Handling:
Provide sufficient air exchange and/or exhaust ventilation in the working area.

In all areas where isocyanate vapour concentrations are produced in elevated concentrations, exhaust ventilation must be provided in such a way that the workplace exposure limit is not exceeded.
The air should be drawn away from the personnel handling the product.
Avoid contact with skin and eyes. Do not breathe vapours.
Keep away from foodstuffs, drink and tobacco. Wash hands before breaks and at the end of shifts.
Take off all contaiminated clothing immediately.
Storage:
Keep containers tightly closed and dry.
Store in an area that is dry, sheltered and well ventilated.

8. Exposure Controls/Personal Protection

Occupational Exposure Limits	Isocyanates, all (as -NC0): OEL-CL: 0.02 mg/m³ Short term OEL-CL: 0.07 mg/m³ TRGS 900: 0.005 ppm; 0.046 mg/m³ SENSITISER
Controls	The control measures appropriate for a particular worksite depend on how this material is used and on the extent of exposure. The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release. Use a non-sparking, grounded ventilation system separate from other exhaust ventilation systems. Exhaust directly to the outside. Supply sufficient replacement air to make up for air removed. Have a safety shower/eye wash fountain readily available in the immediate work area
Personal Protection	If engineering controls and work practices are not effective in controlling this material, then wear suitable personal protection equipment, including chemical safety goggles & face shield, boots, imperious gloves, coveralls & respiratory protection. Respiratory protection: Air-fed mask or a combination of charcoal filter and particulate filter. For their own protection, persons who suffer from hypersensitivity of the respiratory tract (e.g. asthmatics and chronic bronchitis sufferers) should avoid handling this product. Symptoms affecting the respiratory tract can also occur several hours after overexposure. Hand protection: PVC protective gloves, > 0,5 mm thickness Polychloroprene - CR, >= 0,5 mm thickness Nitrile rubber - NBR, >= 0,35 mm thickness Butyl rubber - IIR, >= 0,5 mm thickness

Fluorinated rubber - FKM, >= 0,4 mm thickness
Natural rubber:- NR, >= o,5 mm thickness
All gloves breakthrough time >= 480 min
Contaminated gloves should be disposed of.
Eye protection: Safety goggles/face protection
Skin and body protection: Wear suitable overalls.
Keep away from foodstuffs, drinks and tobacco.
Store working clothes separately. Wash hands before breaks and at end of work. Decontaminate, destroy and dispose of soiled protective clothing (see section13)
Have appropriate equipment available for use in emergencies.

9. Physical & Chemical Properties

Clear, water white, low viscosity liquid with pungent odour
Viscosity: 500 - 1 000 cps @ 25°C
S.G.: 1,10 (± 0,02) @ 25°C
pH: Not applicable
Water solubility: Reacts with water
Physical & chemical properties for Isophorone diisocyanate (Not tested for the preparation):
Melting point: ± - 60°C
Boiling point: ± 158°C
Vapour pressure: ± 0,0012 hPa at 25°C
Saturation concentration of vapour: 3.65 mg/m³ at 20°C
Flash point: ± 155°C
Ignition temperature: ± 430°C

10. Stability And Reactivity

Conditions to Avoid	Extreme heat, open flame, moisture
Incompatible Materials	Exothermic reaction with amines and alcohol. Reacts slowly with water to form carbon dioxide, in closed containers risk of bursting owing to increased pressure.
Other	Hazardous decomposition materials: Oxides of nitrogen, oxides of carbon Polymerisation may occur at ± 260°C with evoluition of CO2.

11. Toxicological Information

Toxicological information for Isophorone diisocyanate:
Effects of acute exposure:
Acute eye irritation: Severely irritating (Rabbit)
Risk of serious damage to eyes.
Acute skin irritation: Severely irritating, sensitising
Acute dermal toxicity: LD50 (rat) > 7 000 mg/kg
Acute respiratory irritation: Severely irritating

Acute inhalation toxicity: LC50 (rat, 4 hours): 0,04 mg/l Aerosol
Sensitising to the respiratory tract
Acute oral toxicity: LD50 (rat): 4 814 mg/kg
Effects of chronic exposure:
STOT repeat exposure: Not classified as a specific target organ toxicant
No aspiration toxicity classification.
May cause sensitisation by inhalation and skin contact.
Overexposure entails the risk of concentration dependant irritation of the eyes, nose, throat and respiratory tract. Symptoms may be delayed and development of hypersensitivity is possible (respiratory symptoms, cough, asthma).
Tanning and other irritating effects may occur after long and repeated periods of exposure to skin.
Carcinogenity: Not determined
Mutagenicity: No mutagenic effects in animal testing
Teratogenicity: No evidence of teratogenic properties
Reproductive toxicity: No data available

12. Ecological Information

Ecotoxicological information for Isophorone diisocyanate:
EC50 (Daphnia - 48 hours): 35 mg/l
LC0 (fish - Danio rerio. - 96 hours) > 72.3 mg/l
Not biodegradable
Bacterial toxicity: EC50 263 mg/l (Activated sludge - 3 hours)
Toxicity for algae: > 70 mg/l (scenedesmus subspicatus - 72 hours)
The poduct reacts with water at the interface, forming CO2 and a solid insoluble product with a high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by water soluble solvents. Previous experience has shown that polyurea is inert and non-degradable.

13. Disposal Considerations

Disposal Method Product	There are no uniform EC regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding laws and regulations. We recommend that you contact the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste.
Disposal Method Packaging	Disposal in accordance with local legal provisions. May be turned into scrap or reconditioned after the contents have been completely removed, any residue adhering to the walls neutralised and the labels removed.

14. Transport Information

UN No	2206

ERG No	155	EAC	
IMDG-Shipping Name	ISOCYANATES, TOXIC, N.O.S.		
IMDG Code	6.1	IMDG-Packaging Group	III
Marine Pollutant	No		
Class	Class: 6.1 Poison Group: III		
Subsidiary Risks	None		

15. Regulatory Information

EEC Hazard Classification	6.1
Risk Phases	Toxic by inhalation, in contact with skin and if swallowed May cause sensitisation by inhalation and skin contact Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment
Safety Phases	Keep locked up and out of reach of children In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of water and soap. In case of insufficient ventilation, wear suitable respiratory equipment. in case of accident or if you feel unwell, seek medical advice immediately and show the label where possible. Avoid release into environment; refer to special instructions/material safety data sheet
National Legislation	Republic of South Africa: National Road Traffic Act 1996 (Act 93 of 1996) Occupational Health and Safety Act 1993 (Act 85 of 1993) Hazardous Substances Act 1973 (Act 15 of 1973) European Community: Directive 1907/2006/EC

16. Other Information

Reason for update: Classification according to Regulation (EC) 1272/2008 - SANS 10234: 2008 (GHS)

Risk phrases text:
R20: Harmful by inhalation
R23: Toxic by inhalation
R36/37/38: Irritating to eyes, respiratory system and skin
R42/43: May cause sensitisation by inhalation and skin contact
R51/53: Toxic to aquatic organisms; may cause long-term adverse effects in the aquatic environment
R52/53: Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment
Revision date: 21/11/2018

Revision No.: 3
Sources: Suppliers Material Safety Data Sheets for hazardous component
SANS 10234: 2008
The information contained herein is based on the present state of our knowledge.
It characterizes the product with regard to the appropriate safety precautions.
It does not represent a guarantee of the properness of the product.

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