

# Safety Data Sheet

### Phosphoric acid-d3 85%w

Classification acc. to 29 CFR 1910.1200

Revision: 2025-06-10

Version number: GHS 6.0 Replaces version of: 2023-02-06 (GHS 5)

### **SECTION 1: Identification**

### 1.1 Product identifier

Identification of the substance Phosphoric acid-d3 85%w

CAS number 14335-33-2

Alternative name(s) ortho-Phosphoric acid 85%w, Orthophosphoric

acid, Phosphoric acid

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

Relevant identified uses industrial uses

scientific research and development

the product is intended for research, analysis and

scientific education

product and process oriented research and devel-

opment

laboratory and analytical use

process agent use

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

Zeochem AG Joweid 5, CH-8630 Rüti

Switzerland

Telephone: +41 44 922 93 93 e-Mail: info@zeochem.com

Website: https://www.zeochem.com

### 1.4 Emergency telephone number

	Poison center				
Country		Name	Telephone		
Ī	Switzerland	Toxzentrum Zürich / Tox. Info Suisse	+41 44 251 51 51 / CH: 145 - 24h/7d		
	United States	CHEMTREC USA	+1 800 424 9300 - 24h/7d		

### **SECTION 2: Hazard(s) identification**

### 2.1 Classification of the substance or mixture

Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Section	Hazard class	Category	Hazard class and cat- egory	Hazard state- ment
A.2	skin corrosion/irritation	1B	Skin Corr. 1B	H314
A.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
B.16	substance or mixture corrosive to metals	1	Met. Corr. 1	H290

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.



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### 2.2 Label elements

Labelling acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

- Signal word danger

### 2.2.1.2 Pictograms

GHS05	
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	Hazard statements
H290	may be corrosive to metals
H314	causes severe skin burns and eye damage

Precautionary statements				
P234	keep only in original container			
P260	do not breathe dusts or mists			
P280	wear eye protection/face protection			
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			
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			
P321	specific treatment (see on this label)			
P363	wash contaminated clothing before reuse			
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 in accordance with local/regional/national/international regulations			

### 2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of  $\geq$  0.1%.

### SECTION 3: Composition/information on ingredients

### 3.1 Substances

Name of substance Identifiers Phosphoric acid-d3 85%w





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CAS No 14335-33-2

Purity 85 %

### Impurities and additives, classification acc. to GHS

Name of substance	CAS No	Wt%	Classification acc. to GHS	
Deuterium oxide	7789-20-0	15		

Molecular formula D3PO4
Molar mass 101 g/mol

#### Remarks

For full text of abbreviations: see SECTION 16

### **SECTION 4: First-aid measures**

### 4.1 Description of first-aid measures

### General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

### Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician. Provide fresh air.

### Following skin contact

Wash with plenty of soap and water.

### Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

### Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

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

Symptoms and effects are not known to date.

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

none

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

### 5.1 Extinguishing media

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO2)

Unsuitable extinguishing media

Water jet

### 5.2 Special hazards arising from the substance or mixture

Substance or mixture corrosive to metals.

Hazardous combustion products



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Phosphorus oxides (PxOy)

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

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

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

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

### 6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Neutralization techniques. Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

### **SECTION 7: Handling and storage**

### 7.1 Precautions for safe handling

Recommendations

Store in a dry place.

- Measures to prevent fire as well as aerosol and dust generation Use local and general ventilation. Use only in well-ventilated areas.
- Handling of incompatible substances or mixtures

  Do not mix with alkali.
- Keep away from

Caustic solutions

### Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities



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### Managing of associated risks

- Corrosive conditions

Store in corrosive resistant container with a resistant inner liner.

- Specific designs for storage rooms or vessels
- Storage temperature

Recommended storage temperature: 18 – 22 °C 15 °C

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

### 7.3 Specific end use(s)

See section 16 for a general overview.

### SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Occup	Occupational exposure limit values (Workplace Exposure Limits)										
Coun- try	Name of agent	CAS No	Identi- fier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Nota- tion	Source
US	phosphoric acid	7664-38-2	PEL (CA)		1		3				Cal/OSH A PEL
US	phosphoric acid	7664-38-2	REL		1 (10 h)		3				NIOSH REL
US	phosphoric acid	7664-38-2	TLV®		1		3				ACGIH® 2023
US	phosphoric acid	7664-38-2	PEL		1						29 CFR 1910.10 00

### <u>Notation</u>

Ceiling-C ceiling value is a limit value above which exposure should not occur

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute peri-

od (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours

time-weighted average (unless otherwise specified

### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

Skin protection

- Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.



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- Type of material

Nitrile

IIR: isobutene-isoprene (butyl) rubber

- Breakthrough times of the glove material
- >30 minutes (permeation: level 2)
- Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

#### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

### **SECTION 9: Physical and chemical properties**

### 9.1 Information on basic physical and chemical properties

### **Appearance**

Physical state	liquid
Color	clear - light yellow
Particle	not relevant (liquid)
Odor	characteristic

### Other safety parameters

pH (value)	not determined
Melting point/freezing point	not determined
Initial boiling point and boiling range	158 °C
Flash point	not determined
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Vapor pressure	not determined
Density	not determined
Vapor density	this information is not available
Relative density	1.74 at 25 °C (water = 1)
Solubility(ies)	not determined

Partition coefficient



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- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	not determined
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

#### 9.2 Other information

Refractive index	1.43 (20 °C)
nendente maex	(20 0)

### **SECTION 10: Stability and reactivity**

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". It's a reactive substance. Substance or mixture corrosive to metals.

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

Bases

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

### **SECTION 11: Toxicological information**

### 11.1 Information on toxicological effects

### Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Acute toxicity

Shall not be classified as acutely toxic.

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity



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Shall not be classified as carcinogenic.

### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

#### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

### **SECTION 12: Ecological information**

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

### 12.2 Persistence and degradability

Data are not available.

### 12.3 Bioaccumulative potential

Data are not available.

### 12.4 Mobility in soil

Data are not available.

### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of  $\geq$  0.1%.

#### 12.7 Other adverse effects

Data are not available.

### **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods

### Waste treatment-relevant information

Recycling/reclamation of other inorganic materials. Regeneration of acids.

### Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

### Waste treatment of containers/packages

Only packagings which are approved (e.g. acc. to DOT) may be used. Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

### Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

### **SECTION 14: Transport information**

### 14.1 UN number

DOT UN 1805



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> IMDG-Code UN 1805 ICAO-TI UN 1805

14.2 UN proper shipping name

DOT Phosphoric acid solution
IMDG-Code PHOSPHORIC ACID, SOLUTION

ICAO-TI Phosphoric acid, solution

14.3 Transport hazard class(es)

DOT 8
IMDG-Code 8
ICAO-TI 8

14.4 Packing group

DOT III IMDG-Code III ICAO-TI III

**14.5 Environmental hazards** non-environmentally hazardous acc. to the dan-

gerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

### **Information for each of the UN Model Regulations**

### Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Particulars in the shipper's declaration

Reportable quantity (RQ)

Danger label(s)

UN1805, Phosphoric acid solution, 8, III

5,000 lbs (2,270 kg) (Phosphoric acid-d3 85%w)

8



Special provisions (SP) A7, IB3, N34, T4, TP1

ERG No 154

International Maritime Dangerous Goods Code (IMDG) - Additional information

Marine pollutant Danger label(s) 8



Special provisions (SP) 223



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Excepted quantities (EQ) E1
Limited quantities (LQ) 5 L
EmS F-A, S-B
Stowage category A

Segregation group 1 - Acids

### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Danger label(s) 8



Special provisions (SP) A3
Excepted quantities (EQ) E1
Limited quantities (LQ) 1 L

### **SECTION 15: Regulatory information**

# 15.1 Safety, health and environmental regulations specific for the product in question National regulations (United States)

**Toxic Substance Control Act (TSCA)** substance is listed (ACTIVE)

### Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

not listed

- Specific Toxic Chemical Listings (EPCRA Section 313) not listed

### Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
Phosphoric acid-d3 85%w	7664-38-2		1	5000 (2270)

#### Legend

1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

#### Clean Air Act

not listed

### **Right to Know Hazardous Substance List**

- Cleaning Product Right to Know Act Substance List (CA-RTK)

