SAFETY DATA SHEET
Ethyl diglycol (EDG)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: Ethyl diglycol (EDG)
Chemical name: Diethylene glycol monoethyl ether, ethoxy diglycol, 2-(2-etoixietoxi)-ethanol
REACH Reg No.: 01-2119475105-42-0000
CAS no.: 111-90-0
EC no.: 203-919-7
Article no.: 17100000

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

Use of the substance/preparation: Lösningsmedel (Solvent). Detergent.

1.3. Details of the supplier of the safety data sheet

Manufacturer
Company name: Fred Holmberg & Co AB
Office address: Geijersgatan 8
Postal address: Box 60056
Postcode: S-216 10
City: Limhamn
Country: Sweden
Tel: +46 (0)40 15 79 20
Fax: +46 (0)40 16 22 95
E-mail: info@holmberg.se
Website: http://www.holmberg.se/en/

1.4. Emergency telephone number

Emergency telephone: 112 (Europe)

SECTION 2: Hazards identification

2.1. Classification of substance or mixture

Classification notes: Ej farligt ämne eller blandning enligt Direktiv 67/548/EEG.
Classification notes CLP: Ej farligt ämne eller blandning enligt regelverket (EG) nr 1272/2008.

2.2. Label elements

2.3. Other hazards

Other hazards: Not known.

SECTION 3: Composition/information on ingredients

3.1. Substances

<table>
<thead>
<tr>
<th>Substance</th>
<th>Identification</th>
<th>Classification</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl diglycol (EDG)</td>
<td>CAS no.: 111-90-0</td>
<td></td>
<td>&gt; 99 %</td>
</tr>
<tr>
<td></td>
<td>EC no.: 203-919-7</td>
<td>Classification</td>
<td>notes: Ethyl diglycol is not</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation: Move the exposed person to fresh air at once. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin contact: Remove contaminated clothing immediately and wash skin with soap and water.

Eye contact: Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Get medical attention if any discomfort continues.

Ingestion: Rinse mouth with water. Drink plenty of water. Do not induce vomiting. Get medical attention.

Recommended personal protective equipment for first aid responders: See avsnitt 8 (see Section 8).

4.2. Most important symptoms and effects, both acute and delayed

Information for health personnel: Treat Symptomatically.

Acute symptoms and effects: No recommendation given.

Delayed symptoms and effects: No recommendation given.

4.3. Indication of any immediate medical attention and special treatment needed

Specific details on antidotes: No recommendation given.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media: Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Improper extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture


5.3. Advice for firefighters

Fire fighting procedures: No specific fire fighting procedure given.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal protection measures: Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area. Ventilate well. Stop leak if possible without risk. Avoid contact with skin and eyes. Do not breathe vapour. See avsnitt 8 (see Section 8).

6.2. Environmental precautions

Environmental precautionary measures: Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Cleaning method: Dam and absorb spillages with sand, earth or other non-combustible material.
6.4. Reference to other sections
Other instructions No recommendation given.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Handling Mechanical ventilation may be required. Observe good industrial hygiene practices. Avoid inhalation of vapours and contact with skin and eyes.

Protective Safety Measures
Safety Measures To Prevent fire Take precautionary measures against static discharge. Keep away from heat / sparks / open flames / hot surfaces. — No smoking.
Advice on general occupational hygiene Provide easy access to water supply and eye wash facilities.

7.2. Conditions for safe storage, including any incompatibilities
Storage Keep away from heat, sparks and open flame. Store in a well-ventilated place. Keep container tightly closed. Unsuitable containers: common metals (iron, aluminium, copper).

