

# Safety Data Sheet

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

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## SECTION 1: Identification

### Product identifier

Trade name/designation:	Phosphoric acid 85 % ACS
Product No.:	BDH3104
Synonymes:	none/none
CAS No.:	7664-38-2
Other means of identification:	

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

Recommended Use:	For Further Manufacturing Use Only
Uses advised against:	Not for Human or Animal Drug Use

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

#### Supplier

##### **VWR International LLC**

Street	100 Matsonford Road Radnor Corporate Center, Building One, Suite 200 P. O. Box 6660
Postal code/city	Radnor, PA 19087
Telephone	+1-800-932-5000 toll-free within US/Canada +1-610-386-1700
Telefax:	+1-610-728-2103

### Emergency phone number

Telephone +1-800-424-9300 (Chemtrec, 24 hrs/day, 7 days/week, USA)

### Preparation Information

VWR International - Product Information Compliance

E-mail sds@vwr.com

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

#### GHS Classification in accordance with 29 CFR 1910.1200 (OSHA HCS)

Hazard classes and hazard categories	Hazard statements
Substance or mixture corrosive to metals, category 1	H290
Acute toxicity, category 4, oral	H302
Acute toxicity, category 5, dermal	H313
Skin corrosion, category 1	H314

### 2.2 Label elements

#### Labelling in accordance with 29 CFR 1910.1200 (OSHA HCS)

#### Hazard pictograms



Signal word: Danger

Hazard statements	
H290	May be corrosive to metals.
H302	Harmful if swallowed.
H313	May be harmful in contact with skin.
H314	Causes severe skin burns and eye damage.

Precautionary Statements	
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash ... thoroughly after handling.
P234	Keep only in original container.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363	Wash contaminated clothing before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/...
P390	Absorb spillage to prevent material damage.
P405	Store locked up.
P406	Store in corrosive resistant container with a resistant inner liner.
P501	Dispose of contents/container to ...

**Hazards not otherwise classified (HNOC)**  
none/none

## SECTION 3: Composition / information on ingredients

### 3.1 Substances

not applicable

### 3.2 Mixtures

**Hazardous ingredients Classification according to the OSHA Hazard Communication Standard 29 CFR 1910.1200**

Substance name	Concentration	Identifier	Hazard classes and hazard categories
Orthophosphoric acid	80 - 90%	CAS No.: 7664-38-2	Met. Corr. 1 - H290 Skin Corr. 1B - H314

## SECTION 4: First aid measures

### 4.1 General information

IF exposed: Immediately call a POISON CENTER/doctor. If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

#### In case of inhalation

Immediately call a POISON CENTER/doctor. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

#### In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

#### **After eye contact**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

#### **In case of ingestion**

Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. Rinse mouth thoroughly with water. Give nothing to eat or drink.

#### **4.2 Most important symptoms/effects, acute and delayed**

no data available

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

no data available

#### **4.4 Self-protection of the first aider**

First aider: Pay attention to self-protection!

#### **4.5 Information to physician**

no data available

### **SECTION 5: Fire fighting measures**

#### **5.1 Extinguishing media**

##### **Suitable extinguishing media**

The product itself does not burn.  
Co-ordinate fire-fighting measures to the fire surroundings.

##### **Extinguishing media which must not be used for safety reasons**

no restriction

#### **5.2 Specific hazards arising from the chemical**

In case of fire may be liberated:  
Phosphorus oxides

#### **5.3 Advice for firefighters**

DO NOT fight fire when fire reaches explosives.  
Protective equipment and precautions for firefighters  
Wear a self-contained breathing apparatus and chemical protective clothing.

##### **Additional information**

Do not allow run-off from fire-fighting to enter drains or water courses.  
Do not inhale explosion and combustion gases.  
Use water spray/stream to protect personnel and to cool endangered containers.  
In case of fire: Evacuate area.

### **SECTION 6: Accidental release measures**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

In case of major fire and large quantities: Remove persons to safety.

