

## Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

#### Identification of the substance or preparation

**Radiator Cleaner 300 mL**

**Art.: 8369**

#### Use of the substance/preparation

Refer to description of material or preparation.

#### Company/undertaking identification

LIQUI MOLY GmbH, Jerg-Wieland-Straße 4, D-89081 Ulm-Lehr  
 Telephone (+49) 0731-1420-0, Fax (+49) 0731-1420-88

E-mail address of the competent person: info@chemical-check.de, k.schnurbusch@chemical-check.de

#### Emergency telephone

#### Advisory office in case of poisoning:

Tel.:

#### Telephone number of the company in case of emergencies:

Tel. (+49) 0731-1420-0

### 2. HAZARDS IDENTIFICATION

#### To people

See point 11 and 15.

Preparation is classified as hazardous in the sense of directive 1999/45/EC.

36 Irritating to eyes.

#### To the environment

See point 12.

### REGULATION (EC) No 648/2004

5 % or over but less than 15 %

non-ionic surfactants

less than 5 %

anionic surfactants

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name			
content %	Symbol	R-phrases	EINECS, ELINCS
	Registration number (ECHA)		
Ethanediol			
1 - 10	Xn	22	203-473-3
Fatty alcohol polyglycol ether			
1 -< 10	Xn/Xi	22-41	

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Sodium alkane sulfonate			
1 - 5	Xi	38-41	288-330-3
Sodium nitrite			
0,05 - <1	O/T/N	8-25-50	231-555-9
Disodium tetraborate pentahydrate			
0,1 - <1		60(Repr.Cat.2)-61(Repr.Cat.2)	215-540-4

For complete wording of the R-phrases, refer to point 16.

## 4. FIRST AID MEASURES

### 4.1 Inhalation

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

### 4.2 Eye contact

Wash thoroughly for several minutes using copious water - call doctor immediately, have Data Sheet available.

### 4.3 Skin contact

Wash thoroughly with soap and copious water - remove contaminated clothing immediately. If skin irritation occurs (redness etc.), consult doctor.

### 4.4 Ingestion

Rinse the mouth thoroughly with water.  
 Do not induce vomiting - give copious water to drink. Consult doctor immediately.

### 4.5 Special resources necessary for first aid

Indications for the physician:  
 Symptomatic treatment

## 5. FIRE-FIGHTING MEASURES

### 5.1 Suitable extinguishing media

Product is not combustible.  
 Adapt to the nature and extent of fire.

### 5.2 Extinguishing media which shall not be used for safety reasons

High volume water jet

### 5.3 Special exposure hazards arising from the substance or preparation itself, combustion products, resulting gases

In case of fire the following can develop:  
 Oxides of carbon  
 Oxides of nitrogen  
 Oxides of sulphur

### 5.4 Special protective equipment for fire-fighters

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

### 5.5 Further information

Dispose of contaminated extinction water according to official regulations.

## 6. ACCIDENTAL RELEASE MEASURES

Refer to point 13. and for personal protection refer to point 8.

### 6.1 Personal precautions

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.

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Prevent from entering drainage system.  
 Prevent surface and ground-water infiltration, as well as ground penetration.

### 6.3 Methods for cleaning up

Collect using absorbant material (e.g. Universal binding medium, sand, kieselguhr) and dispose of according to point 13.

## 7. HANDLING AND STORAGE

### 7.1 Handling

#### Tips for safe handling:

See point 6.1  
 Ensure good ventilation.  
 Wash hands before breaks and at end of work.  
 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.

### 7.2. Storage

#### Requirements for storage rooms and containers:

Store product closed and only in original packing.  
 Not to be stored in gangways or stair wells.

#### Special storage conditions:

See point 10  
 Store in a well ventilated place.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Exposure limit values

Chemical Name	Ethanediol	Content %:1 - 10	
WEL-TWA: 10 mg/m <sup>3</sup> (particulate), 52 mg/m <sup>3</sup> (vapour) (WEL), 20 ppm (52 mg/m <sup>3</sup> ) (EC)	WEL-STEL: 104 mg/m <sup>3</sup> (vapour) (WEL), 40 ppm (104 mg/m <sup>3</sup> ) (EC)	---	
BMGV: ---	Other information: Sk (particulate, vapour)		
Chemical Name	Disodium tetraborate pentahydrate	Content %:0,1 - <1	
WEL-TWA: 1 mg/m <sup>3</sup>	WEL-STEL: ---	---	
BMGV: ---	Other information: ---		

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | 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.

### 8.2 Exposure controls

#### 8.2.1 Occupational exposure 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.  
 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.  
 Respiratory protection:  
 Normally not necessary.  
 If OES or MEL is exceeded.  
 Gas mask filter A (EN 14387)  
 Hand protection:  
 Rubber gloves (EN 374).  
 Protective hand cream recommended.  
 Eye protection:

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Tight fitting protective goggles with side protection (EN 166).

If applicable

Face protection (EN 166)

Skin protection:

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

Additional information on hand protection - No tests have been performed.

Selection made for preparations according to the best available knowledge and information on the ingredients.

