

SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.1
Prepared on : 13.10.2025
Revised on : -

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

1.1 Product identifiers

Product name Citric acid monohydrate
Product Number PSR44166
Brand PureSynth research chemicals
CAS No. 5949-29-1

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

Identified uses : PurTrace

1.3 Details of the supplier of the safety data sheet

Company PureSynth Research Chemicals GmbH.
64683 Einhausen Marie-Curie-Straße. 3, Germany

1.4 Emergency telephone number

Worldwide Helpline No.: 1800-8908-260

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Eye irritation, (Category 2) H319: Causes serious eye irritation.
Specific target organ toxicity - single exposure, (Category 3), Respiratory system H335: May cause respiratory irritation.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word Warning

Hazard statement(s)

H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statement(s)

P261 Avoid breathing dust.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear eye protection/ face protection.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

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 Hazard Statements

none

2.3 Other hazards: This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher

SECTION 3: Composition / information on ingredients

3.1 Substances

Common names & Synonyms	Mol. formula	CAS number
-	$C_6H_8O_7 \cdot H_2O$	5949-29-1
Component	Classification	Concentration
Citric acid monohydrate	Eye Irrit. 2; STOT SE 3; H319, H335	<= 100 %

SECTION 4: First aid measures

Description of first aid measures

General advice	Show this material safety data sheet to the doctor in attendance.
If inhaled	After inhalation: fresh air.
In case of skin contact	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.
In case of eye contact	After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
If swallowed	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
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
Indication of any immediate medical attention and special treatment needed	No data available

SECTION 5: Fire fighting measures

Extinguishing media	Water Foam Carbon dioxide (CO2) Dry powder
Suitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given.
Unsuitable extinguishing media	Carbon oxides Combustible.
Special hazards arising from the substance or mixture	Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating. Development of hazardous combustion gases or vapours possible in the event of fire.

Advice for fire-fighters	In the event of fire, wear self-contained breathing apparatus.
Further information	Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures	Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
Environmental precautions	Do not let product enter drains.
Methods and materials for containment and cleaning up	Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.
Reference to other sections	For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling	For precautions see section 2.2.
Conditions for safe storage, including any incompatibilities	Tightly closed. Dry.
Specific end use(s)	Storage class (TRGS 510): 11: Combustible Solids Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls / Personal protection

Control parameters	Ingredients with workplace control parameters
Exposure controls	
Personal protective equipment:	
Eye / face protection	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves
Skin protection	
Body Protection	protective clothing required when dusts are generated.
Respiratory protection	Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P2
Control of environmental exposure	Do not let product enter drains.

SECTION 9: Physical and chemical properties

Appearance	Form: crystalline
Odour	Colour: white
pH - Value	odorless
Density	1.8 at 50 g/l at 20 °C
Boiling Point	1.54 g/cm ³ at 20 °C
Melting Point	(decomposition)
Solubility in water	135 - 152 °C
Flash point	880 g/l at 20 °C
Vapour pressure	173.9 °C - closed cup
Auto-ignition temperature	< 0.01 hPa at 25 °C - (anhydrous substance)
Vapour density	No data available
Flammability (solid, gas)	No data available
Evaporation rate	No data available
Partition coefficient: n- octanol / water	log Pow: -1.72 at 20 °C - (anhydrous substance), Bioaccumulation is not expected.
Viscosity	No data available
Explosive properties	Not classified as explosive.
Upper / lower flammability or explosive limits	No data available
Oxidizing properties	none

Other safety information: Relative vapor density: 7.26 - (Air = 1.0)

SECTION 10: Stability and reactivity

Reactivity	Forms explosive mixtures with air on intense heating. A range from approx. 15 Kelvin below the flash point is to be rated as critical. The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature). Violent reactions possible with:
Possibility of hazardous reactions	Metals Oxidizing agents Bases Reducing agents
Condition to avoid	Strong heating.
Incompatible materials	No data available
Hazardous decomposition products	In the event of fire: see section 5

SECTION 11: Toxicological information

	LD50 Oral - Mouse - male and female - 5.400 mg/kg
	Remarks: The value is given in analogy to the following substances: citric acid
Acute toxicity	Inhalation: No data available
	LD50 Dermal - Rat - male and female - > 2.000 mg/kg
	Remarks: The value is given in analogy to the following substances: citric acid
Skin corrosion/irritation	Skin - Rabbit
	Result: No skin irritation - 4 h
Serious eye damage/eye irritation	Eyes - Rabbit
	Result: Irritating to eyes.
Respiratory or skin sensitization	Prolonged or repeated exposure may cause allergic reactions in certain sensitive individuals.
	Test Type: Ames test
	Test system: Salmonella typhimurium
	Metabolic activation: with and without metabolic activation
	Result: negative
	Remarks: The value is given in analogy to the following substances: citric acid
	Test Type: Mutagenicity (mammal cell test): micronucleus.
	Test system: Human lymphocytes
	Metabolic activation: without metabolic activation
	Result: positive
	Remarks: The value is given in analogy to the following substances: citric acid
Germ cell mutagenicity	Test Type: Chromosome aberration test
	Species: Rat
	Cell type: Bone marrow
	Application Route: Oral
	Result: negative
	Remarks: The value is given in analogy to the following substances: citric acid
	Test Type: dominant lethal test
	Species: Rat
	Application Route: Oral
	Method: Regulation (EC) No. 440/2008, Annex, B.22
	Result: negative
	Remarks: The value is given in analogy to the following substances: citric acid
Carcinogenicity	No data available
Reproductive toxicity	No data available
Specific target organ toxicity - single exposure	Inhalation - May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
Additional Information	No data available
Endocrine disrupting properties	
Assessment	The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article

57(f) or Commission Delegated regulation (EU) 2017/2100 or
Commission Regulation (EU) 2018/605 at levels of 0.1% or higher

SECTION 12: Ecological information

Toxicity

Toxicity to fish

LC50 - Leuciscus idus (Golden orfe) - 440 - 760 mg/l - 96 h

Toxicity to algae

IC5 - Scenedesmus quadricauda (Green algae) - 640 mg/l - 7 d

aerobic - Exposure time 28 d

Persistence and degradability

Result: 97 % - Readily biodegradable.

Biochemical Oxygen Demand (BOD): 526 mg/g

Chemical Oxygen Demand (COD): 728 mg/g

Bio accumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at Levels of 0.1% or higher.

Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other adverse effects

No data available

SECTION 13: Disposal considerations

Waste treatment methods Products

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 uncleansed containers like the product itself.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

	UN no.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR / RID	-	Not dangerous goods	-	-	No
IMDG	-	Not dangerous goods	-	-	No
IATA	-	Not dangerous goods	-	-	No

SECTION 15: Regulatory information

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.

Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

The information in this SDS 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. The user must be determined suitability of this information for his application.