

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 1.0
Revision Date 04.04.2023
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : Thermal orthophosphoric acid
REACH No. : REACH Registration Number see section 3.

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

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company : «NDFZ» Limited Liability Partnership «NDFZ» (LLP)
050051, Republic of Kazakhstan,
Almaty, Medeusky district, Omarova Zh. street,
house number 8

Telephone : +7(7262) 90-00-58

Fax : +7(7262) 90-00-59

1.4 Emergency telephone

Emergency Phone # : 112

Hours of operation : 7 days a week / 24 hours per day

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Corrosive to Metals (Category 1), H290
Acute toxicity, Oral (Category 4), H302
Skin corrosion (Sub-category 1B), H314
Serious eye damage (Category 1), H318

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

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal Word : Danger

Hazard statement(s)

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

Precautionary statement(s)

P234 : Keep only in original packaging.
P270 : Do not eat, drink or smoke when using this product.
P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection.

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.
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

None

SECTION 3: Composition/information on ingredients

3.1 Mixtures

Synonyms	: Orthophosphoric acid
Formula	: H_3PO_4
Molecular weight	: 98 a.m.u.
Molar weight	: 98 g/mol

Component	Classification	Concentration
phosphoric acid		
CAS-No.	7664-38-2	Met. Corr. 1; Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; H290, H302, H314, H318
EC-No.	231-633-2	
Index-No.	015-011-00-6	
Registration number	01-2119485924-24-XXXX	
		≥70%

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

SECTION 4: First aid measures

4.1 Description of first-aid

measures General advice

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Call in physician.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. 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 neutralize.

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 neutralize.

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**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 hazards arising from the substance or mixture

Oxides of phosphorus

Not combustible.

Ambient fire may liberate hazardous vapours.

5.3 Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 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 with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions

No metal containers.
Tightly closed.

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

Ingredients with workplace control parameters

Component	CAS-Nº.	Parameters control	Value	Basics
Phosphoric acid	7664-38-2	TSEL	1 mg/m ³ aerosol	Sanitary Rules and Norms 1.2.3685-21

8.2 Exposure controls

Personal protective equipment

Hygiene measures

Wash hands, forearms and face thoroughly after handling product, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing.
Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to dust/liquid splashes.

Skin protection/Hand protection

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

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

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.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some

cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Colorless or slightly yellowish liquid
Smell	Odourless
Odor threshold	No data available
pH	1-2
Melting point/Freezing point	No data available
Initial boiling point and boiling interval	130-140 °C
Flash point	Non-combustible product
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable
Combustibility (solid, gas)	Non-combustible product
Density	1,572 g/cm ³
Water solubility	Mixed with water in any proportion
Distribution coefficient (n-octanol/water)	No data available
Viscosity	No data available

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

Reacts violently with strong bases. In contact with metals, flammable hydrogen gas can be released.

10.2 Chemical stability

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

10.3 Possibility of hazardous reactions

Contact with light metals, strong oxidizing agents and strong bases. Do not mix with solutions containing bleach or ammonia.

10.4 Conditions to avoid

Avoid overheating, open flame, sunlight.

10.5 Incompatible materials

Strong bases, oxidizing agents, light metals.

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects 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

(Calculation method)

Inhalation: No data available

Dermal: No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Causes burns. - 24 h

Remarks: (ECHA)

Remarks: (Regulation (EC) No 1272/2008, Annex VI)

Serious eye damage/eye irritation

Remarks: Causes serious eye damage.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

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

11.1 Additional Information

The substance destroys mucous membranes of the upper respiratory tract and eyes and skin. May cause spasm, inflammation and swelling of the larynx, inflammation and swelling of the bronchi, pneumonitis, pulmonary edema, heartburn, cough, laryngitis, difficulty in breathing, headache, nausea.

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

LC50: 138 mg/l, *Gambusia affinis* (common gambusia), 96 hr.

EC50: >100 mg/l, *Daphnia magna* (*Daphnia*), 48 hr.

EC50: >100 mg/l, *Deschodsmens suberisants* (green algae), 72 hr.

EC50: 270 mg/l, activated sludge (bacteria).

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

No PBT/vPvB assessment because a chemical safety assessment is not required / has not been conducted

12.6 Endocrine disrupting properties

No data available

12.7 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Waste must be disposed of in accordance with national and local regulations. Leave substances in their original packaging. Do not mix with other wastes. Handle uncleaned containers in the same way as the product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1805

IMDG: 1805

IATA: 1805

14.2 UN proper shipping name

ADR/RID: PHOSPHORIC ACID SOLUTION

IMDG: PHOSPHORIC ACID SOLUTION

IATA: Phosphoric acid, solution

14.3 Transport hazard class(es)

ADR/RID: 8

IMDG: 8

IATA: 8

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

No data available

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.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

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

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

Date of issue/ Date of revision:

Date of previous issue:

Version:

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained in this Material Safety Data Sheet is accurate and reliable on presently available resources. However, neither the seller nor any of its subsidiaries assumes any responsibility or liability whatsoever for the accuracy or completeness of the information contained herein.

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II

This Material Safety Data Sheet shall not constitute a guarantee for any specific product features. Final determination of suitability of this material is the sole responsibility of the user.

All materials may present unknown hazards and should be used and handled with caution and following reasonable safety procedures. Consequently, the buyer assumes all risks in connection with the use and handling of this material.

«NDFZ» Limited Liability Partnership («NDFZ» LLP)