Name of substance	CAS No	Functionality	Authoritative Lists
Phosphoric acid-d3 85%w	7664-38-2		OEHHA RELs



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### - Toxic or Hazardous Substance List (MA-TURA)

Name of substance	CAS No	DEP CODE		De Minimis Concen- tration Threshold
Phosphoric acid-d3 85%w	7664-38-2			1.0 %

### - Hazardous Substances List (MN-ERTK)

Name of substance	CAS No	References	Remarks
Phosphoric acid-d3 85%w	7664-38-2	A, O	

#### Legend

- A American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH
- O Occupational Safety and Health Administration (OSHA), Safety and Health Standards, Code of Federal Regulations, title 29, part 1910, subpart Z, "Toxic and Hazardous Substances, 1990." General information: Minnesota Department of Labor and Industry, Occupational Safety and Health Division

### Hazardous Substance List (NJ-RTK)

Name of substance	CAS No	Remarks	Classifications
Phosphoric acid-d3 85%w	7664-38-2		СО

### <u>Legend</u>

CO Corrosive

### - Hazardous Substance List (Chapter 323) (PA-RTK)

Name acc. to inventory	CAS No	Classification
PHOSPHORIC ACID	7664-38-2	E

#### Legend

E Environmental hazard

### - Hazardous Substance List (RI-RTK)

Name of substance	CAS No	References
Phosphoric acid-d3 85%w	7664-38-2	T, F
Phosphoric acid-d3 85%w	7664-38-2	T, F

### <u>Legend</u>

F Flammability (NFPA®)
T Toxicity (ACGIH®)

# California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

not listed

### Industry or sector specific available guidance(s)



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### **NPCA-HMIS® III**

Hazardous Materials Identification System. American Coatings Association.

Category	Rating	Description
Chronic	1	none
Health	3	major injury likely unless prompt action is taken and medical treatment is given
Flammability	0	material that will not burn under typical fire conditions
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

### **NFPA® 704**

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	0	material that will not burn under typical fire conditions
Health	3	material that, under emergency conditions, can cause serious or permanent injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

### **National inventories**

Country	Inventory	Status
EU	REACH Reg.	substance is listed
US	TSCA	substance is listed (ACTIVE)

<u>Legend</u>

REACH Reg. REACH registered substances
TSCA Toxic Substance Control Act

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

### SECTION 16: Other information, including date of preparation or last revision

### **Indication of changes (revised safety data sheet)**

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relevant
1.3	Details of the supplier of the safety data sheet:	Details of the supplier of the safety data sheet:	yes



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Section	Former entry (text/value)	Actual entry (text/value)	Safety- relevant
2.3	Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0,1%.	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0.1%.	yes
3.1	Molar mass: 101 <sup>g</sup> / <sub>mol</sub> For full text of abbreviations: see SEC- TION 16.	Molar mass: 101 <sup>g</sup> / <sub>mol</sub>	yes
3.1		Remarks: For full text of abbreviations: see SECTION 16	yes
7.2		- Specific designs for storage rooms or vessels	yes
7.2		Storage temperature: Recommended storage temperature: 18 – 22 °C 15 °C	yes
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)	yes
12.6	Endocrine disrupting properties: Does not contain an endocrine disruptor (EDC) in a concentration of $\geq$ 0,1%.	Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) in a concentration of ≥ 0.1%.	yes
14.2	DOT: Phosphoric acid, solutions	DOT: Phosphoric acid solution	yes
14.7	Particulars in the shipper's declaration: UN1805, Phosphoric acid, solutions, 8, III	Particulars in the shipper's declaration: UN1805, Phosphoric acid solution, 8, III	yes
15.1	Toxic Substance Control Act (TSCA): substance is listed as "ACTIVE"	Toxic Substance Control Act (TSCA): substance is listed (ACTIVE)	yes
15.1		Hazardous Substance List (RI-RTK): change in the listing (table)	yes
15.1		National inventories: change in the listing (table)	yes

### Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### List of relevant phrases (code and full text as stated in section 2 and 3)

	Code	Text
Ī	H290	May be corrosive to metals.
Ī	H314	Causes severe skin burns and eye damage.
Ī	H318	Causes serious eye damage.

### Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.