



## MATERIAL SAFETY DATA SHEET (MSDS)

### SECTION 1: Identification

#### 1.1 Product identifiers

**Product Name :** Phosphorus oxychloride  
**Cat No.:** AC191290000; AC191290010; AC191290050; AC191290051;  
AC191292500  
**CAS No. :** 10025-87-3

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

**Recommended uses :** Laboratory chemicals  
**Uses advised against:** Food, drug, pesticide or biocidal product use.

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

**Company :** Krishna Solvechem Limited.  
B/503, Sahayog, S. V. Road,  
Kandivali (West), Mumbai – 400067. India.

**Telephone :** +91-22-6123 0222

**Email :** exports@kscl.co.in

#### 1.4 Emergency Phone : +91-8657457330

### SECTION 2: Hazards identification

#### 2.1 Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Corrosive to metals	(Category 1)
Acute oral toxicity	(Category 4)
Skin Corrosion/Irritation	(Category 1A)
Serious Eye Damage/Eye Irritation	(Category 1)
Specific target organ toxicity (single exposure)	(Category 3)
Target Organs - Respiratory system.	
Specific target organ toxicity (repeated exposure)	(Category 1)
Target organs – Respiratory system.	

#### 2.3 Label elements

**Pictogram :**



**Signal word** Danger

**Hazard statement (s)** Causes severe skin burns and eye damage



May be corrosive to metals  
Harmful if swallowed.  
Fatal if inhaled  
May cause respiratory irritation  
Causes damage to organs through prolonged or repeated exposure

**Precautionary statement (s)**

**Prevention**

Wash face, hands and any exposed skin thoroughly after handling  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wear respiratory protection  
Keep only in original container

**Inhalation :**

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Call a POISON CENTER or doctor/physician if you feel unwell

**IF ON SKIN (or hair):**

If skin irritation occurs: Get medical advice/attention  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
Wash contaminated clothing before reuse

**Eyes:**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing If eye irritation persists: Get medical advice/attention

**Ingestion:**

Rinse mouth. Do NOT induce vomiting

**spills**

absorb spillage to prevent material damage

**Storage:**

Store locked up Store in a well-ventilated place.  
Keep container tightly closed  
Store in a corrosive resistant polypropylene container with a resistant liner.  
Store in a dry place

**Disposal:**

Dispose of contents/container to an approved waste disposal plant



**Hazards not otherwise classified (HNOC)**

Reacts violently with water. Contact with water liberates toxic gas

### SECTION 3: Composition / information on ingredients

#### 3.1

Component	CAS-No	Weight %
Phosphorus oxychloride	10025-87-3	>95

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

<b>General Advice:</b>	If symptoms persist, call a physician.
<b>If inhalation :</b>	If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Immediate medical attention is required.
<b>In case of skin contact :</b>	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
<b>In case of eye contact :</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Ingestion :</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>4.2 Most important symptoms and effects :</b>	Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: After inhalation exposure, observe for 24 to 72 hours as pulmonary edema may be delayed
<b>4.3 Notes to Physician :</b>	Treat symptomatically

### SECTION 5: Firefighting effects

#### 5.1 Extinguishing media

<b>Suitable extinguishing media :</b>	Dry sand, carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.
<b>Unsuitable Extinguishing Media:</b>	No information available
<b>5.2 Flash Point :</b>	No information available
<b>Method :</b>	No information available



<b>Autoignition Temperature:</b>	No information available
<b>Explosion Limits:</b>	
<b>Upper</b>	No data available
<b>Lower</b>	No data available
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available
<b>Specific Hazards Arising from the Chemical :</b>	Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes. Contact with water liberates toxic gas. Reacts violently with water.
<b>Hazardous Combustion Products :</b>	Carbon monoxide (CO). Carbon dioxide (CO <sub>2</sub> ). Hydrogen halides

<b>5.4 Protective Equipment and Precautions for Firefighters:</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.			
<b><u>NFPA:</u></b>	<b>Health</b>	<b>Flammability</b>	<b>Instability</b>	<b>Physical hazards</b>
	4	0	2	W

## SECTION 6: Accidental release measures

<b>6.1 Personal precautions, protective equipment and emergency procedures</b>
Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>6.2 Environmental precautions</b>
Should not be released into the environment.
<b>6.3 Methods and materials for containment and cleaning up</b>
Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Do not expose spill in water

## SECTION 7: Handling and storage

<b>7.1 Precautions for safe handling</b>
Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Do not allow contact with water. Handle under an inert atmosphere.



