

# SAFETY DATA SHEET

according to 1907/2006/EC, Article 3

Version no. : 2.1  
Prepared on : 30.03.2019  
Revised on : 25.04.2026

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

### 1.1 Product identifiers

**Product name** Pyrene  
**Product Number** PSR37752  
**Brand** PureSynth research chemicals  
**CAS No.** 129-00-0

### 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**

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 1), H410

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

### 2.2 Label elements

**Labelling according Regulation (EC) No 1272/2008**

**Pictogram**



**Signal word**

Danger

**Hazard statement(s)**

EUH441

Strongly accumulates in the environment and living organisms including in humans.

**Precautionary statement(s)**

P201

Obtain special instructions before use.

P202

Do not handle until all safety precautions have been read and understood.

P273

Avoid release to the environment.

P391

Collect spillage.

P501

Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Statements      None

### 2.3 Other hazards:

This substance/mixture contains components considered to be either persistent, Bio -accumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB). Rapidly absorbed through skin.

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    |
|-------------------------|-------------------------------------------------------------------------------------------------------------|---------------|
| Benzo[def]phenanthrene  | C <sub>16</sub> H <sub>10</sub>                                                                             | 129-00-0      |
| Component               | Classification                                                                                              | Concentration |
| Pyrene                  | Aquatic Acute 1;<br>Aquatic Chronic 1; H400, H410<br>M-Factor - Aquatic Acute: 100 –<br>Aquatic Chronic: 10 | <= 100 %      |

## SECTION 4: First aid measures

### Description of first aid measures

|                                                                                   |                                                                                                                     |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>General advice</b>                                                             | Consult a physician. Show this 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. Remove contact lenses.                                           |
| <b>If swallowed</b>                                                               | After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.                  |
| <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>Suitable extinguishing media</b>                          |                                                                                                                                                                                                                         |
| <b>Special hazards arising from the substance or mixture</b> | Combustible.<br><br>Vapours 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. |
| <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: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts. |
| <b>Reference to other sections</b>                                         | For disposal see section 13.                                                                                                                                                                           |

## SECTION 7: Handling and storage

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

## SECTION 8: Exposure controls / Personal protection

|                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Control parameters</b>                                   | Ingredients with workplace control parameters                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Exposure controls</b>                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| <b>Appropriate engineering controls</b>                     | No data available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Personal protective equipment: Eye / face protection</b> | Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Skin protection</b>                                      | 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.<br>The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.<br>If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use |

by our customers. It should not be construed as offering an approval for any specific use scenario.

**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.

## SECTION 9: Physical and chemical properties

|                                                       |                                                                                     |
|-------------------------------------------------------|-------------------------------------------------------------------------------------|
| <b>Appearance</b>                                     | Form: Solid                                                                         |
| <b>Odour</b>                                          | Colour: No data available                                                           |
| <b>pH - Value</b>                                     | No data available                                                                   |
| <b>Density</b>                                        | No data available                                                                   |
| <b>Boiling Point</b>                                  | 1.27 g/cm <sup>3</sup> (23 °C)                                                      |
| <b>Melting Point</b>                                  | 404 °C (1.013,25 hPa)                                                               |
| <b>Solubility in water</b>                            | 151.2 °C                                                                            |
| <b>Flash point</b>                                    | ca.0.1 g/l at 25 °C - OECD Test Guideline 105                                       |
| <b>Vapour pressure</b>                                | ca.224 °C at ca.1.013,25 hPa                                                        |
| <b>Auto -ignition temperature</b>                     | ca.0.002 hPa at ca.20 °C - OECD Test Guideline 104                                  |
| <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: ca.5,43 at 30 °C - OECD Test Guideline 117 - Potential bioaccumulation     |
| <b>Viscosity</b>                                      | Viscosity, kinematic: ca.1,8 mm <sup>2</sup> /s at 150 °C - OECD Test Guideline 114 |
| <b>Explosive properties</b>                           | No data available                                                                   |
| <b>Upper / lower flammability or explosive limits</b> | No data available                                                                   |
| <b>Oxidizing properties</b>                           | The substance or mixture is classified as oxidizing with the category 3.            |

**Other safety information:** No data available

## SECTION 10: Stability and reactivity

|                                           |                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | Forms explosive mixtures with air on intense heating.<br>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. |
| <b>Chemical stability</b>                 | The product is chemically stable under standard ambient conditions (room temperature) .                                                                                                                                                                                                                                             |
| <b>Possibility of hazardous reactions</b> | Risk of dust explosion.                                                                                                                                                                                                                                                                                                             |
| <b>Condition to avoid</b>                 | Strong heating.                                                                                                                                                                                                                                                                                                                     |
| <b>Incompatible materials</b>             | No data available                                                                                                                                                                                                                                                                                                                   |
| <b>Hazardous decomposition products</b>   | In the event of fire: see section 5                                                                                                                                                                                                                                                                                                 |

