

Safety data sheet
complying with Regulation 1907/2006/EC (REACH Regulation),
EU 2020/878 and Regulation No 1272/2008/EC (CLP)

Printing date 25.10.2022

Version number 2 (replaces version 1)

Revision: 25.10.2022

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name:** Ethane-1,2-diol**CAS Number:**

107-21-1

EC number:

203-473-3

Index number:

603-027-00-1

Registration number: 01-2119456816-28-XXXX**1.2 Relevant identified uses of the substance or mixture and uses advised against**

No further relevant information available.

Application of the substance / the mixture: Raw material for the production of chemicals.**1.3 Details of the supplier of the safety data sheet****Manufacturer/Supplier:**

Kalogeropoulos Chemicals S.A.

D. Gounari 35, 185 31

Pireaus, Greece

Tel: +30 2104124518

Fax: +30 2104101607

e-mail: info@kalochem.gr

website: www.kalochem.gr

1.4 Emergency telephone number:

European Emergency Tel.: 112

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation EC No 1272/2008 CLP:**

GHS08 health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

2.2 Label elements**Labelling according to Regulation EC No 1272/2008 CLP:**

The substance is classified and labelled according to the CLP regulation.

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Hazard pictograms:

GHS07 GHS08

Signal word: Warning**Hazard-determining components of labelling:**

Ethane-1,2-diol

Hazard statements:

H302 Harmful if swallowed.

H373 May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P330 Rinse mouth.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards**Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.* **SECTION 3: Composition/information on ingredients****3.1 Substances****CAS No. Description**

CAS: 107-21-1 Ethane-1,2-diol - 100% w/w

Identification number(s)**EC number:** 203-473-3**Index number:** 603-027-00-1**SECTION 4: First aid measures****4.1 Description of first aid measures****General information:**

Take affected persons out into the fresh air.

In all cases call a doctor

After inhalation:

If breathing is difficult, remove to fresh air. Restore breathing. Keep warm and quiet.

In case of unconsciousness place patient stably in side position for transportation.

Seek medical treatment in case of complaints.

After skin contact:

Wash the skin immediately with soap and water.

Remove contaminated clothing.

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Wash contaminated clothing before use.
 In case of skin irritation, consult a physician.

After eye contact:

Rinse opened eye for at least 15 minutes under running water.
 Remove contact lenses and continue rinsing for several minutes
 Avoid strong water jet-risk of cornea damage, consult a doctor.
 If skin irritation continues, consult a doctor.

After swallowing:

Drink plenty of water.
 Do not induce vomiting unless directed to do so by medical personnel.
 Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures**5.1 Extinguishing media**

Suitable extinguishing agents: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

In case of overheating or fire, toxic and irritant gases may be released.

Carbon dioxide (CO₂)

Carbon monoxide (CO).

5.3 Advice for firefighters**Protective equipment:**

Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469.

Cool closed containers exposed to fire by spraying water.

Additional information

Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Keep unprotected persons away.

Avoid contact with skin and eyes.

Avoid inhalation of vapors.

Ensure adequate ventilation.

For information on protective measures, see sections 7 and 8.

6.1.1 For non-emergency personnel Avoid contact with dripping or leaking material**6.1.2 For emergency responders**

Stop further leakage, if possible.

First-aid responders must wear protective clothing, gloves, goggles and respiratory device with filter type A.

6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.**6.3 Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust, silica gel).

Send for recovery or disposal in suitable receptacles.

Dispose contaminated material as waste according to item 13.

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6.4 Reference to other sections:

See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Avoid contact with skin, eyes and clothing.
 Avoid inhaling vapors.
 Do not eat, drink or smoke during the usage of the product.
 Wash contaminated clothing before reuse.
 Wash hands before each break and after finishing work.

Information about fire - and explosion protection:

Keep away from heat, sparks, open flames and hot surfaces.

7.2 Conditions for safe storage, including any incompatibilities

Storage: Store in cool, dry conditions in well sealed receptacles.

Requirements to be met by storerooms and receptacles:

Store in a cool location.
 Suitable material for receptacles and pipes: Soft steel.
 Suitable material for receptacles and pipes: glass.

Information about storage in one common storage facility: Store away from strong oxidizing agents.

Further information about storage conditions:

Protect from heat and direct sunlight.
 Keep container tightly sealed.

