Safety Data Sheet
Diethylethanolamine

1. Product and Company Identification

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)

Molecular formula: C(6) H(15) NO
Chemical family: alkanolamine
Synonyms: N-(2-Diethylamino)ethanol

2. Hazards Identification

Emergency overview

Corrosive to the skin, eyes and respiratory system.
COMBUSTIBLE LIQUID.

State of matter: liquid
Colour: colourless to slightly yellow
Odour: amine-like

Potential health effects

Acute toxicity:
Of moderate toxicity after single ingestion. Of pronounced toxicity after short-term skin contact. Of pronounced toxicity after short-term inhalation.

Irritation / corrosion:
Corrosive! Damages skin and eyes. May cause severe damage to the eyes.

Assessment other acute effects:
The available information is not sufficient for evaluation.

Chronic toxicity:

Carcinogenicity: Results from a number of long-term carcinogenity studies and short-term tests are available. Taking into account all of the information, there is no indication that the substance itself is carcinogenic. A long-term carcinogenity study which does not meet the current requirements did not show a carcinogenic effect.

Repeated dose toxicity: May affect the liver and kidneys as indicated in animal studies. After repeated exposure the prominent effect is local irritation.
Reproductive toxicity: Repeated oral uptake of the substance did not cause damage to the reproductive organs. Repeated inhalative uptake of the substance did not cause damage to the reproductive organs.

Teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies.

Genotoxicity: The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not mutagenic in a test with mammals.

Signs and symptoms of overexposure:
Overexposure may cause: vomiting, nausea

Potential environmental effects

Terrestrial toxicity:
Study scientifically not justified.

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>100-37-8</td>
<td>&gt; 99.0 %</td>
<td>2-diethylaminoethanol</td>
</tr>
</tbody>
</table>

4. First-Aid Measures

General advice:
Immediately remove contaminated clothing. If danger of loss of consciousness, place patient in recovery position and transport accordingly. Apply artificial respiration if necessary. First aid personnel should pay attention to their own safety.

If inhaled:
Keep patient calm, remove to fresh air. Assist in breathing if necessary. Consult a physician.

If on skin:
Wash affected areas thoroughly with soap and water. Remove contaminated clothing. 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. Immediate medical attention required.

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote. Pulmonary edema prophylaxis. Medical monitoring for at least 24 hours.

5. Fire-Fighting Measures

Flash point: 51.5 °C (DIN 51755)
Autoignition: 320 °C Literature data.
Lower explosion limit: 0.7 %(V) (39 °C) For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.

Upper explosion limit: 10.1 %(V) (92.5 °C)
For liquids not relevant for classification and labelling.

Flammability: Flammable. (See user defined text.)

Self-ignition temperature: Based on its structural properties the product is not classified as self-igniting.

Suitable extinguishing media:
water spray, dry powder, foam

Hazards during fire-fighting:
nitrogen oxides, carbon oxides
The substances/groups of substances mentioned can be released in case of fire. Under certain conditions in case of fire other hazardous combustion products may be generated.

Protective equipment for fire-fighting:
Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:
Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Impact Sensitivity:
Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Personal precautions:
Breathing protection required. Avoid contact with the skin, eyes and clothing.

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

Cleanup:
Cleaning operations should be carried out only while wearing breathing apparatus. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations. Collect waste in suitable containers, which can be labeled and sealed. Incinerate or take to a special waste disposal site in accordance with local authority regulations.
For small amounts: Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder).
For large amounts: Pump off product.

7. Handling and Storage

Handling
General advice:
Ensure thorough ventilation of stores and work areas. Handle in accordance with good industrial hygiene and safety practice. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:
Vapours may form ignitable mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

Storage
General advice:
Containers should be stored tightly sealed in a dry place.

Storage incompatibility:
General advice: Segregate from acids and acid forming substances.
8. Exposure Controls and Personal Protection

**Personal protective equipment**

**Respiratory protection:**
Wear the following respiratory protection if exposure limits may be exceeded: Wear a NIOSH-certified (or equivalent) respirator as necessary.

**Hand protection:**
Chemical resistant protective gloves

**Eye protection:**
Tightly fitting safety goggles (chemical goggles) and face shield.

**Body protection:**
Impermeable protective clothing

**General safety and hygiene measures:**
Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with the skin, eyes and clothing. Avoid inhalation of vapour. Wash soiled clothing immediately.

9. Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>amine-like</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Colour</td>
<td>colourless to slightly yellow</td>
</tr>
<tr>
<td>pH value</td>
<td>11.5 (100 g/l, 20 °C) Literature data.</td>
</tr>
<tr>
<td>Setting temperature</td>
<td>&lt;-70 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>162.36 °C (1,013 hPa) (other)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>2 hPa (22.4 °C) BASF method</td>
</tr>
<tr>
<td>Density</td>
<td>0.88 g/cm³ (20 °C)</td>
</tr>
<tr>
<td>Relative density</td>
<td>0.88 (20 °C)</td>
</tr>
<tr>
<td>Partitioning coefficient n-octanol/water</td>
<td>0.21 (23 °C) OECD Guideline 107</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>4.022 mPa.s (25 °C) Literature data.</td>
</tr>
<tr>
<td>Particle size</td>
<td></td>
</tr>
<tr>
<td>Solubility in water</td>
<td>miscible</td>
</tr>
<tr>
<td>Molar mass</td>
<td>117.19 g/mol</td>
</tr>
</tbody>
</table>

10. Stability and Reactivity

**Substances to avoid:**
mineral acids, isocyanates

**Hazardous reactions:**

**Decomposition products:**
Hazardous decomposition products: nitrogen oxides

**Thermal decomposition:**
No decomposition if used as directed.
Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing.

11. Toxicological Information

Acute toxicity

Oral:
Type of value: LD50
Species: rat (male/female)
Value: approx. 1,320 mg/kg (BASF-Test)

Inhalation:
Type of value: LC50
Species: rat (male/female)
Value: approx. 4.6 mg/l (BASF-Test)
Exposure time: 4 h
The vapour was tested.

Dermal:
Type of value: LD50
Species: guinea pig (no data)
Value: approx. 885 mg/kg
Literature data.

Irritation / corrosion

Skin:
Species: rabbit
Result: Corrosive.
Method: OECD Guideline 404

Eye:
Species: rabbit
Result: Risk of serious damage to eyes.
Method: BASF-Test

Sensitization:
Guinea pig maximization test
Species: guinea pig
Result: Non-sensitizing.
Literature data.

Genetic toxicity

Experimental/calculated data:
OECD Guideline 471 Ames-test with and without metabolic activation negative

Aspiration Hazard:
No aspiration hazard expected.

12. Ecological Information

Fish

Acute:
DIN 38412 Part 15 static
Leuciscus idus/LC50 (96 h): 147 mg/l
Nominal concentration. The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample. After neutralization, it is no longer toxic.
Chronic:
Study scientifically not justified.

**Aquatic invertebrates**

Acute:
Directive 79/831/EEC Daphnia magna/EC50 (48 h): 83.6 mg/l
Nominal concentration. The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample.

OECD Guideline 202, part 1 Daphnia magna/EC50 (48 h): 165 mg/l
The details of the toxic effect relate to the nominal concentration. The product will cause changes in the pH value of the test system. The result refers to an neutralized sample.

Chronic:
Study scientifically not justified.

**Aquatic plants**

Toxicity to aquatic plants:
DIN 38412 Part 9 green algae/EC50 (72 h): 44 mg/l
Nominal concentration.

DIN 38412 Part 9 green algae/No observed effect concentration (72 h): 5 mg/l
Nominal concentration.

**Microorganisms**

Toxicity to microorganisms:
OECD Guideline 209 aquatic activated sludge, domestic/EC20 (30 min): > 1,000 mg/l
Nominal concentration.

**Degradability / Persistence**

**Biological / Abiological Degradation**

Test method: OECD 301 A (new version) (aerobic), activated sludge, domestic
Method of analysis: DOC reduction
Degree of elimination: 90 - 100 % (22 d)
Evaluation: Readily biodegradable (according to OECD criteria).

**Bioaccumulation**

OECD Guideline 305 C
carp (28 d) Bioconcentration factor < 6.1
Literature data.

**Other adverse effects:**

Due to the pH-value of the product, neutralization is generally required before discharging sewage into treatment plants.

### 13. Disposal considerations

**Waste disposal of substance:**
Incinerate in suitable incineration plant, observing local authority regulations.

**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
Hazard class: 8
Packing group: II
ID number: UN 2686
Hazard label: 8, 3
Proper shipping name: 2-DIETHYLAMINOETHANOL

Sea transport
IMDG
Hazard class: 8
Packing group: II
ID number: UN 2686
Hazard label: 8, 3
Marine pollutant: NO
Proper shipping name: 2-DIETHYLAMINOETHANOL

Air transport
IATA/ICAO
Hazard class: 8
Packing group: II
ID number: UN 2686
Hazard label: 8, 3
Proper shipping name: 2-DIETHYLAMINOETHANOL

15. Regulatory Information

Federal Regulations
Registration status:
Chemical DSL, CA released / listed

WHMIS classification: B3: Combustible Liquid

D1B: Materials Causing Immediate and Serious Toxic Effects - Toxic material

D2B: Materials Causing Other Toxic Effects - Toxic material

E: Corrosive 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

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.

SDS Prepared by:
BASF NA Product Regulations

BASF HOTLINE (800) 454 – COPE (2673)
SDS Prepared on: 2014/02/24

END OF DATA SHEET