

according to Regulation (EC) No 1907/2006 (REACH) as amended

Triethanolamine

Creation date	26th August 2016	Version	5.0
Revision date	22nd July 2022		

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

- 1.1. Product identifier**
- | | |
|----------------------|---|
| Substance / mixture | Triethanolamine |
| Chemical name | substance |
| CAS number | Ethanol, 2,2',2''-nitrioltris- |
| EC (EINECS) number | 102-71-6 |
| Registration number | 203-049-8 |
| Other substance name | 01-2119486482-31-0001 |
| | Triethanolamine, (2-hydroxyethyl)amine, TEA |
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**
- Substance's intended use**
Chemical production, analytical chemistry, laboratory synthesis, industrial applications.
- Substance uses advised against**
The product should not be used in ways other than those referred in Section 1.
- 1.3. Details of the supplier of the safety data sheet**
- Supplier**
- | | |
|-----------------------------|--|
| Name or trade name | Ing. Petr Švec - PENTA s.r.o. |
| Address | Radiová 1122/1, Praha 10, 102 00
Czech Republic |
| Identification number (CRN) | 02096013 |
| VAT Reg No | CZ02096013 |
| Phone | +420 226 060 681 |
| E-mail | info@pentachemicals.eu |
| Web address | www.pentachemicals.eu |
- Competent person responsible for the safety data sheet**
- | | |
|--------|-------------------------------|
| Name | Ing. Petr Švec - PENTA s.r.o. |
| E-mail | info@pentachemicals.eu |
- 1.4. Emergency telephone number**
European emergency number: 112

SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture**
- Classification of the substance in accordance with Regulation (EC) No 1272/2008**
The substance is not classified as dangerous according to Regulation (EC) No 1272/2008.
- Full text of all classifications and hazard statements is given in the section 16.
- 2.2. Label elements**
- none
- 2.3. Other hazards**
The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Substance does not meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

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SECTION 3: Composition/information on ingredients

3.1. Substances

Chemical characterization

The substance specified below.

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
CAS: 102-71-6 EC: 203-049-8 Registration number: 01-2119486482-31-0001	substance main component Ethanol, 2,2',2''-nitrilotris-	100		

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet.

If inhaled

Terminate the exposure immediately; move the affected person to fresh air.

If on skin

Remove contaminated clothes.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person.

If swallowed

DO NOT INDUCE VOMITING - even the induced vomiting can cause complications as in case of detergents and other foaming substances.

4.2. Most important symptoms and effects, both acute and delayed

If inhaled

Not expected.

If on skin

Not expected.

If in eyes

Not expected.

If swallowed

Not expected.

4.3. Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Accommodate extinguishing components to the location of fire.

Unsuitable extinguishing media

not available

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

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5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with chemical resistant gloves. Use a self-contained breathing apparatus and full-body protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Follow the instructions in the Sections 7 and 8.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

6.3. Methods and material for containment and cleaning up

After removal of the product, wash the contaminated site with plenty of water.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose.

Storage class

12 - Other non-combustible liquids

7.3. Specific end use(s)

not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

DNEL

Ethanol, 2,2',2''-nitrioltris-

Workers / consumers	Route of exposure	Value	Effect	Value determination	Source
Workers	Dermal	0.14 mg/cm ²	Local chronic effects		
Workers	Dermal	3.12 mg/kg	Systemic chronic effects		
Workers	Inhalation	2.82 mg/cm ²	Local chronic effects		
Workers	Inhalation	8.37 mg/m ³	Systemic chronic effects		
Consumers	Inhalation	1.48 mg/m ³	Systemic chronic effects		
Consumers	Inhalation	1.41 mg/m ³	Local chronic effects		
Consumers	Dermal	0.05 mg/cm ²	Local chronic effects		
Consumers	Dermal	1.1 mg/kg	Systemic chronic effects		
Consumers	Oral	12.5 mg/kg	Systemic chronic effects		

PNEC

Ethanol, 2,2',2''-nitrioltris-

Route of exposure	Value	Value determination	Source
Drinking water	0.32 mg/l		
Seawater	0.032 mg/l		

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Ethanol, 2,2',2''-nitrilotris-

Route of exposure	Value	Value determination	Source
Freshwater sediment	1.7 mg/kg		
Soil (agricultural)	0.151 mg/kg		

8.2. Exposure controls

Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

It is not needed.

Skin protection

When handling in long-term or repeatedly, use protective gloves. Hand protection: Protective gloves resistant to the product (nitrile rubber).

