



Safety Data Sheet

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Section 1 - Identification

1.1 Product Identifier

Product Name : Ortho-Phosphoric Acid

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

Identified uses : Pharmaceutical production and analysis

1.3 Details of the supplier of the safety data sheet

Company : 9920 Pacific Heights Blvd
Suit 150
San Diego
California -92121

1.4 Emergency Telephone number

Emergency phone : +1 (858) 245-0283

Section 2: Hazard Identification

2.1 Classification of the substance or the mixture

Classification (REGULATION (EC) No 1272/2008)

Corrosive to metals	Category 1	H290:May be corrosive to metals.
Acute toxicity	Category 4	H302:Harmful if swallowed.
Skin corrosion	Category 1B	H314:Causes severe skin burns and eye damage.
Serious eye damage	Category 1	H318:Causes serious eye damage.

2.2 Label elements

Label according Regulation (EC) 1272/2008

Hazard Pictogram



Signal Word:
DANGER

Hazard statements

- | | |
|------|--|
| H290 | May be corrosive to metals. |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |

Precautionary statements

Prevention

- | | |
|------|---|
| P234 | Keep only in original packaging. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |

Response:

- | | |
|----------------|--|
| P301+P312 | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. |
| P304+P340+P310 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |

Hazardous components which must be listed on the label:
phosphoric acid

Reduced Labelling (<= 125 ml)

Hazard Pictogram



Signal Word:
DANGER

Hazard statements

H314 Causes severe skin burns and eye damage.

Precautionary Statements

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

P304+P340+P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Supplemental Hazard Statements none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine

disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Section 3: Composition/information on ingredients

3.1 Substance

EC-No. : 231-633-2
Index-No. : 015-011-00-6

Section 4: First aid measures

4.1 Description of first aid measures

General advice

First aiders need to protect themselves.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

After skin contact: wash off with plenty of water. Remove contaminated clothing.
Call a physician immediately.

In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.
Remove contact lenses.

If swallowed

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2) and/or in section 11.

4.3 Indications of any immediate medical attention and special treatment needed

No data available

Section 5: Firefighting measurers

5.1 Extinguishing Media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazard arising from the substance or mixture

Specific hazards during fire fighting : Not Combustible.

Ambient fire may liberate hazardous vapours.
Fire may cause evolution of:
Oxides of phosphorus

Hazardous combustion products : Oxides of phosphorus

5.3 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 : Suppress (knock down) gases/vapours/mists with a water spray jet.
Prevent fire extinguishing water from contaminating surface water or the ground water system.

Section 6: Accidental release measurers

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions:

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environment precautions

Environmental precautions : Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10).

Take up carefully with liquid-absorbent material (e.g.Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal considerations see section 13.

Section 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Observe label precautions.

Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

No metal or light-weight-metal containers.

Further information on storage conditions

Tightly closed.

Storage class (TRGS 510)

8B, Non-combustible, corrosive hazardous materials

Further information on storage stability

:Recommended storage temperature see product label.

Recommended storage temperature

Recommended storage temperature see product label.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

Section 8: Exposure controls – Personal protection

8.1 Control parameters

Occupational Exposure Limits

8.2 Exposure Controls

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection : Tightly fitting safety goggles

Hand protection

Material : Nitrile rubber

Break through time : 480 min

Glove thickness : 0,11 mm

Protective index : Full contact

Manufacturer : KCL 741 Dermatril® L

Material : Nitrile rubber

Break through time : 480 min

Glove thickness : 0,11 mm

Protective index : Splash contact

Manufacturer : KCL 741 Dermatril® L

Remarks : 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 (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Skin and body protection : protective clothing
Respiratory protection : required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter : Filter type P2
type:

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.

Protective measures : Acid-resistant protective clothing

Environmental exposure controls

Advice

Do not let product enter drains.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : liquid
Color : Colourless
Odor : odourless
Odor Threshold : Not applicable
Melting point/range : Not data available
Boiling point/boiling range : ca. 158 °C (1,013 hPa)
Flammability : The product is not flammable.

Upper explosion limit / Upper flammability limit	: Not applicable
Lower explosion limit / Lower flammability limit	: Not applicable
Flash point	: does not flash
Autoignition temperature	: not combustible
Decomposition temperature	: Not data available
pH	: < 0,5 (20 °C) Concentration: 100 g/l
Viscosity, dynamic	: No data available
Viscosity, kinematic	: 30,5 mm ² /s (20 °C)
Flow time	: No data available
Solubility(ies) Water solubility	: (20 °C) soluble
Partition coefficient: n- octanol/water	: No data available
Vapor pressure	: 2 hPa (20 °C)
Relative density	: No data available
Density	: 1,71 g/cm ³ (20 °C)
Relative vapour density	: No data available

9.2 Other information

Explosives	: Not classified as explosive.
Oxidizing properties	: none
Burning rate	: No data available
Metal corrosion rate	: May be corrosive to metals.
Evaporation rate	: No data available

Section 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

No data available

10.3 Possibility of hazardous reactions

Hazardous reactions : Risk of ignition or formation of inflammable gases or vapours with:
Metals
metal alloys
Possible formation of:

Hydrogen

Violent reactions possible with:

Bases
metallic oxides

10.4 Conditions to avoid

Conditions to avoid
No data available

10.5 Incompatible materials

Materials to avoid : Aluminium
iron/iron-containing compounds
Mild steel

Gives off hydrogen by reaction with metals.

