

MATERIAL SAFETY DATA SHEET  
According to 91/155/EC

Printing date 01.09.2005

Reviewed on 01.09.2005

## 1 Identification of substance:

- Product details:
- Trade name: DEUTZ KUEHLSYSTEMSCHUTZ
- Application of the substance / the preparation: Antifreezing compound
- Manufacturer/Supplier:  
FUCHS EUROPE SCHMIERSTOFFE GMBH EXPORT DIVISION  
Friesenheimer Str. 15  
D-68169 Mannheim  
Tel: ++49 (0) 621/3701-0 (Switch Board)  
Fax: ++49 (0) 621/3701-570
- Informing department:  
Product safety department Tel: ++49 (0) 621/3701-333
- Emergency information:  
Tel: ++49 (0) 621/3701-333 or ++49 (0) 621/3701-0 (Switch Board)

## 2 Composition/Data on components:

- Chemical characterization
- Description: Mixture of glycol and inhibitors.

Dangerous components:	R-phrases	
1,2-Ethandiol		> 90 %
Xn; R 22		
Na-salt of carboxylic acid		2-3 %
Xn; R 63		

- Additional information  
For the wording of the listed risk phrases refer to section 16.

## 3 Hazards identification

- Hazard designation:  
By handling of mineral oil products and chemical products no particular hazard is known when normal precautions (item 7) and personal protective equipment (item 8) are kept.  
Xn Harmful
- Information pertaining to particular dangers for man and environment  
This product is water polluting; see item 12.  
R 22 Harmful if swallowed.
- Classification system  
The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.  
The classification results from the Conventional Method of 1999/45/EC concerning specific data of compounds.
- Additional information:  
This product is applied only as solution or emulsion in water.

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## 4 First aid measures

- General information  
Change clothes and shoes contaminated or soaked by the product.  
Never put rags contaminated by the product into cloth-pockets.
- After inhalation  
Supply fresh air; consult doctor in case of symptoms.  
(eventually by inhaling the overheated product)
- After skin contact The product is not skin irritating.
- After eye contact  
Rinse opened eye for several minutes under running water.
- After swallowing  
Rinse out mouth and then drink plenty of water.  
Instantly call for doctor.
- Information for doctor  
Symptomatic treatment (decontamination, vital functions), possibly  
administration of ethanol.

## 5 Fire fighting measures

- Suitable extinguishing agents  
CO<sub>2</sub>, extinguishing powder or water jet. Fight larger fires  
with water jet or alcohol-resistant foam.  
Use fire fighting measures that suit the environment.
- For safety reasons unsuitable extinguishing agents  
Water with a full water jet.
- Protective equipment:  
In case of fire fighting: wear self containing breathing apparatus
- Additional information  
Generally this product is not burnable on account of its water-content.  
Dispose of fire debris and contaminated fire fighting water in  
accordance with official regulations.

## 6 Accidental release measures

- Person-related safety precautions:  
Wear protective clothing.  
Particular danger of slipping on leaked/ spilled product.
- Environmental protection measures:  
Do not allow to enter drainage system, surface or ground water.  
Do not allow to enter the ground/ soil.
- Measures for cleaning/collecting:  
Absorb with liquid-binding material (sand, diatomite, acid binders,  
universal binders, sawdust).  
Dispose of the material collected according to regulations.

## 7 Handling and storage

- Handling

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- Information for safe handling:  
Ensure good ventilation/exhaustion at the workplace.  
Store in cool, dry place in tightly closed containers.  
Do not eat, drink or smoke when working with the product.  
Take usual precautions when handling mineral oil products or chemical products.
- Information about protection against explosions and fires:  
No special measures required.
- Storage
- Requirements to be met by storerooms and containers:  
Store only in unopened original containers.
- Information about storage in one common storage facility:  
Store away from foodstuffs.
- Further information about storage conditions:  
Local regulations concerning handling and storage of waterpolluting products have to be followed.

## 8 Exposure controls and personal protection

- Additional information about design of technical systems:  
No further data; see item 7.
- Components with critical values that require monitoring at the workplace:  
1,2-Ethandiol (50-99%)  
OES: Short-term value: 104\*\* mg/m<sup>3</sup>  
Long-term value: 10\* 52\*\* mg/m<sup>3</sup>  
\*particulate, IOELV, Sk \*\*vapour, New, IOELV, Sk
- Additional information:  
The lists that were valid during the compilation were used as basis.
- Personal protective equipment
- General protective and hygienic measures  
The usual precautionary measures should be adhered to in handling the chemicals and the mineral oil products.  
Keep away from foodstuffs, beverages and food.  
Wash hands during breaks and at the end of the work.  
Do not inhale gases / fumes / aerosols.  
Avoid close or long term contact with the skin.  
Do not carry cleaning cloths impregnated with the product in trouser pockets.
- Breathing equipment: Use breathing protection with high concentrations.
- Protection of hands:  
Protective gloves, where permitted in acc. to safety directions.
- Material of gloves  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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- Penetration time of glove material  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- For the permanent contact gloves made of the following materials are suitable:  
Nitrile rubber, NBR
- Eye protection: Safety glasses recommended during refilling.
- Body protection: Protective work clothing.