## 7.2 Conditions for safe storage

Protect from moisture. Corrosives area. Keep under nitrogen. Keep away from water or moist air. Store under an inert atmosphere. Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Strong bases. Alcohols. Amines. Metals. Acids. Reducing Agent. Water. Oxidizing agent.

## SECTION 8: Exposure controls/personal protection

### 8.1 Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH	Mexico OEL (TWA)
Phosphorus oxychloride	TWA: 0.1 ppm	(Vacated) TWA: 0.1 ppm (Vacated) TWA: 0.6 mg/m <sup>3</sup>	TWA: 0.1 ppm TWA: 0.6 mg/m <sup>3</sup> STEL: 0.5 ppm STEL: 3 mg/m <sup>3</sup>	TWA: 0.1 ppm

#### Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

### 8.2 Exposure controls

#### Personal protective equipment -

##### Eye / Face protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

##### Skin protection and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

##### Respiratory protection

Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice..

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Colorless Liquid
b) Odour	Pungent
c) Odour Threshold	No information available
d) pH	No information available
e) Melting point / freezing point	1.2 °C / 34.2 °F
f) Initial boiling point and	107 °C / 224.6 °F



<b>boiling range</b>	
<b>g) Flash point</b>	No information available
<b>h) Evaporation rate</b>	No information available
<b>i) Flammability (solid, gas)</b>	Not applicable
<b>j) Upper/lower flammability or explosive limits</b>	No data available No data available
<b>k) Vapour pressure</b>	36 mbar @ 20 °C
<b>l) Vapour density</b>	5.3
<b>m) Specific Gravity</b>	1.645
<b>n) Solubility</b>	Reacts violently with water
<b>o) Partition coefficient: n octanol/water</b>	No data available
<b>p) Auto-ignition temperature</b>	No information available
<b>q) Decomposition temperature</b>	No information available
<b>r) Viscosity</b>	1.11 mPa.s at 22 °C
<b>s) Molecular formula</b>	Cl <sub>3</sub> O P
<b>t) Molecular Weight</b>	153.33

### SECTION 10: Stability and Reactivity

<b>10.1 Reactive Hazard :</b>	Yes
<b>10.2 Chemical stability :</b>	Reacts violently with water. Moisture sensitive. Contact with water liberates toxic gas.
<b>10.3 Possibility of hazardous reactions :</b>	Reacts violently with water.
<b>10.4 Conditions to avoid :</b>	Excess heat. Exposure to moist air or water. Exposure to moisture. Incompatible products.
<b>10.5 Incompatible materials:</b>	Strong bases, Alcohols, Amines, Metals, Acids, Reducing Agent, Water, Oxidizing agent
<b>10.6 Hazardous decomposition products :</b>	Oxides of phosphorus, Hydrogen chloride gas
<b>10.7 Hazardous Polymerization</b>	Hazardous polymerization does not occur



## SECTION 11: Toxicological information

### 11.1

#### Information on toxicological effects

#### Acute toxicity:

#### Product Information:

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Phosphorus oxychloride	LD50 = 380 mg/kg ( Rat )	LD50 > 250 mg/kg ( Rabbit )	LC50 = 308 mg/m <sup>3</sup> ( Rat ) 4 h

#### Toxicologically Synergistic Products

No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation :**

No information available

**Sensitization:**

No information available

**Carcinogenicity :**

The table below indicates whether each agency has Any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Phosphorus oxychloride	10025-87-3	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects:**

No information available.

**Reproductive Effects:**

No information available.

**Developmental Effects :**

No information available.

