

GERMANIUM CORPORATION OF AMERICA ®

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: PHOSPHORUS OXYCHLORIDE (POCl₃)

SDS Number: SDS- 5062

Revised Date: 13 FEBRUARY 2018

MANUFACTURER:

Germanium Corporation of America
5836 Success Drive
Rome, New York 13440
Information: (315) 381-2401 or (315) 534-5859
(315) 853-4900 (The Indium Corporation of America)

lpage@indium.com

nswarts@indium.com

The Indium Corporation of America®.

34 Robinson Road
Clinton, New York 13323

Industrial Use Only

Hazards: Highly toxic by inhalation/Reacts violently with water

EMERGENCY PHONE:

CHEMTREC 24 hrs.

USA: 1 (800) 424-9300

Outside USA: +1 (703) 527-3887

2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

Eye ✓ Inhalation ✓ Skin ✓ Ingestion ✓

Carcinogen listed in

NTP IARC OSHA Not Listed ✓

GHS:

**Signal Word: Danger:****Hazard statement(s)**

H300 + H330 Fatal if swallowed or if inhaled
 H314 Causes severe skin burns and eye damage
 H318 Causes serious eye damage
 H372 Causes damage to organs through prolonged or repeated exposure if inhaled

Precautionary statement(s)

P260 Do not breathe dust/fume/gas/mist/vapors/spray
 P264 Wash hands thoroughly after handling
 P270 Do not eat, drink or smoke when using this product
 P280 Wear protective gloves/protective clothing/eye protection/face protection
 P284 Wear respiratory protection
 P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.
 P303 + P361 + P353 IF ON SKIN: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician
 P305 + P351 + P310 IF IN EYES: Rinse continuously with water for several minutes (15 min). Immediately call a POISON CENTER or doctor/physician
 P314 Get medical advice/attention if you feel unwell
 P363 Wash contaminated clothing before re-use
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed
 P405 Store locked up
 P5010 Dispose of content/container in accordance with local/regional/national regulations.

Classification:

Acute toxicity: Oral Category 2
 Acute toxicity, Inhalation Category 1
 Skin corrosion, Category 1A
 Serious eye damage, Category 1
 Specific target organ toxicity- repeated exposure, inhalation - Category 1

POTENTIAL HEALTH EFFECTS:

Eye Contact: Causes eye burns. Causes severe eye burns.

Ingestion: May be fatal if swallowed.

Inhalation: Causes chemical burns to respiratory tract. Causes corrosive action on mucous membranes. Exposure through inhalation may result in delayed pulmonary edema which may be fatal. Death may result hours after initial exposure.

Skin Contact: Causes skin burns. May be harmful if absorbed through the skin. Can cause redness and pain, which may lead to blisters.

Emergency Overview: Danger: Corrosive. Causes burns to any area of contact. May be fatal if inhaled. Affects respiratory system, central nervous system and kidneys. Harmful if swallowed. Water reactive. Reacts violently with water to generate heat, hydrogen chloride and phosphoric acid. Lachrymator.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	Wt. %	CAS Registry #/EINECS#	PEL mg/m ³	TLV-TWA mg/m ³	TLV-STEL mg/m ³
PHOSPHORUS OXYCHLORIDE (phosphoryl trichloride)	100	10025-87-3/233-046-7 (US)	0.6	0.1(ppm)	3(0.5ppm)
		(Canada)	-	0.6	3.1
		(EU)	-	1.3	3.8
		(Singapore)	0.63	-	-

N.E. = Not established

4. FIRST AID MEASURES

- Eye Contact:** Hold eyelids apart and flush eyes with plenty of tepid water for more than 15 minutes until no evidence of chemical remains. Seek medical attention immediately. Rinse during transport to hospital.
- Ingestion:** If patient is conscious, ONLY induce vomiting as directed by trained personnel. NEVER give anything by mouth to an unconscious person. Seek medical attention immediately.
- Inhalation:** When safe to enter area, remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention.
- Skin Contact:** Remove contaminated clothing. Flush area with large amounts of water for 15 minutes until no evidence of chemical remains. Wash clothing before reuse. Destroy contaminated shoes. Get medical attention.

Note: Exposure may result in death. The effects may be delayed therefore medical attention is essential.

5. FIRE FIGHTING MEASURES

Flash Point: Not flammable **Method:** Not established.

Auto-ignition Temperature: Not established.

Flammable Limits: Limits not established.

Extinguishing Media: Regular dry chemical or carbon dioxide. DO NOT USE WATER – REACTS VIOLENTLY.

Special Fire Fighting Procedures: Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing. Depending on the fire, other protective clothing may be required.

Explosion Sensitivity: Mechanical Impact: Not available

Static Discharge: Not available

Water hydrolyzes material and can liberate acidic gases which if in contact with metal surfaces can generate a flammable and explosive hydrogen gas.

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Wear the appropriate personal protective equipment (such as chemical resistant gloves, eye and face protection, respiratory protection and protective clothing). Spills require mandatory respiratory protection. Do not allow spillage to enter any drains, waterways or ground. All waste must be disposed of in accordance with applicable state, federal and local regulations. Keep unnecessary personnel away. Ventilate area, immediately.

