

## SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.1  
Prepared on : 13.05.2023  
Revised on : 04.04.2026

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

#### 1.1 Product identifiers

**Product name** 1,3-Butanediol  
**Product Number** PSR40424  
**Brand** PureSynth research chemicals  
**CAS No.** 107-88-0

#### 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**

Not a hazardous substance or mixture according to Regulation (EC) No 1272/2008

#### 2.2 Label elements

No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

#### 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.

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 &<br>Synonyms | Mol. formula                                  | CAS number |
|----------------------------|-----------------------------------------------|------------|
| 1,3-Butylene glycol        | C <sub>4</sub> H <sub>10</sub> O <sub>2</sub> | 107-88-0   |

No components need to be disclosed according to the applicable regulations.

### SECTION 4: First aid measures

#### Description of first aid measures

|                                                                                   |                                                                                                                     |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>General advice</b>                                                             | Show this material safety data sheet to the doctor in attendance.                                                   |
| <b>If inhaled</b>                                                                 | After inhalation: fresh air.                                                                                        |
| <b>In case of skin contact</b>                                                    | In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.             |
| <b>In case of eye contact</b>                                                     | After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.                  |
| <b>If swallowed</b>                                                               | After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.                   |
| <b>Most important symptoms and effects, both acute and delayed</b>                | The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 |
| <b>Indication of any immediate medical attention and special treatment needed</b> | No data available                                                                                                   |

### SECTION 5: Firefighting measures

|                                                              |                                                                                                                      |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
| <b>Extinguishing media</b>                                   | Water Foam Carbon dioxide (CO <sub>2</sub> ) Dry powder.                                                             |
| <b>Unsuitable extinguishing media</b>                        | For this substance/mixture no limitations of extinguishing agents are given.                                         |
| <b>Special hazards arising from the substance or mixture</b> | Carbon oxides<br>Combustible.<br>Development of hazardous combustion gases or vapours possible in the event of fire. |
| <b>Advice for fire-fighters</b>                              | In the event of fire, wear self-contained breathing apparatus.                                                       |
| <b>Further information</b>                                   | Prevent fire extinguishing water from contaminating surface water or the ground water system.                        |

### SECTION 6: Accidental release measures

|                                                                            |                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal precautions, protective equipment and emergency procedures</b> | 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.<br>For personal protection see section 8 |
| <b>Environmental precautions</b>                                           | Do not let product enter drains.                                                                                                                                                                                                               |
| <b>Methods and materials for containment and cleaning up</b>               | Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material. 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**  
**Conditions for safe storage,**  
**including any incompatibilities**

For precautions see section 2.2.

Tightly closed.

Recommended storage temperature 2 - 30 °C

**Specific end use(s)**

Storage class (TRGS 510): 10: Combustible liquids

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

**Appropriate engineering 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).  
Tightly fitting safety goggle

**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

Material tested: KCL 741

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.

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: KCL 741

**Body Protection**

No data available

**Respiratory protection**

Not required; except in case of aerosol formation.

**Control of environmental exposure**

Do not let product enter drains. Risk of explosion.

## SECTION 9: Physical and chemical properties

|                                                       |                                                                                      |
|-------------------------------------------------------|--------------------------------------------------------------------------------------|
| <b>Appearance</b>                                     | Form: liquid<br>Colour: colorless, clear                                             |
| <b>Odour</b>                                          | odorless                                                                             |
| <b>pH - Value</b>                                     | 6.0 – 7.0 at 20 °C                                                                   |
| <b>Density</b>                                        | 1.00 g/cm <sup>3</sup> at 25 °C                                                      |
| <b>Boiling Point</b>                                  | 204 – 207 °C                                                                         |
| <b>Melting Point</b>                                  | -57 °C                                                                               |
| <b>Solubility in water</b>                            | 500 g/l at 20 °C                                                                     |
| <b>Flash point</b>                                    | Not applicable                                                                       |
| <b>Vapour pressure</b>                                | 0.08 hPa at 20 °C                                                                    |
| <b>Auto -ignition temperature</b>                     | 410 °C at 1.019 hPa                                                                  |
| <b>Vapour density</b>                                 | No data available                                                                    |
| <b>Flammability (solid, gas)</b>                      | No data available                                                                    |
| <b>Evaporation rate</b>                               | No data available                                                                    |
| <b>Partition coefficient: n- octanol / water</b>      | log Pow: -0.9 at 25 °C - Bioaccumulation is not expected.                            |
| <b>Viscosity</b>                                      | Viscosity, kinematic: No data available<br>Viscosity, dynamic: 131.83 mPa.s at 20 °C |
| <b>Explosive properties</b>                           | Not classified as explosive.                                                         |
| <b>Upper / lower flammability or explosive limits</b> | Upper explosion limit: 12.6 %(V)<br>Lower explosion limit: 1.9 %(V)                  |
| <b>Oxidizing properties</b>                           | none                                                                                 |

### Other safety information:

Surface tension: 72.6 mN/m at 1g/l at 20 °C.

