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

1.1 Product identifier

Ethosat 500
500 g/l Ethofumesate CAS 26225-79-6

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

Relevant identified uses of the substance or mixture:
Herbicide

Uses advised against:
Not applicable

1.3 Details of the supplier of the safety data sheet

Adama Agricultural Solutions UK Ltd, Unit 15, Thatcham Business Village Colthrop Way, Thatcham Berkshire RG19 4LW, UK
Telephone: 01635 860555, Fax: 01635 861555
ukenquiries@adama.com

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone

Emergency information services / official advisory body:
National Chemical Emergency Centre (UK): 01865 407333 (24 hours)

Telephone number of the company in case of emergencies:
Tel.: --

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Hazard class</th>
<th>Hazard category</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Chronic</td>
<td>2</td>
<td>H411-Toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

2.1.2 Classification according to Directives 67/548/EEC and 1999/45/EC (including amendments)

N, Dangerous for the environment, R51/53

2.2 Label elements
2.2.1 Labeling according to Regulation (EC) 1272/2008 (CLP)

**Hazard statement**

H411-Toxic to aquatic life with long lasting effects.

P102-Keep out of reach of children.

P501-Dispose of contents/container to an approved waste disposal plant.

EUH401-To avoid risks to human health and the environment, comply with the instructions for use.

**2.3 Other hazards**
The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006.
The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006.

### SECTION 3: Composition/information on ingredients

**Formulation:**
Suspension concentrate

**3.1 Substance**
n.a.

**3.2 Mixture**

<table>
<thead>
<tr>
<th>Ethofumesate (ISO)</th>
<th>--</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration number (REACH)</td>
<td>607-314-00-2</td>
</tr>
<tr>
<td>Index</td>
<td>247-525-3</td>
</tr>
<tr>
<td>EINECS, ELINCS, NLP</td>
<td>CAS 26225-79-6</td>
</tr>
<tr>
<td>content %</td>
<td>40-50</td>
</tr>
<tr>
<td>Classification according to Directive 67/548/EEC</td>
<td>Dangerous for the environment, N, R51</td>
</tr>
<tr>
<td>Classification according to Regulation (EC) 1272/2008 (CLP)</td>
<td>Aquatic Chronic 2, H411</td>
</tr>
</tbody>
</table>
SECTION 4: First aid measures

4.1 Description of first aid measures

**Inhalation**
Remove person from danger area.
Supply person with fresh air and consult doctor according to symptoms.

**Skin contact**
Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

**Eye contact**
Remove contact lenses. Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

**Ingestion**
Rinse the mouth thoroughly with water.
Give copious water to drink - consult doctor immediately.
Never pour anything into the mouth of an unconscious person!

4.2 Most important symptoms and effects, both acute and delayed
If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

4.3 Indication of any immediate medical attention and special treatment needed
Symptomatic treatment
Antidote: None known

SECTION 5: Firefighting measures

5.1 Extinguishing media

**Suitable extinguishing media**
Water jet spray/foam/CO2/dry extinguisher

**Unsuitable extinguishing media**
High volume water jet

5.2 Special hazards arising from the substance or mixture
In case of fire the following can develop:
Oxides of carbon
Oxides of nitrogen
Oxides of sulphur
Oxides of phosphorus
Hydrogen chloride
Toxic gases
5.3 Advice for firefighters
In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.
According to size of fire
Full protection, if necessary
Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Ensure sufficient supply of air.
Avoid contact with eyes or skin.
If applicable, caution - risk of slipping

6.2 Environmental precautions
If leakage occurs, dam up.
Resolve leaks if this possible without risk.
Prevent surface and ground-water infiltration, as well as ground penetration.
Prevent from entering drainage system.
If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up
Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13.
Fill the absorbed material into lockable containers.

6.4 Reference to other sections
For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling
7.1.1 General recommendations
Ensure good ventilation.
Avoid contact with eyes or skin.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Observe directions on label and instructions for use.
Use working methods according to operating instructions.