## 6.2 Environmental precautions

Discharge into the environment must be avoided.

## 6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Collect in closed and suitable containers for disposal.

## 6.4 Additional information

Clear spills immediately.

# SECTION 7: Handling and storage

## 7.1 Precautions for safe handling

Avoid:

Inhalation

Avoid contact with eyes and skin.

Use extractor hood (laboratory).

If handled uncovered, arrangements with local exhaust ventilation have to be used.

If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means.

Protect from moisture.

## 7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: 15-25 °C

Keep container tightly closed and in a well-ventilated place.

## 7.3 Specific end use(s)

no data available

# SECTION 8: Exposure controls/personal protection

## 8.1 Control parameters

Ingredient (Designation)	Regulatory information	Country	Limit value type (country of origin)	Limit value
Orthophosphoric acid	NIOSH	US	LTV	1 mg/m <sup>3</sup>
Orthophosphoric acid	NIOSH	US	STV	3 mg/m <sup>3</sup> (1)
Orthophosphoric acid	OSHA	US	LTV	1 mg/m <sup>3</sup>

## 8.2 Engineering controls

### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

### Personal protection equipment (PPE)

Wear suitable protective clothing. When handling with chemical substances, protective clothing must be worn.

#### *Eye/face protection*

Eye glasses with side protection

#### *Skin protection*

Wear suitable gloves. When handling with chemical substances, protective gloves must be worn. In the case of wanting to use the gloves again, clean them before taking off and air them well. Check leak tightness/impermeability prior to use.

By short-term hand contact

Suitable material:	NR (natural rubber, natural latex)
Thickness of the glove material:	0,75 mm
Breakthrough time (maximum wearing time):	> 480 min

By long-term hand contact

Suitable material:	NR (natural rubber, natural latex)
Thickness of the glove material:	0,75 mm
Breakthrough time (maximum wearing time):	> 480 min

*Respiratory protection*

Respiratory protection necessary at: aerosol or mist formation If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn.

*Additional information*

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

*Environmental exposure controls*

no data available

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

(a) Appearance	
Physical state:	liquid
Color:	colorless
(b) Odour:	no data available
(c) Odour threshold:	no data available

#### Safety relevant basic data

(d) pH:	<0.5 (20 °C)
(e) Melting point/freezing point:	no data available
(f) Initial boiling point and boiling range:	~158 °C
(g) Flash point:	no data available
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	not applicable
(j) Flammability or explosive limits	
Lower explosion limit:	no data available
Upper explosion limit:	no data available
(k) Vapour pressure:	2 hPa (20 °C)
(l) Vapour density:	no data available
(m) Relative density:	1.689 g/cm <sup>3</sup> (20 °C)
(n) Solubility(ies)	
Water solubility (g/L):	soluble
Soluble (g/L) in Ethanol:	no data available
(o) Partition coefficient: n-octanol/water:	no data available
(p) Auto-ignition temperature:	no data available
(q) Decomposition temperature:	no data available
(r) Viscosity	
Kinematic viscosity:	30.5 cSt (25 °C)
Dynamic viscosity:	no data available
(s) Explosive properties:	not applicable
(t) Oxidising properties:	not applicable

### 9.2 Other information

Bulk density:	no data available
Refraction index:	no data available
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Corrosive to metals

## 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

## 10.3 Possibility of hazardous reactions

Explosive reaction with:

Alkali metals

Alkaline earth metal

Alkali (lye)

Violent reaction with:

light metals

Powdered metals

Exothermic reaction with:

Water

Substance, organic

## 10.4 Conditions to avoid

Humidity

## 10.5 Incompatible materials

Metal

## 10.6 Hazardous decomposition products

no data available

## 10.7 Additional information

no data available

# SECTION 11: Toxicological information

## 11.1 Information on toxicological effects

### Acute effects

*Acute oral toxicity:*

Orthophosphoric acid - LD50: > 1530 mg/kg - Rat - (CHP)

*Acute dermal toxicity:*

Orthophosphoric acid - LD50: > 2740 mg/kg - Rabbit - (CHP)

*Acute inhalation toxicity:*

Orthophosphoric acid - LC50: < 0.21 mg/l (4h) - Rat - (CHP)



**Irritant and corrosive effects**

*Primary irritation to the skin:*

Causes severe skin burns and eye damage.

