SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Revision date: 30/09/2023

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

1.1 Product identifiers

Product name	Adipic Acid
Product Number	PSR41215
Brand	PureSynth research chemicals
CAS No.	124-04-9

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

Identified uses : PurCert

1.3 Details of the supplier of the safety data sheet

Company **PureSynth Research Chemicals GmbH.**

64683 Einhausen Marie-Curie-StraBe. 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

Classification according to Regulation (EC) No 1272/2008

Serious eye damage, (Category 1) H318: Causes serious eye damage.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram

Signal word Danger

Hazard statement(s)

H318 Causes serious eye damage.

Precautionary statement(s)

P280 Wear eye protection/ face protection.

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

Other hazards:

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

Ecological information:

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.

Toxicological information:

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. Vesicant., Rapidly absorbed through skin.

SECTION 3: Composition / information on ingredients

3.1 Substances

Common names & Synonyms	Mol. formula	CAS number
Hexanedioic acid	$C_6H_{10}O_4$	124-04-9
Component	**Classification**	**Concentration**
Adipic acid	Eye Dam. 1; H318	<= 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. Immediately 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 **Suitable extinguishing media**	Water Foam Carbon dioxide (CO2) Dry powder
Unsuitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given
Special hazards arising from the substance or mixture	Carbon oxides Combustible. 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: Avoid inhalation of dusts. 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 carefully. 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	Keep container tightly closed in a dry and well-ventilated place Storage class (TRGS 510): 11: Combustible Solids
Specific end use(s)	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
Skin Protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.
Body Protection	protective clothing
Respiratory protection	Required when dusts are generated. 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: Solid Colour: White
Odor	odorless
Melting point/freezing point	Melting point/range: 151 - 154 °C
Initial boiling point and boiling range	265 °C at 133 hPa
Flammability (solid, gas)	May form combustible dust concentrations in air
Upper/lower flammability or explosive limits	No data available
Flash point	196 °C - closed cup
Autoignition temperature	> 400 °C - Regulation (EC) No. 440/2008, Annex, A.16does not ignite
Decomposition temperature	338 °C
pH	2.7 at 23 g/l at 25 °C
Viscosity	No data available
Water solubility	23 g/l at 25 °C - soluble
Partition coefficient: n-octanol/water	log Pow: 0,093 at 25 °C - Bioaccumulation is not expected.
Vapor pressure	0.097 hPa at 18,5 °C
Density	1.360 g/cm3 at 25 °C
Relative density	1.36 at 25 °C
Relative vapor density	No data available
Particle characteristics	No data available
Explosive properties	No data available
Oxidizing properties	none

Other safety information:
Minimum ignition energy > 100 mJ
Dissociation constant: 4.92 at 20 °C

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).
Possibility of hazardous reactions	Violent reactions possible with: Bases Strong oxidizing agents Reducing agents polymerization with Aldehydes Alcohols
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

Acute toxicity	LD50 Oral - Rat - male and female - 5.560 mg/kg LC50 Inhalation - Rat - male and female - 4 h - > 7,7 mg/l - dust/mist LD50 Dermal - Rabbit - male and female - > 7.940 mg/kg Remarks: (40% solution)
Skin corrosion/irritation	Skin - Rabbit Result: slight irritation - 24 h
Serious eye damage/eye irritation	Eyes - Rabbit Result: Causes serious eye damage. - 24 h
Respiratory or skin sensitization	Maximization Test - Guinea pig Result: negative
Germ cell mutagenicity	Test Type: In vitro mammalian cell gene mutation test Test system: Chinese hamster lung cells Metabolic activation: with and without metabolic activation Result: negative Test Type: Ames test Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Result: negative Test Type: Chromosome aberration test in vitro Test system: human diploid fibroblasts Metabolic activation: without metabolic activation Result: negative Test Type: Chromosome aberration test Species: Rat Cell type: Bone marrow Application Route: Oral Result: negative
Carcinogenicity	No data available
Reproductive toxicity	No data available

Specific target organ toxicity - single exposure	No data available
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
Additional Information	
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 daphnia and other aquatic invertebrates	static test LC50 - Daphnia magna (Water flea) - 46 mg/l - 48 h
Toxicity to algae	static test ErC50 - Pseudokirchneriella subcapitata (green algae) - 64.5 mg/l - 72 h static test NOEC - Pseudokirchneriella subcapitata (green algae) - 40.6 mg/l - 72 h
Toxicity to bacteria	static test EC50 - activated sludge - > 100 mg/l - 3 h
Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)	flow-through test NOEC - Daphnia magna (Water flea) - 6,3 mg/l - 21 d
Persistence and degradability	
Biodegradability	aerobic - Exposure time 30 d Result: 83 % - Readily biodegradable.
Theoretical oxygen demand	1.423 mg/g
Ratio BOD/ThBOD	36 %
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, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (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	Enviromental Hazards
ADR / RID		Not dangerous goods			No
IMDG		Not dangerous goods			No
IATA		Not dangerous goods			No

Special precautions for user

Further information : Not classified as dangerous in the meaning of transport regulations

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

A Chemical Safety Assessment has been carried out for this substance.

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.