7.1.2 Notes on general hygiene measures at the workplace
General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities
Keep out of access to unauthorised individuals.
Observe regulations for keeping separated.
Store product closed and only in original packing.
Not to be stored in gangways or stair wells. Under all circumstances prevent penetration into the soil. Store at room temperature. Do not store over 54°C.

**7.3 Specific end use(s)**

No information available at present.

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Propane-1,2-diol</th>
<th>Content %:</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL-TWA:</td>
<td>150 ppm (474 mg/m³) (total, vapour and particulates), 10 mg/m³ (particulates)</td>
<td>WEL-STEL: ---</td>
</tr>
</tbody>
</table>

**Notes**

- **WEL-TWA** = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period)
- **WEL-STEL** = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period)
- **BMGV** = Biological monitoring guidance value EH40. **BGW** = "Biologischer Grenzwert" (biological limit value, Germany)
- **Other information:** Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
- **= The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

#### Propane-1,2-diol

<table>
<thead>
<tr>
<th>Area of application</th>
<th>Exposure route / Environmental compartment</th>
<th>Effect on health</th>
<th>Descriptor</th>
<th>Value</th>
<th>Unit</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers / employees</td>
<td>Human - inhalation</td>
<td>Long term, systemic effects</td>
<td>DNEL</td>
<td>168</td>
<td>mg/m³</td>
<td></td>
</tr>
<tr>
<td>Workers / employees</td>
<td>Human - inhalation</td>
<td>Long term, local effects</td>
<td>DNEL</td>
<td>10</td>
<td>mg/m³</td>
<td></td>
</tr>
<tr>
<td>Consumer</td>
<td>Human - dermal</td>
<td>Long term, systemic effects</td>
<td>DNEL</td>
<td>213</td>
<td>mg/kg</td>
<td></td>
</tr>
<tr>
<td>Consumer</td>
<td>Human - inhalation</td>
<td>Long term, systemic effects</td>
<td>DNEL</td>
<td>50</td>
<td>mg/m³</td>
<td></td>
</tr>
<tr>
<td>Consumer</td>
<td>Human - oral</td>
<td>Long term, systemic effects</td>
<td>DNEL</td>
<td>85</td>
<td>mg/kg</td>
<td></td>
</tr>
<tr>
<td>Consumer</td>
<td>Human - inhalation</td>
<td>Long term, local effects</td>
<td>DNEL</td>
<td>10</td>
<td>mg/m³</td>
<td></td>
</tr>
<tr>
<td>Environment - freshwater</td>
<td></td>
<td></td>
<td>PNEC</td>
<td>260</td>
<td>mg/l</td>
<td></td>
</tr>
<tr>
<td>Environment - marine</td>
<td></td>
<td></td>
<td>PNEC</td>
<td>28</td>
<td>mg/l</td>
<td></td>
</tr>
<tr>
<td>Environment - sewage treatment plant</td>
<td></td>
<td></td>
<td>PNEC</td>
<td>2000</td>
<td>mg/l</td>
<td></td>
</tr>
<tr>
<td>Environment - sediment, freshwater</td>
<td></td>
<td></td>
<td>PNEC</td>
<td>572</td>
<td>mg/kg</td>
<td></td>
</tr>
</tbody>
</table>
8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction. If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn. Applies only if maximum permissible exposure values are listed here.

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable. Wash hands before breaks and at end of work. Keep away from food, drink and animal feedingsuffs. Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:
Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:
Chemical resistant protective gloves (EN 374).
If applicable
Protective Neoprene® / polychloroprene gloves (EN 374).
Protective nitrile gloves (EN 374)
Protective PVC gloves (EN 374)
Minimum layer thickness in mm:
0,5
Permeation time (penetration time) in minutes:
120
The breakthrough times determined in accordance with EN 374 Part 3 were not obtained under practical conditions. The recommended maximum wearing time is 50% of breakthrough time.
Protective hand cream recommended.

