SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.0
Prepared on : 30.03.2026
Revised on : -

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

1.1 Product identifiers

Product name	Dimethyl fumarate
Product Number	PSR50411
Brand	PureSynth research chemicals
CAS No.	624-49-7

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

Identified uses : Laboratory chemicals, Manufacture of substances

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

Acute toxicity, (Category 4)	H312: Harmful in contact with skin.
Skin irritation, (Category 2)	H315: Causes skin irritation.
Skin sensitization, (Category 1)	H317: May cause an allergic skin reaction.
Specific target organ toxicity - single exposure, (Category 3), Respiratory system	H335: May cause respiratory irritation.
Long-term (chronic) aquatic hazard, (Category 2)	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word Warning

Hazard statement(s)

H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P261	Avoid breathing dust.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing.
P302 + P352 + P312	IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.
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.

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

SECTION 3: Composition / information on ingredients

3.1 Substances

Common names & Synonyms	Mol. formula	CAS number
Fumaric Acid Dimethyl Ester	$C_6H_8O_4$	624-49-7

Component	Classification	Concentration
dimethyl fumarate	Acute Tox. 4; Skin Irrit. 2; Skin Sens. 1; STOT SE 3; Aquatic Chronic 2; H312, H315, H317, H335, H411	<= 100 %

SECTION 4: First aid measures

Description of first aid measures

General advice	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. Consult a physician.
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: Firefighting 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. Development of hazardous combustion gases or vapours possible in the event of fire.
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	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	Tightly closed. Dry. 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	
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	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 Full contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min

	Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min
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 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.

SECTION 9: Physical and chemical properties

Appearance	Form: Powder to Crystal Colour: White
Odour	odourless
pH - Value	4.0 – 6.0 at 10 g/l at 20 °C suspension
Density	1.0283 g/cm3 at 20 °C
Boiling Point	187 °C Method: lit.
Melting Point	102 °C
Solubility in water	1.6 g/l at 20 °C
Flash point	Not applicable
Vapour pressure	5 hPa at 25 °C - (calculated)
Auto -ignition temperature	No data available
Vapour density	No data available
Flammability (solid, gas)	No data available
Evaporation rate	No data available
Partition coefficient: n- octanol / water	No data available
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: No data available

SECTION 10: Stability and reactivity

Reactivity	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: Strong oxidizing agents
Condition to avoid	no information available
Incompatible materials	Strong oxidizing agents

Hazardous decomposition products	In the event of fire: see section 5

SECTION 11: Toxicological information

Acute toxicity	LD50 Oral - Rat - 2240 mg/kg Remarks: (RTECS) Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract Inhalation: Rapid absorption. LD50 Dermal - Rabbit - 1250 mg/kg Remarks: (RTECS)
Skin corrosion/irritation	Skin - Rabbit Result: Moderate skin irritation - 24 h Remarks: Causes skin irritation. (RTECS)
Serious eye damage/eye irritation	Eyes - Rabbit Result: Severe irritations - 24 h Remarks: Causes serious eye damage. (RTECS)
Respiratory or skin sensitization	Sensitisation test: - Guinea pig Result: positive Remarks: (Lit.)
Germ cell mutagenicity	Test Type: Ames test Result: negative Remarks: (Lit.) Test Type: Mutagenicity (mammal cell test): micronucleus. Result: negative Remarks: (Lit.)
Carcinogenicity	No data available
Reproductive toxicity	Did not show teratogenic effects in animal experiments. Animal testing did not show any effects on fertility.
Specific target organ toxicity - single exposure	May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	No data available
Aspiration hazard	No data available
Additional 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. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Effects due to ingestion may include, flushing, Nausea, Vomiting, Diarrhea, Contact with skin can cause Dermatitis, Allergic reactions, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Systemic effects: After absorption: Nausea Vomiting flush of face, neck and arms After long-term exposure to the chemical: Changes in the blood count weakening of the immune system

Damage to:
Kidney
Further data:
Other dangerous properties can not be excluded.
This substance should be handled with particular care.

SECTION 12: Ecological information

Toxicity

Toxicity to fish	No data available
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) – 1.2 mg/l - 48 h Remarks: (own results)
Toxicity to algae	Growth inhibition NOEC - Algae – 0.037 mg/l (OECD Test Guideline 201)
Toxicity to bacteria	EC50 - activated sludge – 153.6 mg/l - 3 h (OECD Test Guideline 209)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	No data available
Persistence and degradability	Result: 76 % - Readily biodegradable. (OECD Test Guideline 301D)
Bioaccumulation	No bioaccumulation is to be expected (log Pow <= 4).
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	Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

Waste treatment methods	No data available
Contaminated packaging	No data available.

SECTION 14: Transport information

	UN no.	UN proper shipping name	Hazard Class(es)	Packaging group	Marine Pollutant
ADR / RID	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (dimethyl fumarate)	9	III	yes
IMDG	3077	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (dimethyl fumarate)	9	III	yes
IATA	3077	Environmentally hazardous substance, solid, n.o.s. (dimethyl fumarate)	9	III	yes

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use : dimethyl fumarate

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

National legislation Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.	E2 ENVIRONMENTAL HAZARD

15.2 Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

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

15.3 Chemical safety assessment

No data available

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.