

SAFETY DATA SHEET

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

Pentaprol

Creation date	31st July 2023	Version	1.0
Revision date			

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

- 1.1. Product identifier**
Substance / mixture Pentaprol mixture
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**
Mixture's intended use
Chemical production, analytical chemistry, laboratory synthesis, industrial applications.
Mixture 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: 112 112

SECTION 2: Hazards identification

- 2.1. Classification of the substance or mixture**
Classification of the mixture in accordance with Regulation (EC) No 1272/2008
The mixture is classified as dangerous.
- Flam. Liq. 2, H225
Eye Irrit. 2, H319
STOT SE 3, H336
- Full text of all classifications and hazard statements is given in the section 16.
- Most serious adverse physico-chemical effects**
Highly flammable liquid and vapour.
- Most serious adverse effects on human health and the environment**
Causes serious eye irritation. May cause drowsiness or dizziness.

- 2.2. Label elements**
Hazard pictogram



Signal word
Danger

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Hazardous substances

ethyl acetate

ethanol

Hazard statements

H225

Highly flammable liquid and vapour.

H319

Causes serious eye irritation.

H336

May cause drowsiness or dizziness.

Precautionary statements

P210

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P240

Ground and bond container and receiving equipment.

P261

Avoid breathing vapours.

P305+P351+P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental information

EUH066

Repeated exposure may cause skin dryness or cracking.

2.3. Other hazards

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Mixture does not contain any substance meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 607-022-00-5 CAS: 141-78-6 EC: 205-500-4 Registration number: 01-2119475103-46-	ethyl acetate	80-82	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336 EUH066	1
Index: 603-002-00-5 CAS: 64-17-5 EC: 200-578-6 Registration number: 01-2119457-610-43-xxxx	ethanol	15-18	Flam. Liq. 2, H225 Eye Irrit. 2, H319 Specific concentration limit: Eye Irrit. 2, H319: C ≥ 50 %	
Index: 603-117-00-0 CAS: 67-63-0 EC: 200-661-7 Registration number: 01-2119457558-25-0000	propan-2-ol	2	Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	

Notes

1 A substance for which exposure limits are set.

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

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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 unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

If inhaled

Terminate the exposure immediately; move the affected person to fresh air. Protect the person against growing cold. Provide medical treatment if irritation, dyspnoea or other symptoms persist.

If on skin

Remove contaminated clothes. Wash the affected area with plenty of water, lukewarm if possible. Soap, soap solution or shampoo should be used if there is no skin injury. Provide medical treatment if skin irritation persists. Rinse skin with water or shower.

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. Rinsing should continue at least for 10 minutes. Provide medical treatment, specialized if possible.

If swallowed

Rinse out the mouth with water and provide 2-5 dL of water. Provide medical treatment if the person has any health problems.

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

If inhaled

May cause drowsiness or dizziness.

If on skin

Not expected.

If in eyes

Causes serious eye irritation.

If swallowed

Irritation, nausea.

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

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water - full jet.

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.

5.3. Advice for firefighters

Self-Contained Breathing Apparatus (SCBA) with a chemical protection suit only where personal (close) contact is likely. Use a self-contained breathing apparatus and full-body protective clothing. Closed containers with the product near the fire should be cooled with water. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide sufficient ventilation. Highly flammable liquid and vapour. Remove all ignition sources. Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale mist/vapours/spray. Prevent contact with skin and eyes.

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

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of gases and vapours in flammable or explosive concentrations and concentrations exceeding the occupational exposure limits. The product should be used only in the areas where it is not in contact with open fire and other ignition sources. Use non-sparking tools. Use of antistatic clothes and footwear is recommended. Do not inhale mist/vapours/spray. Prevent contact with skin and eyes. No smoking. Wash hands and exposed parts of the body thoroughly after handling. Use only outdoors or in a well-ventilated area. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Take action to prevent static discharges.

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. Do not expose to sunlight. Store locked up. Keep container tightly closed. Keep cool.