Skin protection - Other:
Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments)

Respiratory protection:
Normally not necessary.
with formation of mist.
Filter A2 P2 (EN 14387), code colour brown, white
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
Not applicable
Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

8.2.3 Environmental exposure controls
No information available at present.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
Physical state: Liquid
Colour: Light, Beige
Odour: Sweet
Odour threshold: Not determined
pH-value: 7.1 (CIPAC MT 75.3)
Melting point/freezing point: Not determined
Initial boiling point and boiling range: Not determined
Flash point: Not determined
Evaporation rate: Not determined
Flammability (solid, gas): Not determined
Lower explosive limit: n.a.
Upper explosive limit: n.a.
Vapour pressure: Not determined
Vapour density (air = 1): 1.13 (Regulation (EC) 440/2008 A.3. (RELATIVE DENSITY), relative density )
Density: Not determined
Bulk density: Not determined
Solubility(ies): Not determined
Water solubility: Not determined
Partition coefficient (n-octanol/water): Not determined
Auto-ignition temperature: 480 °C (Regulation (EC) 440/2008 A.15. (AUTO-IGNITION TEMPERATURE (LIQUIDS AND GASES)))
Decomposition temperature: Not determined
Viscosity: 135 mPas (OECD 114 (Viscosity of Liquids), 25 s^-1 )
Viscosity: 42 mPas (OECD 114 (Viscosity of Liquids), 500 s^-1 )
Explosive properties: Product is not explosive.
Oxidising properties: No

9.2 Other information
Miscibility: Not determined
Fat solubility / solvent: Not determined
Conductivity: Not determined
Surface tension: Not determined
SECTION 10: Stability and reactivity

10.1 Reactivity
The product has not been tested.

10.2 Chemical stability
Stable with proper storage and handling.

10.3 Possibility of hazardous reactions
No dangerous reactions are known.

10.4 Conditions to avoid
See also section 7.
Protect from frost.
Strong heat

10.5 Incompatible materials
See also section 7.
Avoid contact with strong oxidizing agents.
Avoid contact with strong alkalis.
Avoid contact with strong acids.

10.6 Hazardous decomposition products
See also section 5.2
No decomposition when used as directed.

SECTION 11: Toxicological information

Possibly more information on health effects, see Section 2.1 (classification).

<table>
<thead>
<tr>
<th>Ethosat 500</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity, by oral route:</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>mg/kg</td>
<td>Rat</td>
<td>OECD 423 (Acute Oral Toxicity - Acute Toxic Class Method)</td>
<td></td>
</tr>
<tr>
<td>Acute toxicity, by dermal route:</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>mg/kg</td>
<td>Rat</td>
<td>OECD 402 (Acute Dermal Toxicity)</td>
<td></td>
</tr>
<tr>
<td>Acute toxicity, by inhalation:</td>
<td>LC50</td>
<td>&gt;4,29</td>
<td>mg/l</td>
<td>Rat</td>
<td>OECD 403 (Acute Inhalation Toxicity)</td>
<td>Maximum achievable concentration.</td>
</tr>
<tr>
<td>Skin corrosion/irritation:</td>
<td></td>
<td></td>
<td></td>
<td>Rabbit</td>
<td>OECD 404 (Acute Dermal Irritation/Corrosion)</td>
<td>Not irritant</td>
</tr>
<tr>
<td>Serious eye damage/irritation:</td>
<td></td>
<td></td>
<td></td>
<td>Rabbit</td>
<td>OECD 405 (Acute Eye Irritation/Corrosion)</td>
<td>Not irritant</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation:</td>
<td></td>
<td></td>
<td></td>
<td>Guinea pig</td>
<td>OECD 406 (Skin Sensitisation)</td>
<td>Not sensitizising</td>
</tr>
<tr>
<td>Germ cell mutagenicity:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n.d.a.</td>
<td></td>
</tr>
<tr>
<td>Carcinogenicity:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n.d.a.</td>
<td></td>
</tr>
</tbody>
</table>
Ethosat 500

| Reproductive toxicity: | n.d.a. |
| Aspiration hazard: | n.d.a. |
| Respiratory tract irritation: | n.d.a. |
| Repeated dose toxicity: | n.d.a. |
| Symptoms: | n.d.a. |
| Other information: | Classification based on toxicological analyses. |

