

SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.1
Prepared on : 30.03.2020
Revised on : 18.03.2026

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

1.1 Product identifiers

Product name Acetaldehyde diethyl acetal
Product Number PSR28355
Brand PureSynth research chemicals
CAS No. 105-57-7

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

Identified uses : Laboratory Chemicals

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

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Skin irritation (Category 2), H315

Eye irritation (Category 2), H319

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H225 Highly flammable liquid and vapor.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statement(s)

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

P233 Keep container tightly closed.

P240 Ground and bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P303 + P361 + P353 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/doctor

P305 + P351 + P338	if you feel unwell. 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, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition / information on ingredients

3.1 Substances

Common names & Synonyms	Mol. formula	CAS number
Acetal	C ₆ H ₁₄ O ₂	105-57-7
Component	Classification	Concentration
1,1-diethoxyethane	Flam. Liq. 2; Skin Irrit. 2; Eye Irrit. 2; H225, H315, H319	<= 100 %

SECTION 4: First aid measures

Description of first aid measures

General advice	Consult a physician. Show this 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	Carbon dioxide (CO ₂) Foam Dry powder
Suitable extinguishing media	Carbon oxides Combustible.
Special hazards arising from the substance or mixture	Pay attention to flashback. Development of hazardous combustion gases or vapours possible in the event of fire. Forms explosive mixtures with air at ambient temperatures.
Advice for fire-fighters	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Further information	Remove container from danger zone and cool with water. 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. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
Environmental precautions	Do not let product enter drains. Risk of explosion.
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 with liquid-absorbent material (e.g. Chemizorb [®]). Dispose of properly. Clean up affected area.
Reference to other sections	For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling	Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Heat-, light-, and moisture-sensitive. Dry residue is explosive. Storage class (TRGS 510): 3: Flammable liquids
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	No data available
Exposure controls	
Appropriate engineering controls	No data available

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.

Body Protection

Flame retardant antistatic protective clothing.

Respiratory protection

Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Control of environmental exposure

Do not let product enter drains. Risk of explosion.

SECTION 9: Physical and chemical properties

Appearance	Clear, liquid, colourless
Odour	Fruity
pH - Value	7.1 at 20 °C
Density	0.831 g/cm ³ at 25 °C - lit.
Boiling Point	102 °C - lit.
Melting Point	< -22 °C - OECD Test Guideline 102
Solubility in water	1.046 g/l at 20 °C
Flash point	< 20 °C - closed cup
Vapour pressure	36.37 hPa at 20 °C
Auto -ignition temperature	315 °C at 997.9 - 1.000.1 hPa
Vapour density	No data available
Flammability (solid, gas)	No data available
Evaporation rate	No data available
Partition coefficient: n- octanol / water	Log Pow: < 1 at 20 °C - OECD Test Guideline 117 - Bioaccumulation is not expected.
Viscosity	No data available
Explosive properties	No data available
Upper / lower flammability or explosive limits	Upper explosion limit: 10.4 %(V) Lower explosion limit: 1.65 %(V)
Oxidizing properties	No data available

Other safety information:

Relative vapour density

4.08 - (Air = 1.0)

SECTION 10: Stability and reactivity

Reactivity	Vapors may form explosive mixture with air.
Chemical stability	The product is chemically stable under standard ambient conditions (room temperature). Stable under recommended storage conditions.
Possibility of hazardous reactions	No data available
Condition to avoid	Avoid moisture. Heat. Light. Heat, flames and sparks. Warming.
Incompatible materials	Acid chlorides, Acid anhydrides, Oxidizing agents, Alkali metals, Reducing agents, Acids
Hazardous decomposition products	In the event of fire: see section 5

SECTION 11: Toxicological information

Acute toxicity	LD50 Oral - Rat - 4.600 mg/kg Remarks: (RTECS) Inhalation: No data available Dermal: No data available
Skin corrosion/irritation	Causes skin irritation. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Serious eye damage/eye irritation	Causes serious eye irritation. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)
Respiratory or skin sensitization	In vitro study Result: negative (OECD Test Guideline 442D) Test Type: Ames test
Germ cell mutagenicity	Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 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. RTECS: AB2800000 Central nervous system depression, Gastrointestinal disturbance To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological information

Toxicity

Toxicity to fish	No data available
Toxicity to other aquatic invertebrates	static test EC50 - Daphnia magna (Water flea) - > 120 mg/l - 48 h (OECD Test Guideline 202) static test ErC50 - Pseudokirchneriella subcapitata (green algae) - > 94,4 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to algae	static test EC10 - Pseudokirchneriella subcapitata (green algae) - > 94,4 mg/l - 72 h (OECD Test Guideline 201)
Toxicity to bacteria	No data available

Persistence and degradability

Biodegradability aerobic - Exposure time 28 d
Result: 44 - 50 % - Inherently biodegradable.
(OECD Test Guideline 310)

Bioaccumulative 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

Product:

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

Assessment

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 uncleaned 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	1088	ACETAL	3	II	No
IMDG	1088	ACETAL	3	II	No
IATA	1088	Acetal	3	II	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. 1907/200

National legislation

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of : FLAMMABLE LIQUIDS major-accident hazards involving dangerous substances.

Other regulations

Take note of Dir 94/33/EC on the protection of young people at work.

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.