The specific requirements or rules relating to the substance/mixture

Solvent vapours are heavier than air and accumulate especially near the floor where they may form an explosive mixture with the air.

7.3. Specific end use(s)

not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The mixture contains substances for which occupational exposure limits are set.

European Union

Commission Directive (EU) 2017/164

Substance name (component)	Type	Value
ethyl acetate (CAS: 141-78-6)	OEL 8 hours	734 mg/m ³
	OEL 8 hours	200 ppm
	OEL 15 minutes	1468 mg/m ³
	OEL 15 minutes	400 ppm

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8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. If exposure limits cannot be observed in this mode, suitable protection of airways must be used. 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

Protective goggles.

Skin protection

Hand protection: Protective gloves resistant to the product. Contaminated skin should be washed thoroughly.

Respiratory protection

Halfmask with a filter against organic vapours or a self-contained breathing apparatus as appropriate if exposure limit values of substances are exceeded or in a poorly ventilated environment.

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	colourless
Odour	containing alcohol
Melting point/freezing point	data not available
Boiling point or initial boiling point and boiling range	data not available
Flammability	flammable
Lower and upper explosion limit	data not available
Flash point	data not available
Auto-ignition temperature	data not available
Decomposition temperature	data not available
pH	data not available
Kinematic viscosity	data not available
Solubility in water	soluble
Partition coefficient n-octanol/water (log value)	data not available
Vapour pressure	data not available
Density and/or relative density	
Density	0.880 g/cm ³ at 20 °C
Relative vapour density	data not available
Particle characteristics	data not available
Form	liquid

9.2. Other information

not available

SECTION 10: Stability and reactivity

10.1. Reactivity

not available

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

Inhalation of solvent vapors above values exceeding exposure limits for working environment may result in acute inhalation poisoning, depending on the level of concentration and exposure time. No toxicological data is available for the mixture.

Acute toxicity

Based on available data the classification criteria are not met.

ethanol					
Route of exposure	Parameter	Value	Exposure time	Species	Sex
Oral	LD ₅₀	13300 mg/kg		Rat (Rattus norvegicus)	
Dermal	LD ₅₀	>15800 mg/kg		Rabbit	
Inhalation (vapor)	LC ₅₀	124.7 mg/l	4 hours	Rat (Rattus norvegicus)	

propan-2-ol					
Route of exposure	Parameter	Value	Exposure time	Species	Sex
Oral	LD ₅₀	>2000 mg/kg		Rat	
Inhalation (vapor)	LC ₅₀	>5 mg/kg	4 hours	Rat	
Oral	LD ₅₀	4710 mg/kg		Rat	
Inhalation (vapor)	LC ₅₀	72.6 mg/l	4 hours	Rat	
Dermal	LD ₅₀	12870 mg/kg		Rabbit	
Dermal	LD ₅₀	>2000 mg/kg		Rat	

Skin corrosion/irritation

Based on available data the classification criteria are not met.

Corrosivity

ethanol			
Route of exposure	Result	Exposure time	Species
	No effect		Rabbit

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Serious eye damage/irritation

Causes serious eye irritation.

ethanol			
Route of exposure	Result	Exposure time	Species
	Irritating		Rabbit

propan-2-ol			
Route of exposure	Result	Exposure time	Species
	Highly irritating		Rabbit

Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

ethanol				
Route of exposure	Result	Exposure time	Species	Sex
	Indeterminate		Human	

Germ cell mutagenicity

Based on available data the classification criteria are not met.

ethanol				
Result	Exposure time	Specific target organ	Species	Sex
Indeterminate				

Carcinogenicity

Based on available data the classification criteria are not met.

ethanol					
Route of exposure	Parameter	Value	Result	Species	Sex
Oral			Indeterminate	Rat (Rattus norvegicus)	

Reproductive toxicity

Based on available data the classification criteria are not met.