**Teratogenicity:**

No information available.

**STOT - single exposure :**

Respiratory system

**STOT - repeated exposure:**

Respiratory system

**Aspiration hazard :**

No information available.

**Symptoms / effects, both acute and delayed:**

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: After inhalation exposure, observe for 24 to 72 hours as pulmonary edema may be delayed

**Endocrine Disruptor Information :**

No information available

**Other Adverse Effects :**

The toxicological properties have not been fully investigated.



## SECTION 12: Ecological information

### 12.1

#### Ecotoxicity:

Reacts with water so no ecotoxicity data for the substance is available.

**12.2 Persistence and degradability:** Persistence is unlikely based on information Available.

**Bioaccumulation/  
Accumulation** No information available

**12.3 Mobility:** Is not likely mobile in the environment.

## SECTION 13: Disposal considerations

**13.1 Waste treatment methods:** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## SECTION 14: Transport information

### 14.1 UN number :

DOT : UN1810                      TDG : UN1810  
IATA : UN1810                    IMDG : UN1810

### 14.2 UN proper shipping name

**DOT :** PHOSPHORUS OXYCHLORIDE  
**TDG :** PHOSPHORUS OXYCHLORIDE  
**IMDG :** PHOSPHORUS OXYCHLORIDE  
**IATA :** PHOSPHORUS OXYCHLORIDE, FORBIDDEN FOR IATA TRANSPORT

**14.3 Transport hazard class(es)** DOT: 6.1              TDG: 6.1              IMDG: 6.1              IATA: 6.1

**14.4 Packaging group:** DOT: II              TDG: II              IMDG: I              IATA: I

## SECTION 15: Regulatory information

### 15.1 United states of America Inventory:

Component	CAS-No	TSCA	TSCA Inventory notification Active/Inactive	TSCA - EPA Regulatory Flags
Phosphorus oxychloride	10025-87-3	X	ACTIVE	-

**Legend:**





**TSCA - Toxic Substances Control Act, (40 CFR Part 710)**

X - Listed

'-' - Not Listed

**TSCA 12(b) - Notices of Export** Not applicable

**International Inventories:**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan(ISHL), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Phosphorus oxychloride	10025-87-3	X	-	233-046-7	X	X	X	X	X	KE-28728

**U.S. Federal Regulations**

**SARA 313**

Not applicable

**SARA 311/312 Hazard Categories**

See section 2 for more information

**CWA (Clean Water Act)**

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Phosphorus oxychloride	X	1000 lb	-	-

**Clean Air Act**

Not applicable

**OSHA - Occupational Safety and Health Administration**

Not applicable

Component	Specifically Regulated Chemicals	Highly Hazardous Chemicals
Phosphorus oxychloride	-	TQ: 1000 lb

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Phosphorus oxychloride	1000 lb	1000 lb

**California Proposition 65** chemicals.

This product does not contain any Proposition 65

**15.2 U.S. State Right-to-Know Regulations:**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Phosphorus oxychloride	X	X	X	X	X

**U.S. Department of Transportation**

Reportable Quantity (RQ): Y



DOT Marine Pollutant N

DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** - This product contains the following DHS chemicals:  
**Legend** - STQs = Screening Threshold Quantities, APA = A placarded amount

Component	DHS Chemical Facility Anti-Terrorism Standard
Phosphorus oxychloride	Release STQs - 5000lbTheft STQs - 220lb APA

**Other International Regulations**

**Mexico – Grade** No information available

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Phosphorus oxychloride	10025-87-3	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Phosphorus oxychloride	10025-87-3	Not applicable	Not applicable	Not applicable	Not applicable

**SECTION 16: Other information**

**16.1 Prepared By:** Regulatory affairs  
 Krishna Solvechem Limited  
**Email:** exports@kscl.co.in  
**Creation Date:** 23-Mar-2012  
**Revision Date:** 19-Dec-2022  
**Print Date:** 19-Dec-2022  
**Revision Summary:** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 C F R 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**16.2 Disclaimer:**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