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 preparations the resistance of glove materials cannot be calculated in advance so it has to be tested before use. The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

## 8.2.2 Environmental exposure controls

n.av.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Colour:	Clear
Odour:	Characteristic
pH-value undiluted:	9,7
Boiling point/boiling range (°C):	100
Melting point/melting range (°C):	n.av.
Flash point (°C):	n.c.
Oxidising properties:	No
Minimum limit of explosion:	n.a.
Maximum limit of explosion:	n.a.
Vapour pressure:	n.c.
Density (g/ml):	1,022 (20°C)
Water solubility:	Mixable
Vapour density (air = 1):	n.c.
Viscosity:	7,3 mm <sup>2</sup> /s (40°C)

## 10. STABILITY AND REACTIVITY

### Conditions to avoid

See point 7

Stable when handled and stored correctly.

### Materials to avoid

See point 7

Avoid contact with strong oxidizing agents.

### Hazardous decomposition products

See point 5.3

No decomposition when used as directed.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity and immediate effects

Ingestion, LD50 rat oral (mg/kg):	n.av.
Inhalation, LC50 rat inhal.(mg/l/4h):	n.av.
Skin contact, LD50 rat dermal (mg/kg):	n.av.
Eye contact:	See point 15.

### Delayed and chronic effects

Sensitization:	n.c.
Carcinogenicity:	n.c.
Mutagenicity:	n.c.
Reproductive toxicity:	n.c.
Narcosis:	n.c.

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## Further information

Classification according to calculation procedure.  
 The following may occur:  
 Skin irritation possible with prolonged contact.

## 12. ECOLOGICAL INFORMATION

Water hazard class (Germany):	2
Self classification:	Yes (VwVwS)
Persistence and degradability:	
100% OECD 301 E *	

The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents.  
 Supporting documents that confirm this are kept available for the competent authorities and will be provided by a detergent manufacturer upon inquiry or demand.

Behaviour in sewage plants:  
 According to the recipe, contains no AOX.

Aquatic toxicity:	n.av.
Ecological toxicity:	n.av.
Accumulation:	n.av.

\* Ethanediol

## 13. DISPOSAL CONSIDERATIONS

### 13.1. for the material / preparation / residue

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)  
 07 06 01 aqueous washing liquids and mother liquors  
 20 01 29 detergents containing dangerous substances  
 Recommendation:  
 Pay attention to local and national official regulations  
 Implement substance recycling.  
 E.g. suitable incineration plant.  
 E.g. dispose at suitable refuse site.  
 Approved rubbish dump for special refuse

### 13.2 for contaminated packing material

See point 13.1  
 Pay attention to local and national official regulations  
 Empty container completely.  
 Untampered packaging can be recycled.  
 Dispose of packaging that cannot be cleaned in the same manner as the substance.

## 14. TRANSPORT INFORMATION

### General statements

UN-Number: n.a.

### Road/Rail-transport (ADR/RID)

Class/packing group: n.a.

Classification code: n.a.

LQ: n.a.

Tunnel restriction code:

### Transport by sea

IMDG-code: n.a. (class/packing group)

Marine Pollutant: n.a.

### Transport by air

IATA: n.a. (class/secondary danger/packing group)

### Additional information:

Non-dangerous material according to Transport Regulations.

## 15. REGULATORY INFORMATION

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## Classification according to Dangerous Product Regulations incl. EC Directives (67/548/EEC and 1999/45/EC)



Symbols: Xi

Indications of danger:

Irritant

R-phrases:

36 Irritating to eyes.

S-phrases:

2 Keep out of the reach of children.

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

46 If swallowed, seek medical advice immediately and show this container or label.

56 Dispose of this material and its container to hazardous or special waste collection point.

Additions: n.a.

Observe restrictions: Yes

Regulation (EC) No 1907/2006, Annex XVII.

VOC 1999/13/EC:

Not applicable

## 16. OTHER INFORMATION

These details refer to the product as it is delivered.

Storage class VCI (Germany): 10/12

Revised points: 2, 15

The following phrases represent the prescribed R-phrases / H-phrases (GHS) for the ingredients (designated in point 3).

22 Harmful if swallowed.

41 Risk of serious damage to eyes.

38 Irritating to skin.

8 Contact with combustible material may cause fire.

25 Toxic if swallowed.

50 Very toxic to aquatic organisms.

60 May impair fertility.

61 May cause harm to the unborn child.

## Legend:

n.a. = not applicable / n.v., k.D.v. = n.av. = not available / n.g. = n.c. = not checked

WEL = Workplace Exposure Limit EH40, TWA = Long-term exposure limit (8-hour TWA (= time weighted average) reference period), STEL = Short-term exposure limit (15-minute reference period) / BMGV = Biological monitoring guidance value EH40

AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany) / BGW = "Biologischer Grenzwert" (biological limit value, Germany)

VbF = Regulations for flammable liquids (Austria)

WGK = water hazard class (Germany) - WGK 3 = very hazardous, WGK 2 = hazardous, WGK 1 = slightly hazardous to water

VOC = Volatile organic compounds / AOX = Adsorbable organic halogen compounds

VwVwS = Administrative Order relating to substances hazardous to water (Germany)

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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