

Trade name: Ethane

Current version : 4.0.0, issued: 24.10.2022

Replaced version: 3.0.0, issued: 12.04.2021

Region: GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name

Ethane

Substance name ethane

Identification numbers

CAS no. 74-84-0
 EC no. 200-814-8
 Index no. 601-002-00-X

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses of the substance or mixture

Refrigerant for professional use in ultra-low temperature freezers

Uses advised against

No data available.

1.3 Details of the supplier of the safety data sheet

Address

Eppendorf SE
 Barkhausenweg 1
 D-22339 Hamburg

Telephone no. +49 40 53801-0

Information provided by / telephone

email: certificates@eppendorf.com

Advice on Safety Data Sheet

sdb_info@umco.de

1.4 Emergency telephone number

For medical advice (in German and English):
 +49 (0)551 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 (CLP)

Flam. Gas 1A; H220
 Press. Gas

Classification information

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3 and 4 of Annex I to CLP.

aberrant from/in addition to the classification set out in Annex VI, this substance is classified according to European Regulation (EC) No 1272/2008 (CLP), Article 4 (3), paragraph 2.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)

Product identifier

601-002-00-X (ethane)

Hazard pictograms

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GHS02



GHS04

Signal word

Danger

Hazard statement(s)

H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.

Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 In case of leakage, eliminate all ignition sources.
P403 Store in a well-ventilated place.

2.3 Other hazards

Vapours can form an explosive mixture with air.

PBT assessment

The product is not considered to be a PBT.

vPvB assessment

The product is not considered to be a vPvB.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical characterization

Substance name ethane
Formula C₂ H₆
Molecular weight 30

Identification numbers

CAS no. 74-84-0
EC no. 200-814-8
Index no. 601-002-00-X

Other information

Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
U	-	-	-

Full text for the notes: pls. see section 16 "Notes relating to the identification, classification and labelling of substances ((EC) No 1272/2008, Annex VI)".

3.2 Mixtures

Not applicable. The product is not a mixture.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

If unconscious place in recovery position and seek medical advice.

After inhalation

Remove to fresh air, keep patient warm and at rest. Take medical treatment.

After skin contact

Do not attempt to remove any clothing that is frozen onto the skin. In case of frostbite: warm up frostbitten area by immersing the affected area in warm (but not hot) water. Remove contaminated clothing immediately and dispose of safely. Seek medical attention.

After eye contact

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Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Seek medical assistance.

After ingestion

Seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Foam; Water mist; Extinguishing powder; Carbon dioxide

Unsuitable extinguishing media

High power water jet

5.2 Special hazards arising from the substance or mixture

In case of fires, hazardous combustion gases are formed: Carbon monoxide (CO). In case of fire: danger of pressure build up, which could result in container rupture.

5.3 Advice for firefighters

Wear protective clothing. Use self-contained breathing apparatus. Cool endangered containers with water spray jet.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Close leaks. Keep away from ignition sources. Refer to protective measures listed in sections 7 and 8.

For emergency responders

No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Allow to evaporate.

6.4 Reference to other sections

No data available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Ensure adequate ventilation. Do not breathe steams or mist of the product. In case of accidental release: danger due to low temperature of the liquid product.

General protective and hygiene measures

Do not eat or drink during work - no smoking. Avoid prolonged and/or repeated contact with skin.

Advice on protection against fire and explosion

Keep away from ignition sources and provide for good ventilation. Take precautionary measures against static charges. No sparking tools should be used.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Protect from direct sunlight. Protect from temperatures over 50°C.

Requirements for storage rooms and vessels

Keep container tightly closed. Keep only in the original container (with safety valve).

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Incompatible products

Do not store together with oxidizing agents.

7.3 Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

No parameters available for monitoring.

8.2 Exposure controls

Appropriate engineering controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL (=Occupational Exposure Limit), suitable respiratory protection must be worn.

Personal protective equipment

Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn.

Respiratory filter (gas) : AX

Eye / face protection

Tightly fitting safety glasses (EN 166).

Hand protection

Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Other

Normal chemical work clothing.

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

State of aggregation	
gas	
Form	
gas type	
Colour	
colourless	
Odour	
odourless	
pH value	
Not applicable	
Boiling point / boiling range	
Value	-88.6 °C
Melting point/freezing point	
Value	-183 °C
Decomposition temperature	
No data available	

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Flash point			
Not applicable			
Ignition temperature			
No data available			
Auto-ignition temperature			
Value	515	°C	
Flammability			
No data available			
Lower explosion limit			
Value	2.4	% vol	
Upper explosion limit			
Value	14.3	% vol	
Vapour pressure			
Value	37.8	bar	
Reference temperature	20	°C	
Relative vapour density			
Value	1		
Relative density			
Value	0.54		
Density			
No data available			
Solubility in water			
Value	61	mg/l	
Solubility			
No data available			
Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	ethane	74-84-0	200-814-8
log Pow		1.81	
Source		Manufacturer	
Kinematic viscosity			
Value	0.08	mPa*s	
Reference temperature	17.9	°C	
Particle characteristics			

9.2 Other information

Other information
Critical Temp.: 32 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available.

