## SECTION 1: Identification

### 1.1 Product identifier

Identification of the substance

DIethylene glycol

Synonymous: 2,2’-Oxybisethanol
2,2’-Oxydiethanol
Bis(2-hydroxyethyl) ether
Ethanol, 2,2’-oxybis-
Dihydroxydiethyl ether
2-Hydroxyethyl ether
DEG

CAS number

111-46-6

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

Relevant identified uses

Industrial use

### 1.3 Details of the supplier of the safety data sheet

Industrias Derivadas del Etileno S.A. de C.V.
Km. 4.2 Blvd. Morelos, Col. Complejo Petroquímico Morelos,
96400 Coatzacoalcos, Veracruz
Mexico

Telephone: +52 921-211-9000 / +52 921-268-2036
Website: www.grupoidesa.com

e-mail (competent person)  
jalvarez@idesa.com.mx

### 1.4 Emergency telephone number

Emergency information service

SETIQ 01-800-00-21400 / CHEMTREC 800-424-930
/ CANUTEC 613-996-66660
Tel. (55) 5559 1588 Cd. de México.

## SECTION 2: Hazard(s) identification

### 2.1 Classification of the substance or mixture

Classification acc. to GHS

<table>
<thead>
<tr>
<th>Section</th>
<th>Hazard class</th>
<th>Category</th>
<th>Hazard class and category</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1O</td>
<td>acute toxicity (oral)</td>
<td>4</td>
<td>Acute Tox. 4</td>
<td>H302</td>
</tr>
<tr>
<td>3.9</td>
<td>specific target organ toxicity - repeated exposure</td>
<td>2</td>
<td>STOT RE 2</td>
<td>H373</td>
</tr>
</tbody>
</table>

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure.
According to the results of its assessment, this substance is not a PBT or a vPvB.

2.2 Label elements

Labeling
- Signal word warning
- Pictograms GHS07, GHS08

- Hazard statements
  H302 Harmful if swallowed.
  H373 May cause damage to organs through prolonged or repeated exposure.

- Precautionary statements
  P260 Do not breathe dust/fume/gas/mist/vapors/spray.
  P264 Wash thoroughly after handling.
  P270 Do not eat, drink or smoke when using this product.
  P314 Get medical advice/attention if you feel unwell.
  P330 Rinse mouth.
  P501 Dispose of contents/container to industrial combustion plant.

2.3 Other hazards

Special danger of slipping by leaking/spilling product.

Results of PBT and vPvB assessment
According to the results of its assessment, this substance is not a PBT or a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance DIETHYLENE GLYCOL

Identifiers
CAS No 111-46-6
Molecular formula C4H10O3
Molar mass 106.1 g/mol

SECTION 4: First-aid measures

4.1 Description of first-aid measures

General notes
Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.
Following inhalation
If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact
Wash with plenty of soap and water.

Following eye contact
Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion
Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed
Symptoms and effects are not known to date.

4.3 Indication of any immediate medical attention and special treatment needed
none

SECTION 5: Fire-fighting measures

5.1 Extinguishing media
Suitable extinguishing media
Water spray, Alcohol resistant foam, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media
Water jet

5.2 Special hazards arising from the substance or mixture
Hazardous combustion products
Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
For non-emergency personnel
Remove persons to safety.

For emergency responders
Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

6.2 Environmental precautions
Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up
Advices on how to contain a spill
Covering of drains
Advices on how to clean up a spill
Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: Sawdust, Kieselgur (diatomite), Sand, Universal binder.

Appropriate containment techniques
Use of absorbent materials.

Other information relating to spills and releases
Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Recommendations
- Measures to prevent fire as well as aerosol and dust generation
  Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene
Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

7.3 Specific end use(s)
See section 16 for a general overview.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Human health values

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Protection goal, route of exposure</th>
<th>Used in</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL</td>
<td>44 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>60 mg/m³</td>
<td>human, inhalatory</td>
<td>worker (industry)</td>
<td>chronic - local effects</td>
</tr>
<tr>
<td>DNEL</td>
<td>43 mg/kg bw/day</td>
<td>human, dermal</td>
<td>worker (industry)</td>
<td>chronic - systemic effects</td>
</tr>
</tbody>
</table>

Environment values

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Organism</th>
<th>Environmental compartment</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC</td>
<td>10 mg/l</td>
<td>aquatic organisms</td>
<td>freshwater</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>1 mg/l</td>
<td>aquatic organisms</td>
<td>marine water</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>10 mg/l</td>
<td>aquatic organisms</td>
<td>water</td>
<td>intermittent release</td>
</tr>
<tr>
<td>PNEC</td>
<td>199.5 mg/l</td>
<td>aquatic organisms</td>
<td>sewage treatment plant (STP)</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>20.9 mg/kg</td>
<td>aquatic organisms</td>
<td>freshwater sediment</td>
<td>short-term (single instance)</td>
</tr>
</tbody>
</table>
General ventilation.
Wear eye/face protection.
Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

In case of inadequate ventilation wear respiratory protection.