7.3 Specific end use(s) No further relevant information available.

*** SECTION 8: Exposure controls/personal protection****8.1 Control parameters****Ingredients with limit values that require monitoring at the workplace:****CAS: 107-21-1 Ethane-1,2-diol**

IOELV (EU)	Short-term value: 104 mg/m ³ , 40 ppm Long-term value: 52 mg/m ³ , 20 ppm Skin
WEL (Great Britain)	Short-term value: 104** mg/m ³ , 40** ppm Long-term value: 10* 52** mg/m ³ , 20** ppm Sk *particulate **vapour

DNELs

(CAS: 107-21-1) ethylene glycol

Workers:

long-term exposure, inhalation, local effects: 35 mg/m³
 long-term exposure, dermal, systemic effects: 106 mg/kg bw/d

Consumers:

long-term exposure, inhalation, local effects: 7 mg/m³
 long-term exposure, dermal, systemic effects: 53 mg/kg bw/d

PNECs

(CAS: 107-21-1) ethylene glycol

fresh water: 10 mg/l

marine water: 1 mg/l

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intermittent release: 10 mg/l
 sewage treatment plant (STP): 199,5 mg/l
 sediment (fresh water): 20,9 mg/kg
 soil: 1,53 mg/kg
 sediment (marine water): 3,7 mg/kg

8.2 Exposure controls**8.2.1. Appropriate engineering controls** Provide adequate ventilation.**Individual protection measures, such as personal protective equipment****General protective and hygienic measures:**

Avoid contact with skin and eyes.
 Do not breathe vapours or mists.
 Do not eat, drink or smoke while using the product.
 Remove contaminated clothes and wash before reusing them.
 Wash hands before breaks and at the end of work.
 Keep the right conditions of industrial hygiene.

Respiratory protection:

In case of inhalation of vapors, use full face mask with gas filters for organic vapors according to ISO 14387.

Hand protection

Protective gloves resistant to chemicals (standard EN 374-1)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves

Nitrile rubber, thickness: 0,4 mm
 Chloroprene rubber, thickness: 0,5 mm
 Butyl rubber, thickness: 0,7 mm

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 mixture 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.

Penetration time of glove material

The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.
 >480 minutes

Eye/face protection

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

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Body protection:

Chemically resistant, protective work clothing (EN 14605) and boots.

Environmental exposure controls

Dispose of flushing liquids in accordance with local and national regulations.

* **SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****General Information**

Physical state	Liquid
Colour:	Colourless
Odour:	Characteristic
Odour threshold:	Not determined
Melting point/freezing point:	-13 °C
Boiling point or initial boiling point and boiling range	197.4 °C
Flammability	Not applicable
Lower and upper explosion limit	
Lower:	Not determined
Upper:	Not determined
Flash point:	111 °C
Auto-ignition temperature:	398 °C
Decomposition temperature:	Not determined
pH	Not determined
Viscosity:	
Kinematic viscosity	Not determined
Dynamic at 20 °C:	21 mPas
Solubility	
water at 20 °C:	1000 g/l
Partition coefficient n-octanol/water (log value) at 25 °C	-1.36 log POW
Vapour pressure at 25 °C:	0.123 hPa
Density and/or relative density	
Density at 20 °C:	1.1 g/cm ³
Relative density	Not determined
Vapour density	Not determined

9.2 Other information**Appearance:****Form:** Liquid**Important information on protection of health and environment, and on safety.****Auto-ignition temperature:** Not determined.**Explosive properties:** Product does not present an explosion hazard.**Molecular weight** 62.07 g/mol

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Cloud point / clarification point:**Oxidising properties**

Not oxidising

Evaporation rate

Not determined

Information with regard to physical hazard classes

Explosives	Void
Flammable gases	Void
Aerosols	Void
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	Void
Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

SECTION 10: Stability and reactivity**10.1 Reactivity** Stable under normal conditions**10.2 Chemical stability** Material is stable under normal conditions.**Thermal decomposition / conditions to be avoided** Stable at environment temperature.**10.3 Possibility of hazardous reactions** No dangerous reactions known.**10.4 Conditions to avoid** Avoid heat, sparkles, naked flame or other sources of ignition.**10.5 Incompatible materials** Strong oxidisers**10.6 Hazardous decomposition products**Carbon dioxide (CO₂)

Carbon monoxide

SECTION 11: Toxicological information**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Acute toxicity** Harmful if swallowed.**LD/LC50 values relevant for classification:****ATE (Acute Toxicity Estimates)**

Oral	LD50	500 mg/kg
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CAS: 107-21-1 Ethane-1,2-diol

Oral	LD50	7,712 mg/kg (rat)
Dermal	LD50	>3,500 mg/kg (rabbit)
Inhalative	LC50(6h)	> 2.5 mg/l (rat)

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Skin corrosion/irritation Based on available data, the classification criteria are not met.**Serious eye damage/irritation** Based on available data, the classification criteria are not met.**Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.**Germ cell mutagenicity** Based on available data, the classification criteria are not met.**Carcinogenicity** Based on available data, the classification criteria are not met.**Reproductive toxicity** Based on available data, the classification criteria are not met.**STOT-single exposure** Based on available data, the classification criteria are not met.**STOT-repeated exposure**

STOT Repeated Exposure Category 2

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard Based on available data, the classification criteria are not met.**11.2 Information on other hazards****Endocrine disrupting properties**

Substance is not listed.