7.3. Specific end use(s)
Specific use(s) Not entered.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>DNEL / PNEC</th>
<th>Method of testing</th>
<th>Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL</td>
<td>Group: Worker</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure route: Dermal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure frequency: Long term (repeated)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type of effect: Systemic effect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 25 mg/kg bw/day</td>
<td></td>
</tr>
<tr>
<td>DNEL</td>
<td>Group: Worker</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure route: Inhalation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure frequency: Long term (repeated)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type of effect: Systemic effect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 18.3 mg/m3</td>
<td></td>
</tr>
<tr>
<td>DNEL</td>
<td>Group: Worker</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure route: Oral</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure frequency: Long term (repeated)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type of effect: Systemic effect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 25 mg/kg bw/day</td>
<td></td>
</tr>
<tr>
<td>DNEL</td>
<td>Group: Worker</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure route: Inhalation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure frequency: Long term (repeated)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type of effect: Local effect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 9 mg/m3</td>
<td></td>
</tr>
<tr>
<td>DNEL</td>
<td>Group: Consumer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure route: Dermal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure frequency: Long term (repeated)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type of effect: Systemic effect</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Value: 50 mg/kg bw/day</td>
<td></td>
</tr>
<tr>
<td>DNEL</td>
<td>Group: Consumer</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure route: Inhalation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Exposure frequency: Long term (repeated)</td>
<td></td>
</tr>
</tbody>
</table>
Type of effect: Systemic effect
Value: 37 mg/m³

DNEL
Group: Consumer
Exposure route: Inhalation
Exposure frequency: Long term (repeated)
Type of effect: Local effect
Value: 18 mg/m³

PNEC
Exposure route: Sediment
Value: 0.274 mg/kg d.w.
Remarks: Saltvatten (Marine water).

PNEC
Exposure route: Water
Value: 0.74 mg/l
Remarks: Sötvatten (Freshwater).

PNEC
Exposure route: Soil
Value: 0.15 mg/kg d.w.

PNEC
Exposure route: Water
Value: 0.074 mg/l
Remarks: Saltvatten (Marine water).

PNEC
Exposure route: Sediment
Value: 2.74 mg/kg d.w.
Remarks: Sötvatten (Freshwater).

PNEC
Exposure route: Sewage treatment plant STP
Value: 500 mg/l

PNEC
Exposure route: Water
Value: 0.074 mg/l
Remarks: Saltvatten (Marine water).

PNEC
Exposure route: Sediment
Value: 2.74 mg/kg d.w.
Remarks: Sötvatten (Freshwater).

PNEC
Exposure route: Water
Value: 0.074 mg/l
Remarks: Saltvatten (Marine water).

PNEC
Exposure route: Sewage treatment plant STP
Value: 500 mg/l

Exposure guidelines
Country of origin: Sverige
Limit value type: KTV
OEL Short Term Value: 170 mg/m³
Letter Code: HUD
Source: Nationella hygieniska gränsvärden, AFS 2011:18

Other Information
NGV värde 80 mg/m³ ; 15 ppm (SE) HUD
Dow IHG NGV 25 ppm
AIHA WEEL NGV 140 mg/m³ 25 ppm

8.2. Exposure controls
Occupational exposure limits
Well-ventilated area. Protective gloves and goggles are recommended. Provide eyewash, quick drench.

Safety signs

Respiratory protection
Suitable respiratory protection must be used at high concentrations. If ventilation is insufficient, suitable respiratory protection must be provided. Use respiratory equipment with gas filter, type A2.

Hand protection
Use protective gloves. Chemical resistant gloves required for prolonged or repeated contact. Gloves of nitrile rubber, PVA or Viton are recommended.

Eye / face protection
Use safety goggles or face shield in case of splash risk.

Skin protection
Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene / Environmental
Wash hands after contact.

SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Method of testing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Colourless liquid.</td>
<td></td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless.</td>
<td></td>
</tr>
<tr>
<td>Odour</td>
<td>Mild.</td>
<td></td>
</tr>
<tr>
<td>Melting point/melting range</td>
<td>Value: -54 °C</td>
<td>Literature.</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>Value: 196 °C</td>
<td>Literature.</td>
</tr>
<tr>
<td>Flash point</td>
<td>Value: 91 °C</td>
<td>Literature.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Value: 0.01</td>
<td></td>
</tr>
<tr>
<td>Explosion limit</td>
<td>Value: 1.2-23.5 %</td>
<td>(Literature)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Value: 0.017 kPa</td>
<td>(Literature)</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>Value: 990 kg/m³</td>
<td>Test temperature: 20 °C</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>100 % @ 20 °C</td>
<td>(Literature)</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>Value: -0.54</td>
<td></td>
</tr>
<tr>
<td>Spontaneous combustability</td>
<td>Value: 204 °C</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>Value: 4.4 mPa/s</td>
<td>Test temperature: 20 °C</td>
</tr>
</tbody>
</table>

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stable under the prescribed storage conditions.