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

### Relevant PNECs and other threshold levels

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Threshold level</th>
<th>Organism</th>
<th>Environmental compartment</th>
<th>Exposure time</th>
</tr>
</thead>
<tbody>
<tr>
<td>PNEC</td>
<td>2.09 mg/kg</td>
<td>aquatic organisms</td>
<td>marine sediment</td>
<td>short-term (single instance)</td>
</tr>
<tr>
<td>PNEC</td>
<td>1.53 mg/kg</td>
<td>terrestrial organisms</td>
<td>soil</td>
<td>short-term (single instance)</td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

**Appropriate engineering controls**
- General ventilation.

**Individual protection measures (personal protective equipment)**

**Eye/face protection**
- Wear eye/face protection.

**Skin protection**
- **Hand protection**
  - Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

- **Other protection measures**
  - Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

**Respiratory protection**
- In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls**
- Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

**Appearance**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Color</td>
<td>Clear, Transparent</td>
</tr>
<tr>
<td>Odor</td>
<td>Practically Odorless</td>
</tr>
</tbody>
</table>

**Other safety parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH (value)</td>
<td>6 – 8 (200 %, 20 °C)</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>-6 °C</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>244 °C at 760 mmHg</td>
</tr>
<tr>
<td>Flash point</td>
<td>138 °C at 760 mmHg</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>not determined</td>
</tr>
</tbody>
</table>
### DIETHYLENE GLYCOL

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability (solid, gas)</td>
<td>not relevant (fluid)</td>
</tr>
<tr>
<td>Explosive limits</td>
<td></td>
</tr>
<tr>
<td>- Lower explosion limit (LEL)</td>
<td>1.6 vol%</td>
</tr>
<tr>
<td>- Upper explosion limit (UEL)</td>
<td>10.8 vol%</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0.008 hPa at 25 °C</td>
</tr>
<tr>
<td>Density</td>
<td>1.12 g/cm³ at 25 °C</td>
</tr>
<tr>
<td>Vapor density</td>
<td>this information is not available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>- Water solubility</td>
<td>miscible in any proportion Hygroscopic Liquid.</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td></td>
</tr>
<tr>
<td>- n-octanol/water (log KOW)</td>
<td>(ECHA)</td>
</tr>
<tr>
<td>- Soil organic carbon/water (log KOC)</td>
<td>0 (ECHA)</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>228 °C (ECHA)</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>- Dynamic viscosity</td>
<td>30 mPa s at 25 °C</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>none</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>none</td>
</tr>
<tr>
<td><strong>9.2 Other information</strong></td>
<td></td>
</tr>
<tr>
<td>Temperature class (USA, acc. to NEC 500)</td>
<td>T2D (maximum permissible surface temperature on the equipment: 215 °C)</td>
</tr>
</tbody>
</table>

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity
Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

#### 10.2 Chemical stability
See below "Conditions to avoid".

---

Mexico: en
No: ALVEG 000607 SDS-05:
DIETHYLENE GLYCOL

10.3 Possibility of hazardous reactions
No known hazardous reactions.

10.4 Conditions to avoid
There are no specific conditions known which have to be avoided.

10.5 Incompatible materials
Oxidizers

10.6 Hazardous decomposition products
Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity
Harmful if swallowed.
- Acute toxicity estimate (ATE)
  Oral 500 mg/kg

Skin corrosion/irritation
Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation
Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitization
Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity
Shall not be classified as germ cell mutagenic.

Carcinogenicity
Shall not be classified as carcinogenic.

Reproductive toxicity
Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure
Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure
May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard
Shall not be classified as presenting an aspiration hazard.
SECTION 12: Ecological information

12.1 Toxicity
Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability
Data are not available.

12.3 Bioaccumulative potential
Data are not available.

<table>
<thead>
<tr>
<th>n-octanol/water (log KOW)</th>
<th>(ECHA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF</td>
<td>100</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil
Data are not available.

