

Safety data for phosphoric acid



Click here for data on phosphoric acid in [student-friendly format](#), from the [HSci](#) project

[Glossary](#) of terms on this data sheet.

The information on this web page is provided to help you to work safely, but it is intended to be an overview of hazards, not a replacement for a full Material Safety Data Sheet (MSDS). MSDS forms can be downloaded from the web sites of many chemical suppliers.

General

Synonyms: orthophosphoric acid

Molecular formula: H_3PO_4

CAS No: 7664-38-2

EC No: 231-633-2

EC Index No: 015-011-00-6

Physical data

Appearance: colourless odourless liquid

Melting point: 21 C (pure)

Boiling point: 158 C (pure)

Typical concentration: see data for [typical acids and bases](#)

Vapour density: 3.4

Vapour pressure: 2.2 mm Hg at 20 C

Specific gravity: 1.685

Flash point:

Explosion limits:

Autoignition temperature:

Stability

Stable. Incompatible with powdered metals, strong bases, iron-containing compounds.

Toxicology

Corrosive - causes burns. Harmful if swallowed and in contact with skin. May be harmful through inhalation. Very destructive of mucous membranes, respiratory tract, eyes and skin.

Typical TLV 1 mg/m³. Typical PEL 1 mg m⁻³.

Toxicity data

(The meaning of any abbreviations which appear in this section is given [here.](#))

ORL-RAT LD50 1530 mg kg⁻¹

UNR-MAN LDLO 200 mg kg⁻¹

IHL-RAT LC50 > 850 mg/m³/1h

SKN-RBT LD50 2740 mg kg⁻¹

Risk phrases

(The meaning of any risk phrases which appear in this section is given [here.](#))

R21 R22 R34.

Transport information

(The meaning of any UN hazard codes which appear in this section is given [here.](#))

Personal protection

Safety glasses, adequate ventilation, rubber or plastic gloves.

Safety phrases

(The meaning of any safety phrases which appear in this section is given [here.](#))

S26 S36 S37 S39 S45.

[Return to [Physical & Theoretical Chemistry Lab. Safety home page.](#)]

This information was last updated on October 2, 2005. We have tried to make it as accurate and useful as possible, but can take no responsibility for its use, misuse, or accuracy. We have not verified this information, and cannot guarantee that it is up-to-date.

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