10.3. Possibility of hazardous reactions

10.4. Conditions to avoid

Avoid heat, flames and other sources of ignition. Avoid contact with strong oxidisers. Avoid contact with acids and alkalis.

10.5. Incompatible materials

10.6. Hazardous decomposition products

Fire creates: Carbon monoxide (CO). Carbon dioxide (CO2).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological Information:

Other toxicological data

- Acute Toxicity (Oral LD50): mg/kg (oral-mouse) 6.031
- Acute Toxicity (Dermal LD50): > 9.143 mg/kg Rabbit
- LC0, 8 h, Ånga, råtta 0.025 mg/l (LC0, 8 hrs, Steam, rat 0.025 mg/l)

Potential acute effects

- Inhalation: Icke klassificerad som aspirationstoxisk (Not classified as asp. tox.)
- Skin contact: Not irritating.
- Eye contact: May cause temporary eye irritation.

Delayed effects / repeated exposure

- Sensitisation: Not known.
- Chronic effects: None known.
STOT-single exposure  Not known.
STOT-repeated exposure  Not known.

Carcinogenic, Mutagenic or Reprotoxic
Carcinogenicity  Not known.
Mutagenicity  Not known.
Teratogenic properties  Not known.
Reproductive toxicity  Djurförsök indikerar att EDG inte orsakar toxiska effekter på reproduktionen vid höga doser (några procent i dricksvatten). Vid de högsta dosnivåerna observerades dock några effekter på avkomman till försöksdjuren: Ökad levervikt, minskad hjärnvikt och minskad rörlighet hos spermier.
(Animal studies do not indicate that EDG causes reproductive toxicity at high doses (a few percent in drinking water). However, at the highest dose levels some effects were observed on the offspring of laboratory animals: increased liver weight, decreased brain weight and reduced sperm motility).

SECTION 12: Ecological information

12.1. Toxicity
Acute aquatic, fish  Value: 6010 mg/l
Method of testing: LC50
Fish, species: Ictalurus punctatus
Duration: 96h

Acute aquatic, algae  Value: > 100 mg/l
Method of testing: ErC50
Algae, species: Desmodesmus subspicatus
Duration: 96h

Acute aquatic, Daphnia  Value: 1982 mg/l
Method of testing: LC50
Daphnia, species: Daphnia magna
Duration: 48h

Impact on sewage treatment  EC10; bacteria, 16 h: 4.000 mg/l

12.2. Persistence and degradability
Persistence and degradability  Lätt biologiskt nedbrytbar (Readily biodegradable).
Comments COD  90 % 28 d (OECD 301E)

12.3. Bioaccumulative potential
Bioaccumulative potential  Will not bio-accumulate.
Bioconcentration factor (BCF)  Value: < 100
Comments, BCF  Log Pow < 3

12.4. Mobility in soil
Mobility  The product is water soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment
PBT assessment results  This substance is not classified as PBT or vPvB.

12.6. Other adverse effects
Other adverse effects / Remarks  None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Specify the appropriate methods of disposal  Confirm disposal procedures with environmental engineer and local regulations. Absorb in vermiculite or dry sand and dispose of at a licenced hazardous waste collection point. Liquid components can be disposed of by incineration.

Product classified as hazardous waste  No
Packaging classified as hazardous waste  No
SECTION 14: Transport information

14.1. UN number
Comments: Not dangerous goods in the meaning of ADR/RID, ADNR, IMDG-Code, ICAO/IATA-DGR

14.2. UN proper shipping name

14.3. Transport hazard class(es)

14.4. Packing group

14.5. Environmental hazards

14.6. Special precautions for user

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

SECTION 15: Regulatory information

EC no. 203-919-7

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


Legislation and regulations: Dangerous Substance Directive 67/548/EEC.

15.2. Chemical safety assessment

SECTION 16: Other information

Responsible for safety data sheet: Fred Holmberg & Co AB