10.2 Chemical stability

Stable under normal conditions of use.

10.3 Possibility of hazardous reactions

Vapours may form an explosive mixture with air.

10.4 Conditions to avoid

Heat, naked flames or other ignition sources, electrostatic charge and discharge, formation of vapours/aerosols.

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10.5 Incompatible materials

Oxidizing agents; Formation of explosive gas/air mixtures.

10.6 Hazardous decomposition products

None, if handled according to intended use.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity
No data available
Acute dermal toxicity
No data available
Acute inhalational toxicity
No data available
Skin corrosion/irritation
No data available
Serious eye damage/irritation
No data available
Respiratory or skin sensitisation
No data available
Germ cell mutagenicity
No data available
Reproduction toxicity
No data available
Carcinogenicity
No data available
STOT - single exposure
No data available
STOT - repeated exposure
No data available
Aspiration hazard
No data available

11.2 Information on other hazards

Endocrine disrupting properties

No data available.

Other information

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
No	Substance name	CAS no.	EC no.
1	ethane	74-84-0	200-814-8
	LC50	91.4	mg/l
	Duration of exposure	96	h
	Species	fish	
	Source	Manufacturer	
Toxicity to fish (chronic)			
No data available			

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Toxicity to Daphnia (acute)			
No	Substance name	CAS no.	EC no.
1	ethane	74-84-0	200-814-8
EC50		46.6	mg/l
Duration of exposure		48	h
Species		Daphnia magna	
Source		Manufacturer	

Toxicity to Daphnia (chronic)			
No data available			

Toxicity to algae (acute)			
No	Substance name	CAS no.	EC no.
1	ethane	74-84-0	200-814-8
EC50		16.5	mg/l
Duration of exposure		72	h
Species		Algae	
Source		Manufacturer	

Toxicity to algae (chronic)			
No data available			

Bacteria toxicity			
No data available			

12.2 Persistence and degradability

No data available.

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log value)			
No	Substance name	CAS no.	EC no.
1	ethane	74-84-0	200-814-8
log Pow		1.81	
Source		Manufacturer	

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
PBT assessment	The product is not considered to be a PBT.
vPvB assessment	The product is not considered to be a vPvB.

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

12.8 Other information

Other information
Do not allow to enter soil, waterways or waste water canal.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste code 16 05 04* gases in pressure containers (including halons) containing hazardous substances

The listed waste code numbers, according to the European Waste Catalogue, are to be understood as a recommendation. A final decision must be made in agreement with the regional waste disposal company. dispose of in accordance with local regulation.

Refer to the EIGA code of practice (Doc.30 "Disposal of Gases"; <http://www.eiga.org>).

Packaging

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Residues must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information

14.1 Transport ADR/RID/ADN

Class 2
 Classification code 2F
 Hazard identification no. 23
 UN number UN1035
 Proper shipping name ETHANE
 Tunnel restriction code B/D
 Label 2.1

14.2 Transport IMDG

Class 2.1
 UN number UN1035
 Proper shipping name ETHANE
 EmS F-D, S-U
 Label 2.1

14.3 Transport ICAO-TI / IATA

Class 2.1
 UN number UN1035
 Proper shipping name Ethane
 Label 2.1
 Comments Passenger aircraft: forbidden

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

No data available.

14.7 Maritime transport in bulk according to IMO instruments

Not relevant

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)

In accordance with the REACH regulation (EC) 1907/2006, the product does not contain any substances that are considered as subject to listing in annex XIV, inventory of substances requiring authorisation.

REACH candidate list of substances of very high concern (SVHC) for authorisation

In accordance with article 57 and article 59 of the Reach regulation (EC) 1907/2006, this substance is not considered as subject to listing in annex XIV, inventory of substances requiring authorisation ("Authorization list").

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES

The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII.	No 40
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Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This product is subject to Part I of Annex I, risk category:	P2
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15.2 Chemical safety assessment

A chemical safety assessment has been carried out for this substance.

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Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

Notes relating to the identification, classification and labelling of substances and mixtures ((EC) No 1272/2008, Annex VI)

U When put on the market gases have to be classified as 'Gases under pressure', in one of the groups compressed gas, liquefied gas, refrigerated liquefied gas or dissolved gas. The group depends on the physical state in which the gas is packaged and therefore has to be assigned case by case.

Creation of the safety data sheet

UMCO GmbH

Georg-Wilhelm-Str. 187, D-21107 Hamburg

Tel.: +49 40 / 555 546 300 Fax: +49 40 / 555 546 357 e-mail: umco@umco.de

This information is based on our present knowledge and experience.

The safety data sheet describes products with a view to safety requirements.

It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

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