## SECTION 11: Toxicological information

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Acute toxicity</b>                                     | LD50 Oral - Rat - 2.700 mg/kg Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Conjunctive irritation. Behavioral:Excitement. Behavioral:Muscle contraction or spasticity. (RTECS) Inhalation: No data available Dermal: No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Skin corrosion/irritation</b>                          | Skin - Rabbit Result: slight irritation Remarks: (External MSDS)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Serious eye damage/eye irritation</b>                  | Eyes - Rabbit Result: No eye irritation Remarks: (External MSDS)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Respiratory or skin sensitization</b>                  | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Germ cell mutagenicity</b>                             | No data available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <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 - Mouse - male and female - Oral - 13 Weeks - No observed adverse effect level - 76 mg/kg - Lowest observed adverse effect level - 125 mg/kg<br>RTECS: UR2450000 Inhalation studies in animals have caused:, Liver toxicity, pulmonary pathologies, intragastric pathologies, neutropenia, leukopenia, anemia, Contact with skin can cause:, hyperemia, weight loss, hematopoietic changes, Dermatitis, Chronic effects, leukocytosis<br>Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.<br>Handle in accordance with good industrial hygiene and safety practice. |

## SECTION 12: Ecological information

|                  |                                                                                                   |
|------------------|---------------------------------------------------------------------------------------------------|
| <b>Toxicity</b>  |                                                                                                   |
| Toxicity to fish | LC50 (Oncorhynchus mykiss (rainbow trout)): > 2 mg/l Exposure time: 96 h Remarks: (External MSDS) |

|                                                                        |                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Toxicity to daphnia and other aquatic invertebrates                    | EC50 (Daphnia magna (Water flea)): 0,002 - 0,003 mg/l Exposure time: 48 h Remarks: (External MSDS)                                                                                                                                                                     |
| Toxicity to algae                                                      | NOEC (Raphidocelis subcapitata (freshwater green alga)): 0,0012 mg/l Exposure time: 72 h Test Type: static test Analytical monitoring: yes Remarks: (ECHA)                                                                                                             |
| M-Factor (Acute aquatic toxicity)                                      | 100                                                                                                                                                                                                                                                                    |
| Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) | EC10: 0,002 mg/l End point: mortality Exposure time: 7 d Species: Ceriodaphnia dubia (water flea) Test Type: semi-static test Analytical monitoring: yes Remarks: (ECHA)                                                                                               |
| M-Factor (Chronic aquatic toxicity)                                    | 10                                                                                                                                                                                                                                                                     |
| <b>Persistence and degradability</b>                                   |                                                                                                                                                                                                                                                                        |
| <b>Biodegradability</b>                                                | Result: Not readily biodegradable. Biodegradation: 13 % Exposure time: 28 d Remarks: (HSDB)                                                                                                                                                                            |
| <b>Bioaccumulation</b>                                                 | Species: Fish Exposure time: 2 d Concentration: 0,056 mg/l Bioconcentration factor (BCF): 4.810 Remarks: (External MSDS)                                                                                                                                               |
| <b>Mobility in soil</b>                                                | No data available                                                                                                                                                                                                                                                      |
| <b>Results of PBT and vPvB assessment</b>                              | This substance/mixture contains components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB).                                                                                                    |
| <b>Endocrine disrupting properties</b>                                 | Assesment : 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>Product</b>                                                         |                                                                                                                                                                                                                                                                        |
| <b>Other adverse effects</b>                                           | No data available                                                                                                                                                                                                                                                      |

### SECTION 13: Disposal considerations

#### Waste treatment methods Products

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself

### SECTION 14: Transport information

|           | UN no. | UN proper shipping name | Hazard Class(es) | Packaging group | Marine Pollutant |
|-----------|--------|-------------------------|------------------|-----------------|------------------|
| ADR / RID | 3077   | PYRENE                  | 9                | III             | Yes              |
| IMDG      | 3077   | PYRENE                  | 9                | III             | Yes              |
| IATA      | 3077   | PYRENE                  | 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

REACH - Candidate List of Substances of : Pyrene  
Very High Concern for Authorisation  
(Article 59) Regulation (EU) 2019/1021 on  
persistent organic pollutants (recast)

#### National legislation

Seveso III: Directive 2012/18/EU of the ENVIRONMENTAL HAZARDS  
European Parliament and of the Council on

the control of major-accident hazards  
involving dangerous substances

#### 15.2 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.