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Safety Data Sheet

according to Regulation (EC) No 1907/2006 (REACH)
Classifications according to Regulation (EC) No 1272/2008.
Printdate 30 Jan 2024

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product name:

Ethylene glycol

1.1. Catalog No.:

685691

1.2. Relevant identified uses of the substance or mixture

Identified: Laboratory chemical
uses: R&D

1.3. Uses advised against:

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1.4. Emergency telephone number

HPC Standards Tel. +49 34291 3372-36
This number is only available during office hours.

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
Acute toxicity, Oral (Category 4), H302
Specific target organ toxicity - repeated exposure, Oral (Category 2), Kidney, H373

2.2. Label elements

2.2.1. Pictogram

2.2.2.

2.2 Label elements
Labelling according Regulation (EC) No 1272/2008
Pictogram Signal word Warning Hazard statement(s)
H302 Harmful if swallowed.
H373 May cause damage to organs (Kidney) through prolonged or

repeated exposure if swallowed.
Precautionary statement(s)
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P314 Get medical advice/ attention if you feel unwell.
Supplemental Hazard
Statements
none
2.3 Other hazards
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Synonyms : 1,2-Ethanediol
Formula : C2H6O2
Molecular weight : 62,07 g/mol
CAS-No. : 107-21-1
EC-No. : 203-473-3
Index-No. : 603-027-00-1
Component Classification Concentration
Ethylene glycol
Acute Tox. 4; STOT RE 2;
H302, H373
<= 100 %

3.1.1. Formula

C2H6O2

3.1.2. Molecular Weight (g/mol)

62.07

3.1.3. CAS-No.

107-21-1

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4. FIRST AID MEASURES

4.1 Description of first aid measures
General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration.
Consult a physician.
In case of skin contact
Wash off with soap and plenty of water. Consult a physician.
In case of eye contact
Flush eyes with water as a precaution.
If swallowed
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician 4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11
4.3 Indication of any immediate medical attention and special treatment needed
No data available

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
5.2 Special hazards arising from the substance or mixture
Carbon oxides
5.3 Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.
5.4 Further information
No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.
For personal protection see section 8.
6.2 Environmental precautions
Do not let product enter drains.
6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.
6.4 Reference to other sections
For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.2.
7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place. Hygroscopic.
7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
a) Appearance Form: liquid
Colour: colourless
b) Odour odourless
c) Odour Threshold No data available
d) pH No data available
e) Melting
point/freezing point
Melting point/range: -13 °C
f) Initial boiling point
and boiling range
196 - 198 °C
g) Flash point 111 °C - closed cup115 °C - open cup
h) Evaporation rate 1
i) Flammability (solid,
gas)
No data available
j) Upper/lower
flammability or
explosive limits
Upper explosion limit: 15,3 %(V)
Lower explosion limit: 3,2 %(V)
k) Vapour pressure 1 hPa at 51,1 °C
l) Vapour density 2,14 - (Air = 1.0)
m) Relative density 1,113 g/mL at 25 °C
n) Water solubility completely miscible
o) Partition coefficient:
n-octanol/water
log Pow: -1,36 - Bioaccumulation is not expected.
p) Auto-ignition
temperature
412 °C
at 1.013 hPa
q) Decomposition
temperature
No data available
r) Viscosity No data available s) Explosive properties No data available
t) Oxidizing properties No data available
9.2 Other safety information
Surface tension 48,4 mN/m at 20 °C
Relative vapour
density
2,14 - (Air = 1.0)

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10. STABILITY AND REACTIVITY

10.1 Reactivity
No data available
10.2 Chemical stability
Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions
No data available
10.4 Conditions to avoid
No data available
10.5 Incompatible materials
Strong acids, Strong oxidizing agents, Strong bases, Aldehydes, Aluminum
10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute toxicity
(Regulation (EC) No 1272/2008, Annex VI)
LC50 Inhalation - Rat - male and female - 6 h - > 2,5 mg/l
Remarks: (ECHA)
LD50 Dermal - Mouse - male and female - > 3.500 mg/kg
Remarks: (ECHA)
Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 20 h
Remarks: (ECHA)
Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritation - 24 h
Remarks: (ECHA)
Respiratory or skin sensitisation
Maximisation Test - Guinea pig Result: negative
(OECD Test Guideline 406)
Germ cell mutagenicity
Ames test
Escherichia coli/Salmonella typhimurium
Result: negative
Rat - male and female
Result: negative
Carcinogenicity
This product is or contains a component that is probably not carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
Reproductive toxicity
Laboratory experiments have shown teratogenic effects.
Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.
Specific target organ toxicity - single exposure
No data available
Specific target organ toxicity - repeated exposure
Oral - May cause damage to organs through prolonged or repeated exposure. - Kidney
Aspiration hazard
No data available
Additional Information
RTECS: KW2975000 When ingested early symptoms mimic alcohol inebriation and are followed by nausea, vomiting, abdominal pain, weakness, muscle tenderness, respiratory failure, convulsions, cardiovascular collapse, pulmonary edema, hypocalcemic tetany, and severe metabolic acidosis. Without treatment, death may occur in 8 to 24 hours. Victims who survive the initial toxicity period usually develop renal failure along with brain and liver damage.,
Exposure to and/or consumption of alcohol may increase toxic effects.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
After absorption:
agitation, CNS disorders
Systemic effects:
After a latency period:
Tiredness, ataxia (impaired locomotor coordination), Unconsciousness
Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.
Central nervous system - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Toxicity to fish static test LC50 - Pimephales promelas (fathead minnow) - > 72.860 mg/l - 96 h (US-EPA)
Toxicity to daphnia and other aquatic invertebrates
static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h
(OECD Test Guideline 202)
Toxicity to algae IC5 - Scenedesmus quadricauda (Green algae) - > 10.000 mg/l - 7 d
Remarks: (Lit.)
Toxicity to bacteria static test EC20 - activated sludge - > 1.995 mg/l - 30 min
(ISO 8192)
12.2 Persistence and degradability
Biodegradability aerobic - Exposure time 10 d
Result: 90 - 100 % - Readily biodegradable.
(OECD Test Guideline 301A)
Biochemical Oxygen Demand (BOD)
780 mg/g
Remarks: (IUCLID)
Chemical Oxygen Demand (COD)
1.190 mg/g
Remarks: (IUCLID)
Theoretical oxygen demand
1.290 mg/g
Remarks: (IUCLID)
Ratio BOD/ThBOD 60 %
Remarks: (IUCLID)
12.3 Bioaccumulative potential
Does not bioaccumulate.
12.4 Mobility in soil
No data available
12.5 Results of PBT and vPvB assessment
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.
12.6 Other adverse effects
Additional ecological information
No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.
Contaminated packaging
Dispose of as unused product.

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14. TRANSPORT INFORMATION

14.1 UN number
ADR/RID: - IMDG: - IATA: -
14.2 UN proper shipping name
ADR/RID: Not dangerous goods
IMDG: Not dangerous goods
IATA: Not dangerous goods
14.3 Transport hazard class(es)
ADR/RID: - IMDG: - IATA: -
14.4 Packaging group
ADR/RID: - IMDG: - IATA: -
14.5 Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no
14.6 Special precautions for user
No data available

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.
REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)
:
15.2 Chemical safety assessment
A Chemical Safety Assessment has been carried out for this substance.

16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. For lab use only!