



# SAFETY DATA SHEET

according to Regulation 1907/2006/EC [REACH]

Revised: 01.06.2012

Printing date: 01.06.2012

Page 01 of 04

## 1. Identification of the Substance / Mixture and of the Company

**Trade Name:** TYFOCOR® L-eco  
**Relevant identified uses:** Antifreeze / anticorrosion fluid for thermotechnical systems, heat-transfer fluid.  
**Company:** TYFOROP Chemie GmbH, Anton-Rée-Weg 7, D - 20537 Hamburg  
Tel.: +49 (0)40 -20 94 97-0; Fax: -20 94 97-20; e-mail: info@tyfo.de  
Contact person: Dr. Frank Hillerns  
**Emergency information:** Tel.: +49 (0)40 -20 94 97-24 (Mon - Fri from 8 am to 5 pm)

## 2. Hazards Identification

**Classification of the substance or mixture:** Classification (67/548/EEC, 1999/45/EC): Not a hazardous substance or mixture according to EC directives 67/548/EEC or 1999/45/EC.  
**Label elements:** The product is not subject to labelling according to EC directives.  
**Other Hazards:** None known.

## 3. Composition / Information on Ingredients

**Chemical nature:** 1,2-propylene glycol. Inhibitors.  
**Hazardous components:** No dangerous ingredients according to Regulation (EC) No. 1907/2006.

## 4. First-Aid Measures

**Description of first aid measures:**  
**General advice:** Remove contaminated clothing.  
**If inhaled:** If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention.  
**On skin contact:** Wash thoroughly with soap and water.  
**On contact with eyes:** Wash affected eyes for at least 15 minutes under running water with eyelids held open.  
**On ingestion:** Rinse mouth and then drink plenty of water.  
**Most important symptoms and effects, both acute and delayed:** None known.  
**Indication of any immediate medical attention and special treatment needed:** None known.

## 5. Fire-fighting Measures

**Extinguishing media:** Suitable extinguishing media: Water spray, alcohol-resistant foam, dry powder or carbon dioxide (CO<sub>2</sub>).  
**Special hazards arising from the substance or mixture:** Special hazards during firefighting: Build-up of dangerous/toxic fumes possible in cases of fire/high temperature. Exposure to decomposition products may be a hazard to health.  
**Advice for firefighters:** Special protective equipment for firefighters: In case of fire, wear a self contained breathing apparatus.  
**Further information:** Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

## 6. Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures:

Ventilate the area. Remove all sources of ignition. Avoid inhalation of vapour or mist.  
Avoid contact with skin and eyes.

**Environmental precautions:** Should not be released into the environment. If the product contaminates rivers and lakes or drains inform respective authorities.

**Methods and material for containment and cleaning up:** Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13).

**Reference to other sections:** See sections 7, 8, 11, 12 and 13.

## 7. Handling and Storage

### Precautions for safe handling:

**Advice on safe handling:** Avoid contact with skin and eyes. Do not breathe vapours or spray mist. Smoking, eating and drinking should be prohibited in the application area. For personal protection see section 8.

**Advice on protection against fire/explosion:** Normal measures for preventive fire protection. Keep away from sources of ignition. No smoking.

### Conditions for safe storage, including any incompatibilities:

**Requirements f. storage areas and containers:** Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place.

**Advice on common storage:** Keep away from food, drink and animal feedingstuffs. Incompatible with oxidizing agents.

**Storage temperature:** > -25 °C.

**Specific end uses:** No data available.

## 8. Exposure Controls / Personal Protection

**Control parameters:** Component: Propane-1,2-diol. CAS-No. 57-55-6. Control parameter: TWA: 10 mg/m<sup>3</sup>. Basis: GB EH40. Update: 2005-04-06. Other information on limit values see section 16.

### Exposure controls:

**Engineering measures:** Provide sufficient air exchange and/or exhaust in work rooms.

### Personal protective equipment:

**Respiratory protection:** Respiratory protection in case of vapour/aerosol release. Particle filter with medium efficiency for solid and liquid particles (e. g. EN 143 or 149, Type P2 or FFP2).

**Hand protection:** Chemical resistant protective gloves (EN 374). Recommended: Nitrile rubber, protective index 6. Manufacturers directions for use should be observed because of great diversity of types.

**Eye protection:** Safety glasses with side-shields (frame goggles, EN 166).

**Hygiene measures:** When using do not eat, drink or smoke. Avoid contact with skin, eyes and clothing. Wash hands before breaks and at the end of workday. Wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice. Wearing of closed work clothing is recommended.

### Environmental exposure controls:

**General advice:** Should not be released into the environment. If the product contaminates rivers and lakes or drains inform respective authorities.