ethanol						
Effect	Parameter	Value	Exposure time	Result	Species	Sex
Developmental toxicity	NOAEL	38 mg/l		Negative	Rat (Rattus norvegicus)	
	NOAEL	5200 mg/kg	24 hours	Indeterminate	Rat (Rattus norvegicus)	

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Toxicity for specific target organ - single exposure

May cause drowsiness or dizziness.

ethanol							
Route of exposure	Parameter	Value	Exposure time	Specific target organ	Result	Species	Sex
Inhalation	LOAEL	2.6 mg/l	30 minutes	Nervous system	Drowsiness, Dizziness	Human	
Inhalation	LOAEL	9.4 mg/l		Lungs	Indeterminate	Human	

Toxicity for specific target organ - repeated exposure

Based on available data the classification criteria are not met.

propan-2-ol							
Route of exposure	Parameter	Value	Exposure time	Specific target organ	Result	Species	Sex
Inhalation	NOAEL	12.3 mg/l	24 months	Kidney	Indeterminate	Rat	
Inhalation	NOAEL	12 mg/l	13 weeks	Nervous system	Negative	Rat	
Oral	NOAEL	400 mg/kg/24h	12 weeks	Kidney	Indeterminate	Rat	

Aspiration hazard

Based on available data the classification criteria are not met.

11.2. Information on other hazards

The mixture does not contain substances with 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

not available

Acute toxicity

ethanol					
Parameter	Value	Exposure time	Species	Environment	Value determination
EC ₅₀	42 mg/l	96 hours	Fish		Experimentally
EC ₅₀	5012 mg/l	48 hours	Daphnia		Experimentally
NOEC	<500 mg/l	96 hours	Algae		Experimentally

propan-2-ol					
Parameter	Value	Exposure time	Species	Environment	Value determination
LC ₅₀	>100 mg/l	96 hours	Fish		
EC ₅₀	>100 mg/l	48 hours	Daphnia		
NOEC	30 mg/l	21 days	Daphnia		Experimentally
EC ₅₀	1400 mg/l	48 hours	Crustaceans		Experimentally
EC ₅₀	>1000 mg/l	24 hours	Algae		Experimentally
IC ₅₀	>100 mg/l	72 hours	Algae		

12.2. Persistence and degradability

not available

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Biodegradability**propan-2-ol**

Parameter	Value	Exposure time	Environment	Value determination	Result
		14 days		Experimentally	

12.3. Bioaccumulative potential

Not available.

12.4. Mobility in soil

Not available.

12.5. Results of PBT and vPvB assessment

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

The mixture does not contain substances with 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**

UN 1993

14.2. UN proper shipping name

FLAMMABLE LIQUID, N.O.S. (contains ethylacetate, ethanol and isopropanol)

14.3. Transport hazard class(es)

3 Flammable liquids

14.4. Packing group

II - substances presenting medium danger

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

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Additional information

Hazard identification No.

33

UN number

1993

Classification code

F1

Safety signs

3



Air transport - ICAO/IATA

Packaging instructions passenger

355

Cargo packaging instructions

366

Marine transport - IMDG

EmS (emergency plan)

F-E, S-E

MFAG

310

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 as amended. Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out (mixture).

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Guidelines for safe handling used in the safety data sheet

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P240 Ground and bond container and receiving equipment.

P261 Avoid breathing vapours.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

A list of additional standard phrases used in the safety data sheet

EUH066 Repeated exposure may cause skin dryness or cracking.

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

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BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC	Identification code for each substance listed in EINECS
EC ₅₀	Concentration of a substance when it is affected 50% of the population
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
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
IC ₅₀	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC ₅₀	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD ₅₀	Lethal dose of a substance in which it can be expected death of 50% of the population
LOAEL	Lowest observed adverse effect level
log K _{ow}	Octanol-water partition coefficient
NOAEL	No observed adverse effect level
NOEC	No observed effect concentration
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
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
Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquid
STOT SE	Specific target organ toxicity - single exposure

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

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.

More information

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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.