

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Version 5.6 Revision Date 31.03.2014

Print Date 17.04.2014

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifiers**

Product name : Phosphorus(V) oxychloride

Product Number : 79582

Brand : Aldrich

Index-No. : 015-009-00-5

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No. : 10025-87-3

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 : Sigma-Aldrich Company Ltd.
The Old Brickyard
NEW ROAD, GILLINGHAM
Dorset
SP8 4XT
UNITED KINGDOM

Telephone : +44 (0)1747 833000

Fax : +44 (0)1747 833313

E-mail address : eurtechserv@sial.com

1.4 Emergency telephone number

Emergency Phone # : +44 (0)1747 833100

SECTION 2: Hazards identification**2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Acute toxicity, Inhalation (Category 2), H330

Specific target organ toxicity - repeated exposure (Category 1), H372

Acute toxicity, Oral (Category 4), H302

Skin corrosion (Category 1A), H314

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

Classification according to EU Directives 67/548/EEC or 1999/45/EC

T	Toxic	R14
T+	Very toxic	R48/23
C	Corrosive	R26
Xn	Harmful	R35
		R22
		R29

For the full text of the R-phrases 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)	
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.
H372	Causes damage to organs through prolonged or repeated exposure.
Precautionary statement(s)	
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284	Wear respiratory protection.
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 or doctor/ physician.
Supplemental Hazard information (EU)	
EUH014	Reacts violently with water.
EUH029	Contact with water liberates toxic gas.

2.3 Other hazards

Reacts violently with water., Lachrymator.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical characterization	: Natural product
Synonyms	: Phosphorus oxide chloride Phosphoryl chloride
Formula	: Cl ₃ OP
Molecular Weight	: 153.33 g/mol
CAS-No.	: 10025-87-3
EC-No.	: 233-046-7
Index-No.	: 015-009-00-5

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Phosphoryl trichloride		
CAS-No. 10025-87-3 EC-No. 233-046-7 Index-No. 015-009-00-5	Acute Tox. 4; Acute Tox. 2; Skin Corr. 1A; STOT RE 1; H302, H314, H330, H372, EUH014, EUH029	<= 100 %

Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
Phosphoryl trichloride		
CAS-No. 10025-87-3 EC-No. 233-046-7 Index-No. 015-009-00-5	T+, C, R14 - R22 - R26 - R35 - R48/23 - R29	<= 100 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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. Dry powder

5.2 Special hazards arising from the substance or mixture

Oxides of phosphorus, Hydrogen chloride gas

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas. The product itself does not burn.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Do not flush with water. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store under inert gas. Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from water. Never allow product to get in contact with water during storage.

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

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
Phosphoryl trichloride	10025-87-3	STEL	0.6 ppm 3.8 mg/m ³	UK. EH40 WEL - Workplace Exposure Limits
		TWA	0.2 ppm 1.3 mg/m ³	UK. EH40 WEL - Workplace Exposure Limits

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 48 min

Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, Flame retardant protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup

to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid
b) Odour	no data available
c) Odour Threshold	no data available
d) pH	1 at 20 °C
e) Melting point/freezing point	Melting point/range: 1.25 °C
f) Initial boiling point and boiling range	105.8 °C
g) Flash point	no data available
h) Evaporation rate	no data available
i) Flammability (solid, gas)	no data available
j) Upper/lower flammability or explosive limits	no data available
k) Vapour pressure	37 hPa at 20 °C 139 hPa at 50 °C
l) Vapour density	5.29 - (Air = 1.0)
m) Relative density	1.645 g/cm ³ at 25 °C
n) Water solubility	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	no data available
s) Explosive properties	no data available
t) Oxidizing properties	no data available

9.2 Other safety information

Relative vapour density 5.29 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Reacts violently with water.

10.4 Conditions to avoid

Exposure to moisture.

10.5 Incompatible materials

Strong bases, Alcohols, Amines, Phenol, Metals, Strong oxidizing agents, Reacts violently with water., Acetone reacts violently with phosphorous oxychloride.

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 36 mg/kg

Remarks: Gastrointestinal:Other changes. Liver:Other changes. Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

LC50 Inhalation - rat - 4 h - 32 ppm

LC50 Inhalation - rat - 4 h - 0.197 mg/l

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

Inhalation - Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard

no data available

Additional Information

RTECS: TH4897000

Redness, corneal injury, Cough, Shortness of breath, Dizziness, Headache, chest pain, Nausea, Vomiting, Kidney injury may occur., Abdominal pain

SECTION 12: Ecological information

12.1 Toxicity

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

no data available

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

May be harmful to aquatic organisms due to the shift of the pH.

13.1 Waste treatment methods

Offer surplus and non-recyclable solutions to a licensed disposal company.

Dispose of as unused product.

ADR/RID: 1810

IMDG: 1810

IATA: 1810

ADR/RID: PHOSPHORUS OXYCHLORIDE

IMDG: PHOSPHORUS OXYCHLORIDE

IATA: Phosphorus oxychloride

Passenger Aircraft: Not permitted for transport

Cargo Aircraft: Not permitted for transport

ADR/RID: 6.1 (8)

IMDG: 6.1 (8)

IATA: 6.1 (8)

ADR/RID: I

IMDG: I

IATA: -

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

no data available

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

no data available

For this product a chemical safety assessment was not carried out

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

Acute Tox.

Acute toxicity

EUH014

Reacts violently with water.

EUH029

Contact with water liberates toxic gas.

H302

Harmful if swallowed.

H314

Causes severe skin burns and eye damage.

H330

Fatal if inhaled.

H372

Causes damage to organs through prolonged or repeated exposure.

Skin Corr.	Skin corrosion
STOT RE	Specific target organ toxicity - repeated exposure

Full text of R-phrases referred to under sections 2 and 3

C	Corrosive
T+	Very toxic
R14	Reacts violently with water.
R22	Harmful if swallowed.
R26	Very toxic by inhalation.
R29	Contact with water liberates toxic gas.
R35	Causes severe burns.
R48/23	Toxic: danger of serious damage to health by prolonged exposure through inhalation.

Further information

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