



# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Date of issue: 03/10/2013

Version 1.0

## SECTION 1. Identification

### Product identifier

Product number	807270
Product name	Phosphorus (red) (stabilised) for synthesis

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

Identified uses	Chemical for synthesis
-----------------	------------------------

### Details of the supplier of the safety data sheet

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   SDS Phone Support: +1-978-715-1335   General Inquiries: +1-978-715-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)  e-mail: mm_sds@merckgroup.com
---------	--

Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
---------------------	--

## SECTION 2. Hazards identification

### GHS Classification

Flammable solid, Category 1, H228  
Chronic aquatic toxicity, Category 3, H412  
For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

*Hazard pictograms*



*Signal Word*  
Danger

*Hazard Statements*

H228 Flammable solid  
H412 Harmful to aquatic life with long lasting effects.

# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 807270  
Product name Phosphorus (red) (stabilised) for synthesis

---

Version 1.0

## *Precautionary Statements*

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P273 Avoid release to the environment.

## **OSHA Hazards**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

## **Other hazards**

None known.

---

## **SECTION 3. Composition/information on ingredients**

Formula	P (Hill)
CAS-No.	7723-14-0
Molar mass	30.97 g/mol

## **Hazardous ingredients**

*Chemical Name ( Concentration)*

CAS-No.

*red phosphorus ( >= 90 % - <= 100 % )*

7723-14-0

---

## **SECTION 4. First aid measures**

### **Description of first-aid measures**

#### *Inhalation*

After inhalation: fresh air. Consult doctor if feeling unwell.

#### *Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing.

#### *Eye contact*

After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.

#### *Ingestion*

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician. Subsequently administer: activated charcoal (20 - 40 g in 10% slurry).

Never give anything by mouth to an unconscious person.

### **Most important symptoms and effects, both acute and delayed**

irritant effects

### **Indication of any immediate medical attention and special treatment needed**

No information available.

---

## **SECTION 5. Fire-fighting measures**

### **Extinguishing media**

*Suitable extinguishing media*

Foam, Water, Sand

---

## MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 807270  
Product name Phosphorus (red) (stabilised) for synthesis

---

Version 1.0

*Unsuitable extinguishing media*  
Carbon dioxide (CO<sub>2</sub>)

### Special hazards arising from the substance or mixture

Combustible.  
Development of hazardous combustion gases or vapors possible in the event of fire.  
Risk of dust explosion.  
Avoid shock and friction.  
Fire may cause evolution of:  
Oxides of phosphorus, phosphines

### Advice for firefighters

*Special protective equipment 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*

Cool closed containers exposed to fire with water spray. Suppress (knock down) gases/vapors/mists with a water spray jet. 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 substance contact. Avoid inhalation of dusts. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### Environmental precautions

Do not empty into 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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

---

## SECTION 7. Handling and storage

### Precautions for safe handling

Observe label precautions.

#### *Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### Conditions for safe storage, including any incompatibilities

Tightly closed. Dry. Keep away from heat and sources of ignition.

Store at +15°C to +25°C (+59°F to +77°F).

# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

807270

Version 1.0

Product name

Phosphorus (red) (stabilised) for synthesis

## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### *Ingredients*

Basis	Value	Threshold limits	Remarks
<i>red phosphorus 7723-14-0</i>			
ACGIH	Time Weighted Average (TWA):	0.1 mg/m <sup>3</sup>	
NIOSH/GUIDE	Recommended exposure limit (REL):	0.1 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	0.1 mg/m <sup>3</sup>	
Z1A	Time Weighted Average (TWA):	0.1 mg/m <sup>3</sup>	

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

### *Hygiene measures*

Change contaminated clothing. Application of skin- protective barrier cream recommended.  
Wash hands after working with substance.

### *Eye/face protection*

Safety glasses

### *Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

### *Other protective equipment:*

Flame retardant antistatic protective clothing

### *Respiratory protection*

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## SECTION 9. Physical and chemical properties

Physical state	powder
Color	dark red
Odor	weak characteristic odor
Odor Threshold	No information available.

# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Version 1.0

Product number 807270  
Product name Phosphorus (red) (stabilised) for synthesis

---

pH	No information available.
Melting point	585 °C
Boiling point	No information available.
Flash point	No information available.
Evaporation rate	No information available.
Flammability (solid, gas)	The substance or mixture is a flammable solid with the category 1.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	< 0.1 hPa at 68 °F ( 20 °C)
Relative vapor density	No information available.
Relative density	2.2 g/cm <sup>3</sup>
Water solubility	at 68 °F ( 20 °C) insoluble
Partition coefficient: n-octanol/water	No information available.
Autoignition temperature	No information available.
Decomposition temperature	No information available.
Viscosity, dynamic	No information available.
Explosive properties	No information available.
Sublimation point	781 °F ( 416 °C) at 1,013 hPa
Ignition temperature	500 °F ( 260 °C)
Bulk density	1,100 kg/m <sup>3</sup>

---

## SECTION 10. Stability and reactivity

### Reactivity

danger of spontaneous combustion!