7. HANDLING AND STORAGE

Handling and Storage Precautions: Store product in cool dry area in tightly sealed containers. Protect from moisture. Use material in chemical fume hood or other well ventilated areas only. Keep closed when not in use. Keep away from water. Containers which have been opened must be properly re-sealed. Keep container upright at all times. Empty containers are considered to be hazardous as they contain residue. Store locked up or in controlled area.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Required: Work in a well -ventilated area. Use only with chemical fume hood or other high quality ventilation. Avoid inhalation of product.

Personal protection:

Eyes: Tight fitting goggles and face-shield. Provide an emergency eyewash/ shower in the immediate work area. Avoid the use of contact lenses.

Respirator: Wear approved full face respirator with multi- gas cartridges with adequate exhaust ventilation. Should handling be outside of engineering controls additional protection is required which includes air supplied respirator. Evaluate area before using material. If proper engineering controls and respirators are not available do not use the product. Do not breathe this product.

Skin: Use compatible chemical resistant gloves. Nitrile gloves with minimum thickness of 0.4 mm.

Other: Lab coat or chemical resistant clothing, eyewash shower unit in work area.

Work/Hygienic Practices: Maintain good housekeeping. Clean up spills immediately. Avoid eating, smoking or drinking in the work area. Wash hands thoroughly with soap and water immediately upon leaving the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid, yellow fuming liquid	Vapor Density:	5.3
Odor:	Pungent odor, sharp unpleasant- odor, irritating odor		
pH:	1 @20C (68F)		
Specific Gravity:	1.625 at 25C	Molecular Weight:	153.33 g/mol
Vapor Pressure:	40 mm Hg @27.3		
Freezing /Melting Point:	1.2 C		
Boiling Point:	107 C		
Solubility:	Exothermic reaction with water		

10. STABILITY AND REACTIVITY

General: Reacts violently with water.

Conditions to Avoid: Moisture, excessive heat

Incompatible Materials: Metals, oxidizing materials, moisture, alcohols

Hazardous Decomposition / Combustion:	Hydrogen chloride, hydrochloric acid, phosphoric acid, toxic and corrosive gas
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity:	NTP:	No
	OSHA:	No
	IARC:	No

Inhalation, rat: LC50 = 0.197 mg/l / 4h

Inhalation, rat: LC50 = 32 ppm/ 4hr

Oral, rat: LD50 = 36 mg/kg

RTECS: TH4897000

Can cause redness, corneal injury, shortness of breath, headache, nausea, kidney injury, abdominal pain

12. ECOLOGICAL INFORMATION

No data available.

May be harmful to aquatic organisms due to changes in pH.

13. DISPOSAL CONSIDERATION

Waste Disposal Method: Dispose of in accordance with all applicable regulations: state, federal and local. Empty containers are treated as hazardous.

14. TRANSPORT INFORMATION

SHIPPING NAME: UN1810, PHOSPHORUS OXYCHLORIDE, 6.1 (8), PG I (INHALATION HAZARD ZONE B)



SHIPPING LABELS (MARKS): (Class 8 and 6.1)

RQ+: reportable quantity and known to pose a risk to humans. RQ = 1000 lbs

All Packages must be marked with "INHALATION HAZARD". HAZARD ZONE B

North American Emergency Guide – Guide# 137

Refer to Table on Initial Isolation and Protective Action Distances information in the event of a spill.

Small spill on land: Initial isolation 100 ft

Large spill on land: Initial isolation 300 ft

Shipping Modes Restriction: Forbidden Passenger and Cargo Aircraft

Marine pollutant: No

15. REGULATORY INFORMATION

The information in this Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated thereunder (29 CFR 1910.1200 ET. SEQ.),

This product has been classified in accordance with the hazard criteria of the Canadian Products Regulation (CPR).



Canadian WHMIS: D1B, D2A, D2B

This product has been classified in accordance with the Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

This product has been classified in accordance with the hazard criteria of the Commission Directive 91/155/EEC and EH40.

This product has been classified in accordance with the guidelines set by the Dept. of Industrial Health of the Republic of Singapore.

SARA SECTION 302: Extremely Hazardous Substance

SARA 313 Listing: No

EPA TSCA Inventory: All ingredients are listed on the TSCA inventory

Listed as a hazardous substance under the Clean Water Act

Chemical Weapons Convention: Yes

Massachusetts, New Jersey and Pennsylvania Right To Know Components

California Prop 65: None

Malaysia:

This product has been classified in accordance with: Malaysian – OCCUPATIONAL SAFETY AND HEALTH (CLASSIFICATION, LABELING AND SAFETY DATA SHEET OF HAZARDOUS CHEMICALS) REGULATION OCTOBER 2013 – (CLASS). (GHS)

In China:

Decree No. 591: Regulations on the Control over Safety of Hazardous Chemicals

GB 30000.2-29-2013, Rules for classification and labeling of chemicals. (GHS)

GB/T 16483-2008, GB/T 17517-2013

This product has been classified using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007

16. OTHER INFORMATION

HMIS Hazard Rating:	Health:	4
	Fire:	0
	Reactivity:	3
	Other:	Water Reactive "W"

Revised Date: 13 FEBRUARY 2018
Prepared by: Nancy Swarts, For the Germanium Corporation of America
Approved by: Nancy Swarts, For the Germanium Corporation of America.

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suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information are included on the container.