Safety Data Sheet
ELASTOPOR® P1046U ISOCYANATE

1. Product and Company Identification

Use: Chemical, Raw material

Company
BASF Canada Inc.
100 Milverton Drive
Mississauga, ON L5R 4H1
CANADA

24 Hour Emergency Response Information
CANUTEC (reverse charges): (613) 996-6666
BASF HOTLINE: (800) 454-COPE (2673)

Synonyms:
POLYMETHYLENE POLYPHENYLISOCYANATE

2. Hazards Identification

Emergency overview

Irritating to eyes, respiratory system and skin.
May cause sensitization by inhalation.

State of matter: liquid
Colour: light yellow
Odour: faint odour, aromatic

Potential health effects

Acute toxicity:
May cause sensitization by inhalation.
Of moderate toxicity after short-term inhalation. Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.

Irritation / corrosion:
Irritating to eyes, respiratory system and skin.
Eye contact causes irritation. Skin contact causes irritation.

Assessment other acute effects:
Causes temporary irritation of the respiratory tract.

Sensitization:
Sensitization after skin contact possible. The substance may cause sensitization of the respiratory tract.

Chronic toxicity:

Carcinogenicity: The chemical structure does not suggest a specific alert for such an effect.
Repeated dose toxicity: Repeated exposure to the substance by dermal administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by inhalative administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by oral administration leads to effects similar to those found after single exposure.

Reproductive toxicity: The chemical structure does not suggest a mutagenic effect.

Teratogenicity: The chemical structure does not suggest a mutagenic effect.

Genotoxicity: The chemical structure does not suggest a mutagenic effect.

Medical conditions aggravated by overexposure:
The isocyanate component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing. Persons with history of respiratory disease or hypersensitivity should not be exposed to this product. An animal study indicated that MDI may induce respiratory hypersensitivity following dermal exposure. Medical supervision of all employees who handle or come into contact with isocyanates is recommended. Preemployment and periodic medical examinations with respiratory function tests (FEV, FVC as a minimum) are suggested. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended. Contact may aggravate pulmonary disorders.

Signs and symptoms of overexposure:
Symptoms can appear later.
Information on: MDI
In sensitized individuals, sensitization reactions may be elicited by structurally similar substances. Respiratory sensitization may result in allergic (asthma-like) signs in the lower respiratory tract including wheezing, shortness of breath and difficulty breathing, the onset of which may be delayed. Repeated inhalation of high concentrations may cause lung damage, including reduced lung function, which may be permanent. Substances eliciting lower respiratory tract irritation may worsen the asthma-like reactions that may be produced by product exposures.

Potential environmental effects

Aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Content (W/W)</th>
<th>Hazardous ingredients</th>
</tr>
</thead>
<tbody>
<tr>
<td>9016-87-9</td>
<td>40.0 - 70.0 %</td>
<td>P-MDI</td>
</tr>
<tr>
<td>101-68-8</td>
<td>10.0 - 30.0 %</td>
<td>Diphenylmethane-4,4′-diisocyanate (MDI)</td>
</tr>
<tr>
<td>26447-40-5</td>
<td>1.0 - 5.0 %</td>
<td>Methylene diphenyl diisocyanate</td>
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4. First-Aid Measures

General advice:
Remove contaminated clothing.

If inhaled:
Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

If on skin:
Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.
If in eyes:
In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Immediate medical attention required.

If swallowed:
Rinse mouth and then drink plenty of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote, administer corticosteroid dose aerosol to prevent pulmonary oedema.

5. Fire-Fighting Measures

Flash point: > 200 °C (open cup)
Autoignition: No data available.
Self-ignition temperature: not self-igniting

Suitable extinguishing media:
water, dry extinguishing media, carbon dioxide, foam

Hazards during fire-fighting:
nitrous gases, fumes/smoke, isocyanate, vapour

Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Avoid water contamination in closed containers of confined areas, because carbon dioxide gas is generated.

6. Accidental release measures

Personal precautions:
Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

Environmental precautions:
Do not discharge into drains/surface waters/groundwater.

Cleanup:
Dike spillage. For small amounts: Pick up with suitable absorbent material. Shovel into open container. Do not make container pressure tight. Move container to a well-ventilated area (outside). Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 8 % concentrated ammonia, 2 % detergent. Add at a 10 to 1 ratio. Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide. For large amounts: If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal. For residues: The following measures should be taken for final cleanup: Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes.

7. Handling and Storage

Handling
General advice:
Mix thoroughly before use. If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing.
Protection against fire and explosion:
No explosion proofing necessary.

Storage

General advice:
Formation of CO2 and build up of pressure possible. Keep container tightly closed and in a well-ventilated place. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture.

Storage incompatibility:
General advice: Segregate from bases.