## 9. Physical and Chemical Properties

### Information on basic physical and chemical properties:

<b>Form:</b>	Liquid.
<b>Colour:</b>	Colourless.
<b>Odour:</b>	Almost odourless.
<b>Flash point:</b>	> 100 °C.
<b>Ignition temperature:</b>	No data available.
<b>Lower explosion limit:</b>	No data available.
<b>Upper explosion limit:</b>	No data available.
<b>Explosive properties:</b>	No data available.
<b>pH value (20 °C):</b>	8.0 - 9.0.
<b>Boiling point/boiling range:</b>	>150 °C.
<b>Solidification temperature:</b>	<-50 °C.
<b>Vapour pressure (20 °C):</b>	No data available.
<b>Density (20 °C):</b>	1.044 - 1.048 g/cm <sup>3</sup> .
<b>Solubility in water:</b>	Soluble.
<b>Solubility in other solvents:</b>	No data available.
<b>Viscosity (kinematic, 20 °C):</b>	70 - 80 mm <sup>2</sup> /s.
<b>Other information:</b>	
<b>Miscibility with water:</b>	Miscible in all proportions.

## 10. Stability and Reactivity

<b>Reactivity:</b>	No data available.
<b>Chemical stability:</b>	The product is chemically stable if stored and applied as directed.
<b>Possibility of hazardous reactions:</b>	No hazardous reactions if stored and applied as directed.
<b>Conditions to avoid:</b>	Keep away from heat and sources of ignition.
<b>Incompatible materials:</b>	Oxidizing agents.
<b>Hazardous decomposition products:</b>	Hazardous decomposition products: Build-up of dangerous/toxic fumes possible in cases of fire/high temperature. No decomposition if stored and applied as directed. Thermal decomposition: No decomposition if stored and applied as directed.

## 11. Toxicological Information

### Information on toxicological effects:

<b>Acute toxicity:</b>	Experimental/calculated data: LD50 rat (oral): >2000 mg/kg. LD50 rabbit (dermal): >2000 mg/kg. Literature data.
<b>Irritation:</b>	Experimental/calculated data: Skin corrosion/irritation rabbit: Non-irritant (OECD Guideline 404). Serious eyes damages/irritation rabbit: Non-irritant (OECD Guideline 405).
<b>Other information:</b>	The product has not been tested. The statement has been derived from the properties of the individual components. Health injuries are not known or expected under normal use.

## 12. Ecological Information

<b>Toxicity:</b>	Toxicity to fish: LC50 (96 h): >100 mg/l, <i>Oncorhynchus mykiss</i> . Aquatic invertebrates: EC50 (48 h): >100 mg/l. Aquatic plants: EC50 (72 h): >100 mg/l. Microorganisms/effect on activated sludge: Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.
<b>Persistence and degradability:</b>	Elimination information: >70 % DOC reduction (28d) (OECD 301 A, new version). Evaluation: Readily biodegradable.

## 12. Ecological Information - Continuation

**Bioaccumulative potential:** Accumulation in organisms is not to be expected.

**Mobility in soil (and other compartments if available):** Assessment transport between environmental compartments:  
The substance will not evaporate into the atmosphere from the water surface. Adsorption to solid phase is not expected.

**Results of PBT and vPvB assessment:** According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

**Additional information:** Other ecotoxicological advice: Do not release untreated into natural waters. The product has not been tested. The statements on ecotoxicology have been derived from the properties of the individual components.

## 13. Disposal Considerations

**Waste treatment methods:**

**Advice on disposal and packaging:** Disposal: In accordance with local and national regulations.

**Disposal of uncleaned packaging:** Uncontaminated packs can be re-used. Packs that cannot be cleaned should be disposed of in the same way as the contents.

## 14. Transport Information

**Land transport - ADR, RID:** Not classified as a dangerous good under transport regulations.

**Inland waterway transp.- ADNR:** Not classified as a dangerous good under transport regulations.

**Sea transport - IMDG:** Not classified as a dangerous good under transport regulations.

**Air transport - ICAO/IATA:** Not classified as a dangerous good under transport regulations.

## 15. Regulatory Information

**Safety, health and environmental regulations/legislation specific for the substance/mixture:**

**National Regulations:** -.

**Chemical Safety Assessment:** No data available.

## 16. Other Information

Vertical lines in the left hand margin indicate an amendment from the previous version.

This safety data sheet is intended to provide information and recommendations as to: 1. how to handle chemical substances and preparations in accordance with the essential requirements of safety precautions and physical, toxicological, and ecological data. 2. how to handle, store, use, and transport them safely.

No liability for damage occurred in connection with the use of this information or with the use, application, adaption, or processing of the products here described will be accepted. No liability will be accepted for damage indirectly incurred.

We provide this information and data according to our present level of knowledge and experience. No assurances concerning the characteristics of our product are hereby furnished.