## 9 Physical and chemical properties:

## • General Information

- Form: Fluid
- Colour: Dark green
- Smell: Characteristic

	Value/Range	Unit	Method
• Change in condition			
• Melting point/Melting range:	< -18	° C	DIN ISO 3016
• Boiling point/Boiling range:	165	° C	ASTM D1120
• Flash point:	> 120	° C	EN ISO 2592
• Ignition temperature:	> 200	° C	DIN 51 794
• Decomposition temperature:	Not determined		
• Self-inflammability:	Product is not selfigniting.		
• Danger of explosion:	Product is not explosive.		
• Critical values for explosion:			
• Lower:	3	Vol %	
• Upper:	15	Vol %	
• Vapour pressure:	at 20 ° C	2 mbar	
• Density	at 15 ° C	1.12 g/cm <sup>3</sup>	DIN 51 757
• Solubility in / Miscibility with			
• Water:	Fully miscible		
• pH-value:	at 20 ° C	7.2	DIN 51 369
• Viscosity or Consistency-Class:			
• kinematic:	at 20 ° C	20-30 mm <sup>2</sup> /s	DIN 51 562

## 10 Stability and reactivity

- Thermal decomposition / conditions to be avoided:  
No decomposition if used according to specifications.
- Materials to be avoided: Powerful oxidising agent.

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- Dangerous reactions No dangerous reactions known
- Dangerous products of decomposition:  
No dangerous decomposition products known

## 11 Toxicological information

- Acute toxicity:  
LD/LC50 values that are relevant for classification:  
1,2-Ethandiol  
Oral: LD50: 5840 mg/kg (rat)  
Dermal: LD50: 9530 mg/kg (rabbit)
- Primary irritant effect:
  - on the skin: No irritant effect known.
  - on the eye: No irritant effect known.
- Sensitization: No sensitizing effect known.
- Other information (about experimental toxicology):  
Experiences in humans:  
Ethanediol:  
Lethal dose if swallowed approx. 1,5 g/kg body weight.  
Lethal dose approx. 90-110 g for adults, and correspondingly less for children.  
Smaller doses can result in: consciousness is affected, kidney damage, damage to the central nervous system.
- Additional toxicological information:  
Skin resorption hazard.  
Some studies in mice and rats have shown a harmful effect on the foetus after oral ingestion of high doses. These effects did not occur in a study on rabbits.  
The whole of the information available provides no indication of a carcinogenic effect.  
The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:  
Harmful

## 12 Ecological information:

- Information about elimination (persistence and degradability):
- Other information:  
Elimination information:  
Test method: OECD 301A/ ISO 7827  
Method of analysis: DOC reduction  
Degree of elimination: > 70% (5d)  
Evaluation: readily biodegradable
- Behaviour in environmental systems:
  - Mobility and bioaccumulation potential: No data available
- Ecotoxicological effects:
  - Behaviour in sewage processing plants:  
Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.
- General notes:  
German Water Endangering Class 1 (Self-assessment): slightly hazardous  
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for water.

Do not allow to reach ground water, water bodies or sewage system.

## 13 Disposal considerations

- Product:
- Recommendation  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.  
When storing used mineral oil products, ensure that the categories for waste oil and mixing instructions are observed.  
Delivery of waste oil only to officially authorized collectors.
- European waste catalogue 14 06 03: other solvents and solvent mixtures
  
- Uncleaned packagings:
- Recommendation:  
Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning. Small one-way packagings have to be disposed according to the local regulations.  
EWC 15 01 99.
- Recommended cleaning agent: Water, if necessary with cleaning agent.

## 14 Transport information

- Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)
- ADR/RID-GGVS/E Class: -
  
- Maritime transport IMDG/GGVSea:
- IMDG/GGVSea Class: -
- Marine pollutant: No
  
- Air transport ICAO-TI and IATA-DGR:
- ICAO/IATA Class: -
  
- Transport/Additional information:  
No dangerous good acc. to dangerous goods/ transport directions.

## 15 Regulatory information

- Designation according to EU guidelines:  
Observe the normal safety regulations when handling chemicals or mineral oil products.  
The product has been classified and labelled in accordance with EC Directives until 2004/73/EC (29. ATP).
- Code letter and hazard designation of product: Xn Harmful
- Hazard-determining components of labelling: 1,2-Ethandiol
- Risk phrases: 22 Harmful if swallowed.

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- Safety phrases:
  - 2 Keep out of the reach of children.
  - 24/25 Avoid contact with skin and eyes.
  - 46 If swallowed, seek medical advice immediately and show this container or label.
- National regulations
- German Water Hazard Class:  
Water Engangering Class 1 (Self-assessment): slightly hazardous for water.

## 16 Other information:

All ingredients are listed in the European Inventories. These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. This data sheet is a safety data sheet according to 91/155/EU. For products which are not subject to classification according to EU lists this data sheet is made on a voluntary base.

- Relevant R-phrases
  - 22 Harmful if swallowed.
  - 63 Possible risk of harm to the unborn child.
- Department issuing data specification sheet:  
FUCHS EUROPE SCHMIERSTOFFE GMBH Export Division  
Product Safety Departement
- Contact:  
Product Safety Departement:  
Tel: ++49(0)621/3701-333, Mrs. Manuwald
- Validity:  
With this latest edition of this MSDS all former editions are not valid any longer.  
Changed items are marked with "\*".