Respiratory protection

It is not needed.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	colorless to yellowish
Odour	po amoniaku
Melting point/freezing point	21,2 °C
Boiling point or initial boiling point and boiling range	336,1 °C
Flammability	data not available
Lower and upper explosion limit	data not available
Flash point	179 °C
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	10,5 (undiluted)
Kinematic viscosity	data not available
Solubility in water	data not available
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	0,00029 hPa at 20 °C
Density and/or relative density	
Density	1,125 g/cm ³
Form	data not available
Ethanol, 2,2',2''-nitrilotris- (CAS: 102-71-6)	liquid

9.2. Other information

not available

SECTION 10: Stability and reactivity

10.1. Reactivity

The substance is non-flammable.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

Unknown.

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10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents.

10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous outcomes such as carbon monoxide and carbon dioxide are formed at high temperature and in fire.

SECTION 11: Toxicological information

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

No toxicological data is available for the substance.

Acute toxicity

Based on available data the classification criteria are not met.

Ethanol, 2,2',2''-nitrilotris-

Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex
Oral	LD50	OECD 401	6.400 mg/kg		Rat (<i>Rattus norvegicus</i>)	
Dermal	LD50	OECD 402	>2.000 mg/kg		Rabbit	
	LC50		11.800 mg/l	96 hour	<i>Pimephales promelas</i>	
	EC50		609.9 mg/l	48 hour	<i>Ceriodaphnia dubia</i>	

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Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex
Oral	LD50		>5000 mg/kg		Rat	
Dermal	LD50		>2000 mg/kg		Rabbit	

Irritation

Ethanol, 2,2',2''-nitrilotris-

Route of exposure	Result	Exposure time	Species
	Not irritating		

Skin corrosion/irritation

Based on available data the classification criteria are not met.

Ethanol, 2,2',2''-nitrilotris-

Route of exposure	Result	Method	Exposure time	Species
Dermal	Not irritating	OECD 404		Rabbit

Serious eye damage/irritation

Based on available data the classification criteria are not met.

Ethanol, 2,2',2''-nitrilotris-

Route of exposure	Result	Exposure time	Species
	Not irritating		Rabbit

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Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

Ethanol, 2,2',2''-nitrioltris-

Route of exposure	Result	Exposure time	Species	Sex
	Not sensitizing		Guinea-pig (<i>Cavia aperea f. porcellus</i>)	

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Ethanol, 2,2',2''-nitrioltris-

Result	Exposure time	Specific target organ	Species	Sex
Negative				

Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Based on available data the classification criteria are not met.

Toxicity for specific target organ - single exposure

Based on available data the classification criteria are not met.

Toxicity for specific target organ - repeated exposure

Based on available data the classification criteria are not met.

Ethanol, 2,2',2''-nitrioltris-

Route of exposure	Parameter	Value	Result	Species	Sex
			Negative		

Aspiration hazard

Based on available data the classification criteria are not met.

11.2. Information on other hazards

The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 12: Ecological information

12.1. Toxicity

Acute toxicity

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Parameter	Value	Exposure time	Species	Environment
LC50	450-1000 mg/l	96 hour	Fishes	
EC50	1390 mg/l	48 hour	Daphnia	
IC50	216 mg/l	72 hour	Algae	

12.2. Persistence and degradability

The substance is biodegradable.

12.3. Bioaccumulative potential

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Parameter	Method	Value	Exposure time	Species	Environment	Temperature [°C]
	OECD 305	<0.4 mg/kg	42 day	Cyprinus carpio		

Not available.

12.4. Mobility in soil

Not available.

12.5. Results of PBT and vPvB assessment

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Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Endocrine disrupting properties

This substance does not have endocrine disrupting properties with respect to non-target organisms as it does not meet the criteria set out in section B of Regulation (EU) No 2017/2100. The substance does not have endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7. Other adverse effects

Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

SECTION 14: Transport information

14.1. UN number or ID number

not subject to transport regulations

14.2. UN proper shipping name

not relevant

14.3. Transport hazard class(es)

not relevant

14.4. Packing group

not relevant

14.5. Environmental hazards

not relevant

14.6. Special precautions for user

Reference in the Sections 4 to 8.

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No. 793/93 and Commission Regulation (EC) No. 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No. 1907/2006, as amended. REGULATION (EC) No 648/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 March 2004 on detergents, as amended.

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15.2. Chemical safety assessment

not available

SECTION 16: Other information

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

ADR	European agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
DNEL	Derived no-effect level
EC50	Concentration of a substance when it is affected 50% of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
ES	Identification code for each substance listed in EINECS
EU	European Union
EuPCS	European Product Categorisation System
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
IC50	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC50	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD50	Lethal dose of a substance in which it can be expected death of 50% of the population
log Kow	Octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution from Ships
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted no-effect concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

according to Regulation (EC) No 1907/2006 (REACH) as amended

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not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended.
REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

The changes (which information has been added, deleted or modified)

The version 5.0 replaces the SDS version from 02 May 2022. Changes were made in sections 1,2,4,5,6,7,8,9,10,15 and 16.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.