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Date of printing: 29.09.2008 Revised 29.09.2008

Trade name Cooling liquid ME-KM 20

1. Substance / Preparation and Company name

- Product details
- Trade name Merkle ME-KM 20
- Article number 022.0.0046 / 107.822
- Manufacturer / Supplier Merkle Schweißanlagentechnik GmbH
Industriestraße 3 89359 Kötz
Tel. 08221/915-0 Fax 08221/915-40
- Further information obtainable Dept. of Product Safety
- Emergency telephone number National advisory board for symptoms of intoxication Berlin. Tel. 030/34307021

2. Composition/details on components

- Chemical characterization Monoethylene glycol (ethanediol) with corrosion inhibitors
- Hazardous components Glycols Xn; R22 content: > 25%
Nitrite T,O,N; R8-25-50 content: < 1%
1303-96-4 Borax content: < 1%
EINECS: 215-540-4

532-32-1 sodium benzoate content: <1%
EINECS: 208-534-8

3. Possible risks



Hazard symbol, XN. Information concerning particular hazards for human and environment R 22 Harmful to health if swallowed

4. First aid precautions

- General notes Instantly remove any clothing soiled by the product..
- After skin contact Wash off with water and soap and rinse thoroughly.
- After eye contact Rinse opened eye for at least 15 minutes under running water rinse out and seek medical advice.
- after swallowing Rinse mouth immediately and drink plenty of water.
Those affected induce vomiting. Call doctor immediately.
- after inhalation If difficulties occur after inhalation of vapors / spray:
Remove person to fresh air and obtain medical advice.
- Information for doctor Symptomatic treatment (Decontamination, vital functions, 88possibly administration of ethanol.



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5. Precautions for fire fighting

- Suitable extinguishing agents Water spray, dry chemical, alcohol-resistant foam, CO₂,
- In case of fire can be released Gases / vapors. Hazards depend on the burning substance
- Special protective equipment In the event of fire, wear self-contained breathing apparatus.
- Additional information: Contaminated water must be disposed in accordance with local regulations.

6. Precautions at unintentional release

- Persons related Avoid excessive skin and eye contact, when larger amounts
Safety precautions Remove contaminated clothing and wash the body with water. Hand protection. Due to risk of slipping apply immediately.
- Environmental protection measures The product must not be discharged without pretreatment (biological treatment plant) in water.
- proceedings for cleaning/binding. Spillage should be contained by and covered by large quantities of sand, earth, or similar absorbent material, then brushed in vigorously to assist absorption. Place the mixture in container and hold for waste disposal. Smaller quantities (splashes) may be flushed with plenty of water.
Absorption Larger amounts running into the drainage or water could alert appropriate authorities.

7. Handling and storage

- Handling: Good aeration and deaeration of storage and workspace.
- Fire and explosion protection: Take precautionary measures against static discharges..
Electrical equipment must be suitable for temperature class T 2 (VDE 0165) (D) Cool heat endangered containers with water..
-Storage: This product is hygroscopic. Keep container tightly closed and in store in a dry place. Storage in galvanized containers is not recommended.

8. Exposure controls personal protective equipment

- Additional information about design of technical systems: see point 7
- Components with occupational exposure Ethylene glycoll. The associated MAK value
for hazardous control: to be observed (Germany). MAK: 10 ml/m_s = 26 mg/m_s (D). Peak limitation category I (TRGS 900 Germany), see section 2.3 of the TRGS .
- Remarks: A risk of damage to the embryo need not be feared if the MAK is at value . Risk of skin absorption: see below



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- personal protective equipment:
- General protective and hygiene measures
; Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing. Wash hands before breaks and after finishing work.
- respiratory protection: possibly respirator mask
- skin protection: Protective gloves made of rubber or PVC
- eye protection: tight fitting goggles
- body protection: not mandatory

9. Physical and Chemical Properties

- Form: liquid
- Color: blue
- Odor: sweetish
- Flashpoint > 110 °C DIN-I51761
- Freezing point < -15 aC ASTMD1120
- Boiling point / range ca. 103 °C based on ethanediol concentrate
- Explosion limits: Lower 3,0 Vol.-% above 15,0 Vol.-% DIN51794
- Ignition temperature > 400 °C
- Vapor pressure at 20 °C: 20mbar
- Density at 20 °C 1.042 g/cm³
- Solubility in water completely soluble
- pH-Value at 20°C ca. 7,0-9,0
- Viscosity at 20 °C ca. 2,5mm²/s

10. Stability and reactivity

- Conditions to avoid Protect from moisture
- Materials to avoid strong oxidizing agents
- Hazardous reactions not under normal processing
- Hazardous decomposition products not under normal processing

11 Toxicological information

- Acute toxicity LDSO, Rat (oral) >2000 mg/1
LD 50 dermal rabbit >2000 mg/1 (bibliographical reference)
- Primary irritant effect:
 - to the skin (Rabbits) Not irritating
 - to the eye (Rabbits) Not irritating,
- Experience with humans Ethanediol (conc.): Lethal dose if swallowed ca. 1,5 g/kg
Body weight. Lethal dose of ca. 90 to 110 g in adults,
correspondingly less for children. Smaller doses can cause loss of consciousness, or damage to kidneys, or central nervous system. Avoid direct contact with eyes.



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Additional information: Some studies in mice and rats showed teratogenic effects after oral administration of high doses. In a rabbit study this effect did not occur. From all the information available no clues as to carcinogens are provided.

12. Ecological information

- Information about elimination: experimental method OECD 301 A/ISO 7827
analytical method: DOC decrease
elimination rate: > 70 % (28d)
Rating: readily biodegradable

- Behaviour in environmental systems During correct introduction of low concentrations into adapted biological sewage treatment plants are disorders of the construction activity of activated sludge not to be expected

- ecotoxicological effects toxicity to algaet: EC50 (72h): > 100 mg/l
toxicity to bacteria: EC10 (-h) > 10 000 mgA
Pseudomonas put.
Daphnia toxicity (acute) ECSO(48h) > 100 mg/l
toxicity to fish: LC 50 (96h) >100 mg/l, Leuciscus idus

Water hazard class WGK I slightly hazardous for water

Additional ecological information AOX: The product contains no organically-bound halogen

13. Disposal instructions

Product:

Recommendation Do not allow concentrate to enter the soil. Dispose of large quantities according to local regulations (Landfill, incineration) Contact at levels below 100 Ltr. the local Council or Environmental Mobility.

uncleaned packaging: Rinse with water, reuse, recycle or disposal according to local regulations

14. Transport information

- Land transportation ADR/RID and GGVS/E (cross-border / domestic)
-ADR/R1D-GGVS/E Class no dangerous good under mail transport regulations allowed,



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15. Regulations

The identification was based on the content of the following substance: Ethandiol

The substance is in accordance with Annex I of the EC Directive „Hazardous substances "identified as follows: - Code letter Xn Harmful to health

- R-phrases 22 Harmful to health if swallowed

- S 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 TA-air (Germany) Class III Number 3.1.7

Classification according to VbF none

- Water hazard class WGK I slightly hazardous for water acc. German Regulation 17.05.99

16. Other Information

The safety data sheet is intended to provide information for handling chemical substances and preparations physical, safety, toxicological and ecological data, such as recommendations for the safe handling and storage, handling and transport. A liability for damages related to the use of this information or the application, adaptation or processing of the products described herein shall be excluded. This does not apply as far as we or our legal representatives or agents are liable for adhere intent or gross negligence. Any liability for indirect damage is excluded.

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