*Irritation to eyes:*

Causes serious eye damage.

*Irritation to respiratory tract:*

not applicable

**Respiratory or skin sensitization**

In case of skin contact: not sensitising

In case of inhalation: not sensitising

**STOT-single exposure**

not applicable

**STOT-repeated exposure**

not applicable

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

**Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen.

no data available	ACGIH	IARC	NTP	OSHA

**Germ cell mutagenicity**

No indications of human germ cell mutagenicity exist.

**Reproductive toxicity**

No indications of human reproductive toxicity exist.

**Aspiration hazard**

not applicable

**Other adverse effects**

no data available

**Additional information**

no data available

## SECTION 12: Ecological information

### 12.1 Ecotoxicity

**Fish toxicity:**

no data available

**Daphnia toxicity:**

no data available

**Algae toxicity:**

no data available

**Bacteria toxicity:**

no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: no data available

### 12.4 Mobility in soil:

no data available

### 12.5 Results of PBT/vPvB assessment

no data available

### 12.6 Other adverse effects

no data available

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

**Appropriate disposal / Product**

Dispose according to legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: no data available

**Appropriate disposal / Package**

Dispose according to legislation. Handle contaminated packages in the same way as the substance itself.

**Additional information**

no data available

## SECTION 14: Transport information

### Land transport (DOT)

UN-No.:	UN1805
Proper Shipping Name:	PHOSPHORIC ACID SOLUTION
Class(es):	8
Hazard label(s):	8
Packing group:	III
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	

### Sea transport (IMDG)

UN-No.:	1805
Proper Shipping Name:	PHOSPHORIC ACID SOLUTION
Class(es):	8
Classification code:	
Hazard label(s):	8
Packing group:	III
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	
Segregation group:	1
EmS-No.	F-A S-B
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	not relevant

### Air transport (ICAO-TI / IATA-DGR)

UN-No.:	1805
Proper Shipping Name:	PHOSPHORIC ACID SOLUTION
Class(es):	8
Classification code:	
Hazard label(s):	8
Packing group:	III
Special precautions for user:	

## SECTION 15: Regulatory information

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

#### SARA 313 Components

Does not contain listed substances.

#### Massachusetts Right To Know Components

- Orthophosphoric acid - CAS No.: 7664-38-2

#### **Pennsylvania Right To Know Components**

- Orthophosphoric acid - CAS No.: 7664-38-2

#### **New Jersey Right To Know Components**

- Orthophosphoric acid - CAS No.: 7664-38-2

#### **California Prop. 65 Components**

Does not contain listed substances.

## **SECTION 16: Other information**

### **Abbreviations and acronyms**

ACGIH - American Conference of Governmental Industrial Hygienists  
DOT - Department of Transportation  
IARC - International Agency for Research on Cancer  
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations  
ICAO-TI - International Civil Aviation Organization-Technical Instructions  
IMDG - International Maritime Code for Dangerous Goods  
LTV - Long Term Value  
NIOSH - National Institute for Occupational Safety and Health  
NTP - National Toxicology Program  
OSHA - Occupational Safety & Health Administration  
PBT - Persistent, Bioaccumulative and Toxic  
PEL - Permissible Exposure Limit  
STV - Short Term Value  
SVHC - Substances of Very High Concern  
TDG - Transport of Dangerous Goods  
TLV - Threshold Limit Value  
vPvB - very Persistent, very Bioaccumulative

### **Additional information**

Indication of changes:                      general update

*The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guidance. The information in this document is based on the present state knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and his Affiliates shall not be held liable for any damage resulting from handling.*