10.6 Hazardous decomposition products

In the event of fire: see section 5

Section 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity

Acute toxicity estimate Oral - 1.471 mg/kg

(Calculation method)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

Dermal: No data available

Skin corrosion/irritation

Remarks: Mixture causes severe burns.

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage.

Risk of blindness!

Conjunctivitis

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Endocrine disrupting properties

Product:

Assessment : 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.

Systemic effects:

Convulsions

Shock

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components
phosphoric acid

Acute toxicity

LD50 Oral - Rat - 1.250 mg/kg

Remarks: Lungs, Thorax, or Respiration: Acute pulmonary edema.

Liver: Changes in liver weight.

(RTECS)

Acute toxicity estimate Oral - 1.250 mg/kg

(ATE value derived from LD50/LC50 value)

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Causes burns. - 24 h

Remarks: (ECHA)

Remarks: Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Human lymphocytes

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

Aspiration hazard

No data available

Section 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : Remarks: No data available

Components:

phosphoric acid:

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
End point: Immobilization

Exposure time: 48 h

Test Type: static test

Analytical monitoring: yes

Method: OECD Test Guideline 202

GLP: yes

Toxicity to algae/aquatic plants : ErC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l

Exposure time: 72 h

Test Type: static test

Analytical monitoring: yes

Method: OECD Test Guideline 201

GLP: yes

NOEC (Desmodesmus subspicatus (green algae)): 100 mg/l

End point: Growth inhibition

Exposure time: 72 h

Test Type: static test

Analytical monitoring: yes

Method: OECD Test Guideline 201

GLP: yes

Toxicity to microorganisms : EC50 (activated sludge): > 1.000 mg/l
Exposure time: 3 h

Test Type: static test
Method: OECD Test Guideline 209
GLP: yes

12.2 Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Components:

phosphoric acid:

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulated potential

Product:

Biodegradability : Remarks: No data available

Components:

phosphoric acid:

Partition coefficient: n-octanol/water : Remarks: Not applicable for inorganic substances

12.4 Mobility in soil

Product:

Stability in soil : Remarks: No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment:-This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components:

phosphoric acid:

Assessment : PBT/vPvB: Not applicable for inorganic substances

12.6 Endocrine disrupting properties

Product:

Assessment:-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.

12.7 Other adverse effects

Product:

Additional ecological information : Harmful effect due to pH shift.
Caustic even in diluted form.
Depending on the concentration, phosphorus compounds may contribute to the eutrophication of water supplies.
Discharge into the environment must be avoided.

Components:

phosphoric acid:

Additional ecological information : May be harmful to aquatic organisms due to the shift of the pH.

Section 13: Disposal considerations

13.1 Waste treatment methods

Product : 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: Transportation information

14.1 UN Number or ID number

ADR	UN 1805
IMDG	UN 1805
IATA	UN 1805

14.2 UN proper shipping name

ADR	PHOSPHORIC ACID, SOLUTION
IMDG	PHOSPHORIC ACID, SOLUTION
IATA	PHOSPHORIC ACID, SOLUTION

14.3 Transport hazard class(es)

Class

ADR	8
IMDG	8
IATA	8

Subsidiary risks

ADR	-
IMDG	-
IATA	-

14.4 Packaging group

ADR

Packing group	III
Classification Code	C1
Hazard Identification Number	80
Labels	8
Tunnel restriction code	(E)

IMDG

Packing group	III
Labels	8
EmS Code	F-A, S-B

IATA (Cargo)

Packing instruction (cargo aircraft)	856
Packing instruction (LQ)	Y841
Packing group	III
Labels	Class 8 - Corrosive substances

IATA_P (Passenger)

Packing instruction (passenger aircraft)	852
Packing instruction (LQ)	Y841
Packing group	III
Labels	Class 8 - Corrosive substances

14.5 Environmental hazards

ADR

Environmentally hazardous	no
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IMDG

Marine pollutant	no
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14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

Section 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered:

Number on list 3

Number on list 75

If you intend to use this product as tattoo ink, please contact your vendor.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59) : Not applicable

Regulation (EU) No 2024/590 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

15.2 Chemical safety assessment

A Chemical Safety Assessment has been carried out for this substance.

Section 16: Other information

Full text of H-Statements

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.

Further information

The information and recommendations in this SDS are to the best of our knowledge, information and belief accurate at the time of publication. Although utmost care is been taken in composition of this text, Highpuris LLC cannot be held responsible for any damage resulting from any possible error in this publication.