### Ethofumesate (ISO)

<table>
<thead>
<tr>
<th>Toxicity/effect</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity, by oral route:</td>
<td>LD50</td>
<td>&gt;7500</td>
<td>mg/kg</td>
<td>Rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute toxicity, by dermal route:</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>mg/kg</td>
<td>Rabbit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute toxicity, by dermal route:</td>
<td>LD50</td>
<td>&gt;5000</td>
<td>mg/kg</td>
<td>Rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute toxicity, by inhalation:</td>
<td>LD50</td>
<td>&gt;160</td>
<td>mg/m³/4h</td>
<td>Rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation:</td>
<td></td>
<td></td>
<td></td>
<td>Rabbit</td>
<td></td>
<td>Not irritant</td>
</tr>
<tr>
<td>Serious eye damage/irritation:</td>
<td></td>
<td></td>
<td></td>
<td>Rabbit</td>
<td></td>
<td>Not irritant</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation:</td>
<td></td>
<td></td>
<td></td>
<td>Guinea pig</td>
<td></td>
<td>No (skin contact)</td>
</tr>
<tr>
<td>Germ cell mutagenicity:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Negative</td>
</tr>
<tr>
<td>Carcinogenicity:</td>
<td>NOAEL</td>
<td>8.3</td>
<td>mg/kg/d</td>
<td>Rat</td>
<td></td>
<td>100ppm (oral)</td>
</tr>
<tr>
<td>Reproductive toxicity:</td>
<td>NOAEL</td>
<td>1000</td>
<td>mg/kg/d</td>
<td>Rat</td>
<td></td>
<td>100ppm</td>
</tr>
<tr>
<td>Reproductive toxicity:</td>
<td>NOAEL</td>
<td>1000</td>
<td>mg/kg/d</td>
<td>Rabbit</td>
<td></td>
<td>200ppm - 10mg/kg/d (oral)</td>
</tr>
<tr>
<td>Repeated dose toxicity:</td>
<td>NOAEL</td>
<td>28</td>
<td>d</td>
<td>Rat</td>
<td></td>
<td>200ppm - 10mg/kg/d (oral)</td>
</tr>
<tr>
<td>Repeated dose toxicity:</td>
<td>NOAEL</td>
<td>90</td>
<td>d</td>
<td>Rat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Symptoms:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ataxia, breathing difficulties, headaches, gastrointestinal disturbances, dizziness, nausea</td>
</tr>
<tr>
<td>Other information:</td>
<td>ADI</td>
<td>0.4</td>
<td>mg/kg</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Propane-1,2-diol

<table>
<thead>
<tr>
<th>Toxicity/effect</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity, by oral route:</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>mg/kg</td>
<td>Rat</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Acute toxicity, by dermal route:

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50</td>
<td>&gt;2000</td>
<td>mg/kg</td>
<td>Rabbit</td>
</tr>
</tbody>
</table>

### Acute toxicity, by inhalation:

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50</td>
<td>317.042</td>
<td>mg/l/2h</td>
<td>Rabbit</td>
</tr>
</tbody>
</table>

### Skin corrosion/irritation:

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Organism</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50</td>
<td>317.042</td>
<td>Rabbit (Draize-Test)</td>
</tr>
</tbody>
</table>

### Serious eye damage/irritation:

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Organism</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD 405</td>
<td>Not irritant</td>
<td>Rabbit</td>
</tr>
</tbody>
</table>

### Respiratory or skin sensitisation:

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Organism</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD 471</td>
<td>Not sensitizising</td>
<td>Guinea pig</td>
</tr>
</tbody>
</table>

### Germ cell mutagenicity:

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Value</th>
<th>Organism</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD 471</td>
<td>Not sensitizising</td>
<td>Human being</td>
</tr>
</tbody>
</table>