*** SECTION 12: Ecological information****12.1 Toxicity****Aquatic toxicity:**

(CAS: 107-21-1) Ethane-1,2-diol

Fish toxicity:

LC50 (96 h): 72,860 mg/l, Pimephales promelas (EPA 72-1, static)

Aquatic invertebrates:

EC50 (48 h): > 100 mg/l, Daphnia magna (OECD 202, Part 1, static)

Aquatic plants:

EC50 (96 h): 6,500 - 13,000 mg/l (growth rate), Pseudokirchneriella subcapitata (Algae growth inhibition test)

Microorganisms/Effect on activated sludge:

EC20 (30 min): > 1,995 mg/l, activated sludge, urban origin (DIN EN ISO 8192, aerobic)

The product has not been tested. This statement is derived from substances / products of a similar form or composition.

Chronic fish toxicity:

NOEC (7 d): 15,380 mg/l, Pimephales promelas (Screening test, semi-static)

Chronic aquatic invertebrates toxicity:

NOEC (7 d): 8,590 mg/l, Ceriodaphnia sp. (Chronic toxicity to Daphnia, semi-static)

12.2 Persistence and degradability

(CAS: 107-21-1) Ethylene glycol

Easily biodegradable.

10 days, 90-100% (Experimental data) (OECD 301A)

12.3 Bioaccumulative potential

(CAS: 107-21-1) Ethylene glycol

Partition coefficient n-octanol / water: -1.93

Bioaccumulative capacity: Not bioaccumulative

12.4 Mobility in soil No further relevant information available.**12.5 Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.**12.6 Endocrine disrupting properties**

The product does not contain substances with endocrine disrupting properties.

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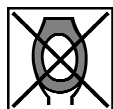
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12.7 Other adverse effects**Additional ecological information:****General notes:** Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Recommendation**

Dispose according to National Regulations.



Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contact manufacturer for recycling information.

European waste catalogue

HP5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

HP6 Acute Toxicity

Uncleaned packaging:**Recommendation:**

Disposal must be made according to official regulations.

Non contaminated packagings may be reused.

SECTION 14: Transport information**14.1 UN number or ID number**

ADR, ADN, IMDG, IATA

Void

14.2 UN proper shipping name

ADR, ADN, IMDG, IATA

Void

14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA

Class

Void

14.4 Packing group

ADR, IMDG, IATA

Void

14.5 Environmental hazards:

Not applicable.

14.6 Special precautions for user

Not applicable.

14.7 Maritime transport in bulk according to IMO

instruments

Not applicable.

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UN "Model Regulation": Void

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

REACH Regulation 1907/2006/EC

Regulation (EU) 2020/878

CLP Regulation 1272/2008/EC

Directive 98/24/EC on the protection of health and safety of workers from the risks related to chemicals agents at work.

Council Directive 94/33/EC on the protection of young people at work, as amended.

Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding, as amended

Directive 2012/18/EU**Named dangerous substances - ANNEX I**

None of the ingredients is listed.

Substance is not listed.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3**DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**

Substance is not listed.

REGULATION (EU) 2019/1148**Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**

Substance is not listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

Substance is not listed.

Regulation (EC) No 273/2004 on drug precursors

Substance is not listed.

Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

Substance is not listed.

National regulations:**Other regulations, limitations and prohibitive regulations****Substances of very high concern (SVHC) according to REACH, Article 57**

The substance is not SVHC.

15.2 Chemical safety assessment: The chemical safety report has been carried out.**SECTION 16: Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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Training hints

Suitable training on safety in handling, storing and converting the product should be given to the employees based on all the existing information.

Department issuing SDS:

SUST  SUSTCHEM S.A.
CHEM REACH & Chemical Services Department
CONSULTING
 A: 144, 3rd Septemvriou, GR 112 51 | Athens, Greece
 T: +30 210 8252510 | F: +30 210 8252575
 W: www.sustchem.gr | E: info@suschem.gr

Version number of previous version: 1**Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

*** Data compared to the previous version altered.**

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