<table>
<thead>
<tr>
<th>Henry's law constant</th>
<th>0 Pa·m³/mol at 25 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Organic Carbon normalised adsorption coefficient</td>
<td>0 (ECHA)</td>
</tr>
</tbody>
</table>

12.5 Results of PBT and vPvB assessment
Data are not available.

12.6 Other adverse effects
Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

- Sewage disposal-relevant information
  Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

- Waste treatment of containers/packages
  Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks
Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.
SECTION 14: Transport information

14.1 UN number
not subject to transport regulations

14.2 UN proper shipping name
not relevant

14.3 Transport hazard class(es)
Class
- 

14.4 Packing group
not relevant

14.5 Environmental hazards
non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user
There is no additional information.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code
The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

- Transport information - National regulations - Additional information (UN RTDG)
  Limited quantities (LQ)
  (UN RTDG)

- International Maritime Dangerous Goods Code (IMDG)
  Not subject to IMDG.

- International Civil Aviation Organization (ICAO-IATA/DGR)
  Not subject to ICAO-IATA.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question
There is no additional information.

- National regulations (United States)
  Substance is listed

- Toxic Substance Control Act (TSCA)

- Superfund Amendment and Reauthorization Act
  - List of Extremely Hazardous Substances (40 CFR 355) (EPCRA Section 302 and 304)
    not listed
  - Specific Toxic Chemical Listings (40 CFR 372) (EPCRA Section 313)
    not listed

- Comprehensive Environmental Response, Compensation, and Liability Act
  - Section 102(A) Hazardous Substances (40 CFR 302.4)
    not listed
DIETHYLENE GLYCOL

Clean Air Act
not listed

New Jersey Worker and Community Right to Know Act N.J.S.A. 34:5A-1 et. seq.
not listed

California Environmental Protection Agency (Cal/EPA): Proposition 65 Chemicals known to the State to cause cancer or reproductive toxicity
not listed

15.2 Chemical Safety Assessment
No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information, including date of preparation or last revision

Abbreviations and acronyms

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Descriptions of used abbreviations</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCF</td>
<td>Bioconcentration factor</td>
</tr>
<tr>
<td>CAS</td>
<td>Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)</td>
</tr>
<tr>
<td>DGR</td>
<td>Dangerous Goods Regulations (see IATA/DGR)</td>
</tr>
<tr>
<td>DNEL</td>
<td>Derived No-Effect Level</td>
</tr>
<tr>
<td>GHS</td>
<td>&quot;Globally Harmonized System of Classification and Labelling of Chemicals&quot; developed by the United Nations</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IATA/DGR</td>
<td>Dangerous Goods Regulations (DGR) for the air transport (IATA)</td>
</tr>
<tr>
<td>ICAO</td>
<td>International Civil Aviation Organization</td>
</tr>
<tr>
<td>IMDG</td>
<td>International Maritime Dangerous Goods Code</td>
</tr>
<tr>
<td>MARPOL</td>
<td>International Convention for the Prevention of Pollution from Ships (abbr. of &quot;Marine Pollutant&quot;)</td>
</tr>
<tr>
<td>PBT</td>
<td>Persistent, Bioaccumulative and Toxic</td>
</tr>
<tr>
<td>PNEC</td>
<td>Predicted No-Effect Concentration</td>
</tr>
<tr>
<td>vPvB</td>
<td>Very Persistent and very Bioaccumulative</td>
</tr>
</tbody>
</table>

Key literature references and sources for data


List of relevant phrases (code and full text as stated in chapter 2 and 3)

<table>
<thead>
<tr>
<th>Code</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>H302</td>
<td>Harmful if swallowed.</td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs through prolonged or repeated exposure.</td>
</tr>
</tbody>
</table>
Disclaimer

THIS INFORMATION IS BASED UPON CALCULATED DATA. THE COMPANY HAS NO LIABILITY FOR DAMAGES SUFFERED BY THE PURCHASER OR OTHER PERSONS IN HANDLING OF THESE MATERIALS IF SAFETY INSTRUCTIONS WERE NOT FOLLOWED. THE COMPANY HAS NO LIABILITY FOR MISUSE OF THIS MATERIAL, EVEN IF THE SAFETY INSTRUCTIONS WERE FOLLOWED. PURCHASER IS RESPONSIBLE FOR THE USE OF THIS MATERIAL. THIS SAFETY DATA SHEET IS PREPARED IN ACCORDANCE WITH THE GUIDELINES OF THE CURRENT MEXICAN OFFICIAL STANDARD. CONFIDENTIAL INFORMATION ABOUT THE COMPOSITION WAS OMITTED.