### Symptoms:

- eyes, reddened, mucous membrane irritation, dizziness, watering eyes, nausea

### SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

<table>
<thead>
<tr>
<th>Ethosat 500</th>
<th>Endpoint</th>
<th>Time</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish:</td>
<td>LC50</td>
<td>96h</td>
<td>36,6</td>
<td>mg/l</td>
<td>OECD 203</td>
<td>(Fish, Acute Toxicity Test)</td>
<td></td>
</tr>
<tr>
<td>Toxicity to daphnia:</td>
<td>NOEC/NO EL</td>
<td></td>
<td>11,1</td>
<td>mg/l</td>
<td>OECD 202</td>
<td>(Daphnia sp. Acute Immobilisation Test)</td>
<td></td>
</tr>
<tr>
<td>Toxicity to algae:</td>
<td>ErC50</td>
<td>72h</td>
<td>12,42</td>
<td>mg/l</td>
<td>OECD 201</td>
<td>(Alga, Growth Inhibition Test)</td>
<td></td>
</tr>
<tr>
<td>Toxicity to algae:</td>
<td>EbC50</td>
<td>72h</td>
<td>6,65</td>
<td>mg/l</td>
<td>OECD 201</td>
<td>(Alga, Growth Inhibition Test)</td>
<td></td>
</tr>
</tbody>
</table>

**Persistance and degradability:** n.d.a.

**Bioaccumulative potential:** n.d.a.
Ethosat 500

<table>
<thead>
<tr>
<th>Mobility in soil:</th>
<th>n.d.a.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Results of PBT and vPvB assessment</td>
<td>n.d.a.</td>
</tr>
<tr>
<td>Other adverse effects:</td>
<td>n.d.a.</td>
</tr>
</tbody>
</table>

**Ethofumesate (ISO)**

<table>
<thead>
<tr>
<th>Toxicity/effect</th>
<th>Endpoint</th>
<th>Time</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish:</td>
<td>LC50</td>
<td>96h</td>
<td>22</td>
<td>mg/l</td>
<td>Leuciscus idus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to fish:</td>
<td>LC50</td>
<td>96h</td>
<td>26,5</td>
<td>mg/l</td>
<td>Oncorhynchus mykiss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to fish:</td>
<td>NOEC/NOEL</td>
<td>21d</td>
<td>18,8</td>
<td>mg/l</td>
<td>Oncorhynchus mykiss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to fish:</td>
<td>NOEC/NOEL</td>
<td></td>
<td>0,83</td>
<td>mg/l</td>
<td>Oncorhynchus mykiss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to fish:</td>
<td>NOEC/NOEL</td>
<td></td>
<td>9,3</td>
<td>mg/l</td>
<td>Leuciscus idus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to fish:</td>
<td>NOEC/NOEL</td>
<td></td>
<td>9,7</td>
<td>mg/l</td>
<td>Oncorhynchus mykiss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to daphnia:</td>
<td>EC50</td>
<td>48h</td>
<td>28,1</td>
<td>mg/l</td>
<td>Daphnia magna</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to daphnia:</td>
<td>NOEC/NOEL</td>
<td></td>
<td>1,0</td>
<td>mg/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to daphnia:</td>
<td>NOEC/NOEL</td>
<td></td>
<td>13</td>
<td>mg/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to daphnia:</td>
<td>LOEC/LOEL</td>
<td>21d</td>
<td>3,2</td>
<td>mg/l</td>
<td>Daphnia magna</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toxicity to algae:</td>
<td>EC50</td>
<td>72h</td>
<td>10</td>
<td>mg/l</td>
<td>Scenedesmus subspicatus</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Persistence and degradability: | <70 | % |
| Persistence and degradability: | DT50 | 10-122 | d | (lab) |
| Persistence and degradability: | DT50 | 31 | h | Active substance non-resistant to UV light. |
| Persistence and degradability: | DT50 | 84-407 | d | (field) |
|Mobility in soil: | Koc | 203 | | Low |