Risk of dust explosion.

### Chemical stability

## MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

807270

Version 1.0

Product name

Phosphorus (red) (stabilised) for synthesis

---

heat-sensitive

### *Stabilizer*

magnesium hydroxide

### **Possibility of hazardous reactions**

Risk of explosion with:

halogenates, nitrates, bromates, chlorates, chromyl chloride, chlorosulfonic acid, halogens, iodates, perchlorates, Organic Substances

Risk of ignition or formation of inflammable gases or vapors with:

fire-promoting substances, Oxidizing agents, peroxi compounds, sulfur, nonmetallic oxyhalides, hydrogen peroxide, alkalines

### **Conditions to avoid**

Avoid shock and friction.

Strong heating.

Exposure to moisture.

### **Incompatible materials**

no information available

### **Hazardous decomposition products**

in the event of fire: See section 5.

---

## **SECTION 11. Toxicological information**

### **Information on toxicological effects**

#### *Likely route of exposure*

Inhalation, Eye contact, Skin contact, Ingestion

#### *Target Organs*

Eyes

Skin

Respiratory system

Liver

Kidneys

jaw

teeth

Blood

#### *Acute oral toxicity*

LD50 rat: > 15,000 mg/kg (External MSDS)

#### *Acute inhalation toxicity*

Symptoms: Irritation symptoms in the respiratory tract.

#### *Skin irritation*

Possible damages: slight irritation

#### *Eye irritation*

Possible damages: slight irritation

## MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

807270

Version 1.0

Product name

Phosphorus (red) (stabilised) for synthesis

---

### *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

### *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

### *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **Carcinogenicity**

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## **Further information**

After inhalation of dust:

After uptake of large quantities:

Pneumonia

Handle in accordance with good industrial hygiene and safety practice.

---

## **SECTION 12. Ecological information**

### **Ecotoxicity**

No information available.

### **Persistence and degradability**

No information available.

### **Bioaccumulative potential**

No information available.

### **Mobility in soil**

No information available.

### **Other adverse effects**

#### *Additional ecological information*

Discharge into the environment must be avoided.

## MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 807270  
Product name Phosphorus (red) (stabilised) for synthesis

---

Version 1.0

---

### SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

---

### SECTION 14. Transport information

#### Land transport (DOT)

UN number	UN 1338
Proper shipping name	PHOSPHORUS, AMORPHOUS
Class	4.1
Packing group	III
Environmentally hazardous	--

#### Air transport (IATA)

UN number	UN 1338
Proper shipping name	PHOSPHORUS, AMORPHOUS
Class	4.1
Packing group	III
Environmentally hazardous	--
Special precautions for user	no

#### Sea transport (IMDG)

UN number	UN 1338
Proper shipping name	PHOSPHORUS, AMORPHOUS
Class	4.1
Packing group	III
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-A S-G

---

### SECTION 15. Regulatory information

#### United States of America

##### OSHA Hazards

Flammable Solid

Target organ effects

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

##### SARA 311/312 Hazards

Fire Hazard

Chronic Health Hazard

---



# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number

807270

Version 1.0

Product name

Phosphorus (red) (stabilised) for synthesis

---

## SARA 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

### *Ingredients*

red phosphorus

7723-14-0

## SARA 302

The following components are subject to reporting levels established by SARA Title III, Section 302:

### *Ingredients*

red phosphorus

7723-14-0

## Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

### *Ingredients*

red phosphorus

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

### *Ingredients*

red phosphorus

## DEA List I

Not listed

## DEA List II

Not listed

## Massachusetts Right To Know

### *Ingredients*

red phosphorus

## Pennsylvania Right To Know

### *Ingredients*

red phosphorus

## New Jersey Right To Know

### *Ingredients*

red phosphorus

## Notification status

TSCA:

On TSCA Inventory

DSL:

All components of this product are on the Canadian DSL.

---

## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

# MATERIAL SAFETY DATA SHEET

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Product number 807270  
Product name Phosphorus (red) (stabilised) for synthesis

---

Version 1.0

## Full text of H-Statements referred to under sections 2 and 3.

H228 Flammable solid  
H412 Harmful to aquatic life with long lasting effects.

## Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Date of issue:03/10/2013

---

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

*All rights reserved. Millipore and the "M" Mark are registered trademarks of Merck KGaA, Darmstadt, Germany.*