Dissociation constant: 15.5 at 25 °C.

Relative vapor density: 3.11 - (Air = 1.0)

## SECTION 10: Stability and reactivity

|                                           |                                                                                                                             |
|-------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | No data available                                                                                                           |
| <b>Chemical stability</b>                 | The product is chemically stable under standard ambient conditions (room temperature) .<br>Violent reactions possible with: |
| <b>Possibility of hazardous reactions</b> | Oxidizing agents<br>Acid anhydrides<br>acid halides                                                                         |
| <b>Condition to avoid</b>                 | Avoid moisture.<br>Strong heating.                                                                                          |
| <b>Incompatible materials</b>             | Strong oxidizing agents                                                                                                     |
| <b>Hazardous decomposition products</b>   | In the event of fire: see section 5                                                                                         |

## SECTION 11: Toxicological information

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Acute toxicity</b>                                     | LD50 Oral - Rat - male - 22.800 mg/kg<br>Inhalation: No data available<br>LD50 Dermal - Rabbit - > 20.000 mg/kg                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Skin corrosion/irritation</b>                          | Skin - Rabbit<br>Result: Mild skin irritation - 24 h                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Serious eye damage/eye irritation</b>                  | Eyes - Rabbit<br>Result: No eye irritation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Respiratory or skin sensitization</b>                  | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Germ cell mutagenicity</b>                             | Test Type: Ames test<br>Test system: Escherichia coli/Salmonella typhimurium<br>Metabolic activation: with and without metabolic activation<br>Method: OECD Test Guideline 471<br>Result: negative<br>Test Type: Mutagenicity (mammal cell test): chromosome aberration.<br>Species: Rat<br>Cell type: Bone marrow<br>Application Route: Oral<br>Result: negative<br>Test Type: in vivo assay<br>Species: Rat<br>Application Route: Oral<br>Result: negative                                                                                                                                                                                                                                                                                |
| <b>Carcinogenicity</b>                                    | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Reproductive toxicity</b>                              | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Specific target organ toxicity - single exposure</b>   | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Specific target organ toxicity - repeated exposure</b> | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Aspiration hazard</b>                                  | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Additional Information</b>                             | 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.<br>Repeated dose toxicity - No data available<br>To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately. Handle in accordance with good industrial hygiene and safety practice. |

## SECTION 12: Ecological information

### Toxicity

|                                                     |                                                                                    |
|-----------------------------------------------------|------------------------------------------------------------------------------------|
| Toxicity to fish                                    | semi-static test LC50 - Oryzias latipes (Orange-red killifish) - > 100 mg/l - 96 h |
| Toxicity to daphnia and other aquatic invertebrates | static test EC50 - Daphnia magna (Water flea) - > 1.000 mg/l - 48 h                |

|                                           |                                                                                                                                                                                                                                                             |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to bacteria                      | static test EC50 - activated sludge - > 100 mg/l - 3 h                                                                                                                                                                                                      |
| Toxicity to algae                         | static test ErC50 - Desmodesmus subspicatus (green algae) - > 1.070 mg/l - 72 h<br>static test NOEC - Desmodesmus subspicatus (green algae) - > 1.070 mg/l - 72 h                                                                                           |
| <b>Persistence and degradability</b>      | aerobic - Exposure time 29 d Result: 81 % - Readily biodegradable                                                                                                                                                                                           |
| <b>Biodegradability</b>                   | Readily biodegradable.                                                                                                                                                                                                                                      |
| <b>Bio accumulative potential</b>         | No data available                                                                                                                                                                                                                                           |
| <b>Mobility in soil</b>                   | No data available                                                                                                                                                                                                                                           |
| <b>Results of PBT and vPvB assessment</b> | 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.                                                        |
| <b>Endocrine disrupting properties</b>    | 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. |
| <b>Other adverse effects</b>              | No data available                                                                                                                                                                                                                                           |

### SECTION 13: Disposal considerations

|                                |                   |
|--------------------------------|-------------------|
| <b>Waste treatment methods</b> | No data available |
| <b>Products</b>                |                   |
| <b>Contaminated packaging</b>  | No data available |

### SECTION 14: Transport information

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