**Propane-1,2-diol**

<table>
<thead>
<tr>
<th>Toxicity/effect</th>
<th>Endpoint</th>
<th>Time</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish:</td>
<td>LC50</td>
<td>96h</td>
<td>&gt;1000</td>
<td>mg/l</td>
<td>Pimephales promelas</td>
<td>OECD 203 (Fish, Acute Toxicity Test)</td>
<td></td>
</tr>
<tr>
<td>Toxicity to daphnia:</td>
<td>EC50</td>
<td>48h</td>
<td>&gt;1000</td>
<td>mg/l</td>
<td>Daphnia magna</td>
<td>OECD 202 (Daphnia sp. Acute Immobilisation Test)</td>
<td></td>
</tr>
</tbody>
</table>
## Toxicity to algae:

<table>
<thead>
<tr>
<th>EC50</th>
<th>72h</th>
<th>&gt;1000</th>
<th>mg/l</th>
<th>Selenastrum capricornutum</th>
<th>OECD 201 (Alga, Growth Inhibition Test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Persistence and degradability:</td>
<td>28d</td>
<td>81</td>
<td>%</td>
<td>OECD 301 F (Ready Biodegradability - Manometric Respirometry Test)</td>
<td></td>
</tr>
<tr>
<td>Persistence and degradability:</td>
<td>28d</td>
<td>87-92</td>
<td>%</td>
<td>OECD 301 C (Ready Biodegradability - Modified MITI Test (I))</td>
<td></td>
</tr>
<tr>
<td>Bioaccumulative potential:</td>
<td>BCF</td>
<td>&lt;100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Toxicity to bacteria:

<table>
<thead>
<tr>
<th>EC50</th>
<th>3h</th>
<th>&gt;1000</th>
<th>mg/l</th>
<th>activated sludge</th>
<th>OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation))</th>
</tr>
</thead>
<tbody>
<tr>
<td>IC50</td>
<td>30min</td>
<td>&gt;1000</td>
<td>mg/l</td>
<td>activated sludge</td>
<td></td>
</tr>
</tbody>
</table>

## Other information:

- COD: 1,585 mg/l
- Water solubility: Mixable

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product. Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2001/118/EC, 2001/119/EC, 2001/573/EC)

02 01 08 agrochemical waste containing dangerous substances
07 04 01 aqueous washing liquids and mother liquors
20 01 19 pesticides

Recommendation:
Pay attention to local and national official regulations
Approved rubbish dump for special refuse
E.g. suitable incineration plant.
E.g. dispose at suitable refuse site.

For contaminated packing material
Pay attention to local and national official regulations
Empty container completely.
Dispose of packaging that cannot be cleaned in the same manner as the substance.
15 01 02 plastic packaging

SECTION 14: Transport information

General statements
UN number: 3082

Transport by road/by rail (ADR/RID)
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ETHOFUMESATE)
Transport hazard class(es): 9
Packing group: III
Classification code: M6
LQ (ADR 2013): 5 L
LQ (ADR 2009): 7
Environmental hazards: environmentally hazardous
Tunnel restriction code: E

Transport by sea (IMDG-code)
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ETHOFUMESATE)
Transport hazard class(es): 9
Packing group: III
EmS: F-A, S-F
Marine Pollutant: Yes
Environmental hazards: environmentally hazardous

Transport by air (IATA)
UN proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (ETHOFUMESATE)
Transport hazard class(es): 9
Packing group: III
Environmental hazards: environmentally hazardous

Special precautions for user
Persons employed in transporting dangerous goods must be trained.
All persons involved in transporting must observe safety regulations.
Precautions must be taken to prevent damage.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Freighted as packaged goods rather than in bulk, therefore not applicable.
Minimum amount regulations have not been taken into account.
Danger code and packing code on request.
Comply with special provisions.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
National rules/regulation for the compliance with maximum quantities with regard to phosphates and or phosphorous compounds must be observed and complied with.

For classification and labelling see Section 2.

Observe restrictions:
Comply with trade association/occupational health regulations.

15.2 Chemical safety assessment
A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

These details refer to the product as it is delivered.
Revised sections: 1 - 16
Observe plant protection medium law.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

<table>
<thead>
<tr>
<th>Classification in accordance with regulation (EC) No. 1272/2008 (CLP)</th>
<th>Evaluation method used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Chronic 2, H411</td>
<td>Classification according to calculation procedure.</td>
</tr>
</tbody>
</table>

The following phrases represent the posted R phrases / H phrases, Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

51 Toxic to aquatic organisms.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
53 May cause long-term adverse effects in the aquatic environment.
H411 Toxic to aquatic life with long lasting effects.