Storage stability:
Protect against moisture.

8. Exposure Controls and Personal Protection

Components with workplace control parameters

- Diphenylmethane-4,4'-diisocyanate (MDI)
  - OSHA CLV 0.02 ppm 0.2 mg/m3 ;
  - ACGIH TWA value 0.005 ppm ;

Advice on system design:
Provide local exhaust ventilation to maintain recommended P.E.L.

Personal protective equipment

Respiratory protection:
Wear the following respiratory protection if exposure limits may be exceeded: Wear a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:
Chemical resistant protective gloves, Suitable materials, Rubber gloves, Plastic gloves

Eye protection:
Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

General safety and hygiene measures:
Wear protective clothing as necessary to prevent contact. No eating, drinking, smoking or tobacco use at the place of work. Take off immediately all contaminated clothing. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied.

9. Physical and Chemical Properties

Form: liquid
Odour: faint odour, aromatic
Odour threshold: No data available.
Colour: light yellow
pH value: No data available.
Freezing point: -19 °C
Boiling point: 200 °C (5 mmHg)
Vapour pressure: 0.00001 mmHg (25 °C)
Density: 10.22 lb/USg (25 °C)
1.2246 g/cm3 (25 °C)
Relative density: 1.22 (25 °C)
Viscosity, dynamic: 675 mPa.s (25 °C)
Solubility in water: Reacts with water.
10. Stability and Reactivity

**Conditions to avoid:**
Avoid moisture.

**Substances to avoid:**
acids, alcohols, amines, water, Alkalines

**Hazardous reactions:**
On contact with water, gaseous decomposition products are formed, which cause build-up of pressure in tightly closed containers. Risk of bursting. Reacts with substances which contain active hydrogen.

**Decomposition products:**
Hazardous decomposition products: carbon monoxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapours

**Thermal decomposition:**
> 260 °C

**Corrosion to metals:**
No corrosive effect on metal.

**Oxidizing properties:**
not fire-propagating

11. Toxicological information

**Acute toxicity**

*Information on: MDI*

**Assessment of acute toxicity:**
Of moderate toxicity after short-term inhalation. Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact.

**Oral:**
Type of value: LD50
Species: rat
Value: > 10,000 mg/kg
Practically nontoxic.

**Irritation / corrosion**

*Information on: MDI*

**Assessment of irritating effects:**
Irritating to eyes, respiratory system and skin.

**Sensitization**

*Information on: MDI*

**Assessment of sensitization:**
The substance may cause sensitization of the respiratory tract. Sensitization after skin contact possible. Studies in animals suggest that dermal exposure may lead to pulmonary sensitization. However, the relevance of this result for humans is unclear.

**Repeated dose toxicity**

*Information on: MDI*
Assessment of repeated dose toxicity:
No other known chronic effects.

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Carcinogenicity

Information on: MDI
Indication of possible carcinogenic effect in animal tests. However, the relevance of this result for humans is unclear.

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Development:

Information on: MDI
The substance did not cause malformations in animal studies; however, toxicity to development was observed at high doses that were toxic to the parental animals.

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Aspiration Hazard:
No aspiration hazard expected.

12. Ecological Information

Aquatic toxicity

Information on: MDI
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. The product may hydrolyse. The test result maybe partially due to degradation products.

Fish

Acute:
static
Brachydanio rerio/LC50 (24 h): > 500 mg/l
Practically nontoxic.

Information on: Diphenylmethane-4,4'-diisocyanate (MDI)
Acute:
OECD Guideline 203 static
Brachydanio rerio/LC0 (96 h): > 1,000 mg/l

Aquatic invertebrates

Acute:
Daphnia magna/EC50 (24 h): > 500 mg/l
Practically nontoxic.

Information on: Diphenylmethane-4,4'-diisocyanate (MDI)
Acute:
OECD Guideline 202, part 1 static
Daphnia magna/EC50 (24 h): > 1,000 mg/l

Poorly biodegradable.
The product is unstable in water. The elimination data also refer to products of hydrolysis.

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13. Disposal considerations

Waste disposal of substance:
Incinerate or dispose of in a licensed facility. Do not discharge substance/product into sewer system.

Container disposal:
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

14. Transport Information

Land transport
TDG
Not classified as a dangerous good under transport regulations

Sea transport
IMDG
Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO
Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:
Chemical DSL, CA released / listed

WHMIS classification: D2A: Materials Causing Other Toxic Effects - Very toxic material
D2B: Materials Causing Other Toxic Effects - Toxic material

THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

16. Other Information

Recommended use: polyurethane component

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible
fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

MSDS Prepared by:
BASF NA Product Regulations
msds@basf.com
MSDS Prepared on: 2010/04/22

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