Aquatic Chronic — Hazardous to the aquatic environment - chronic

Any abbreviations and acronyms used in this document:

AC Article Categories
acc., acc. to according, according to
ACGIH American Conference of Governmental Industrial Hygienists
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOEL Acceptable Operator Exposure Level
AOX Adsorbable organic halogen compounds
approx. approximately
Art. Art. no. Article number
ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
BaUA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BCF Bioconcentration factor
Ethosat 500

BGV  Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)
BHT  Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)
BMGV Biological monitoring guidance value (EH40, UK)
BOD  Biochemical oxygen demand
BSEF  Bromine Science and Environmental Forum
bw  body weight
CAS  Chemical Abstracts Service
CEC  Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids
CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
CIPAC Collaborative International Pesticides Analytical Council
CLP  Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR  carcinogenic, mutagenic, reproductive toxic
COD  Chemical oxygen demand
CTFA  Cosmetic, Toiletry, and Fragrance Association
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
dw  dry weight
e.g.  for example (abbreviation of Latin 'exempli gratia'), for instance
EC  European Community
ECHA European Chemicals Agency
EEA European Economic Area
EEC European Economic Community
EINECS  European Inventory of Existing Commercial Chemical Substances
ELINCS European List of Notified Chemical Substances
EN  European Norms
EPA United States Environmental Protection Agency (United States of America)
ERC Environmental Release Categories
ES  Exposure scenario
e.\textsuperscript{c}  et cetera
EU  European Union
EWC European Waste Catalogue
Fax.  Fax number
gen.  general
GHS  Globally Harmonized System of Classification and Labelling of Chemicals
GWP  Global warming potential
HET-CAM Hen's Egg Test - Chorionallantoic Membrane
HGWP Halocarbon Global Warming Potential
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC  Intermediate Bulk Container
IBC (Code) International Bulk Chemical (Code)
IC  Inhibitory concentration
IMDG-code International Maritime Code for Dangerous Goods
incl.  including, inclusive
IUCLID International Uniform Chemical Information Database
LC  lethal concentration
LC50  lethal concentration 50 percent kill
LCLo  lowest published lethal concentration
LD  Lethal Dose of a chemical
LD50  Lethal Dose, 50% kill
LDLo  Lethal Dose Low
LOAEL  Lowest Observed Adverse Effect Level
LOEC  Lowest Observed Effect Concentration
LOEL  Lowest Observed Effect Level
LQ  Limited Quantities
MARPOL  International Convention for the Prevention of Marine Pollution from Ships
n.a.  not applicable
n.av.  not available
n.c.  not checked
n.d.a.  no data available
NIOSH  National Institute of Occupational Safety and Health (United States of America)
NOAEC  No Observed Adverse Effective Concentration
NOAEL  No Observed Adverse Effect Level
NOEC  No Observed Effect Concentration
NOEL  No Observed Effect Level
OECD  Organisation for Economic Co-operation and Development
org.  organic
PAH  polycyclic aromatic hydrocarbon
PBT  persistent, bioaccumulative and toxic
PC  Chemical product category
PE  Polyethylene
PEC  Predicted No Effect Concentration
POCP  Photochemical ozone creation potential
ppm  parts per million
PROC  Process category
PTFE  Polytetrafluoroethylene
REACH  Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No.  9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
RID  Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SADT  Self-Accelerating Decomposition Temperature
SAR  Structure Activity Relationship
SU  Sector of use
SVHC  Substances of Very High Concern
Tel.  Telephone
ThOD  Theoretical oxygen demand
TOC  Total organic carbon
TRGS  Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)
UN RTDG  United Nations Recommendations on the Transport of Dangerous Goods
VbF  Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))
VOC  Volatile organic compounds
vPvB  very persistent and very bioaccumulative
WHO  World Health Organization
wwt  wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.
No responsibility.

These statements were made by:
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