Material Safety Data Sheet
Phosphorus Trichloride

ACC# 88714

Section 1 - Chemical Product and Company Identification

MSDS Name: Phosphorus Trichloride
Catalog Numbers: AC169480000, AC169480010, AC169480050, AC169482500
Synonyms: Phosphorus Perchloride; Phosphoric Chloride.
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7719-12-2	Phosphorus Trichloride	100	231-749-3

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless or slight yellow liquid.
Danger! May be fatal if swallowed. Corrosive. Causes severe eye and skin burns. Causes severe digestive and respiratory tract burns. Water-reactive. Poison! May be fatal if inhaled.
Target Organs: Respiratory system, eyes, skin.

Potential Health Effects
Eye: Causes severe eye burns.
Skin: Causes skin burns. May be absorbed through the skin in harmful amounts.
Ingestion: May be fatal if swallowed. Causes digestive tract burns with immediate pain, swelling of the throat, convulsions, and possible coma.
Inhalation: May be fatal if inhaled. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema. Causes chemical burns to the respiratory tract.
Chronic: No information found.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid imme diately. Do NOT allow victim to rub eyes or keep eyes closed.
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Ingestion: Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical aid.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Substance is noncombustible. Contact with water can cause violent liberation of heat and splattering of the material. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.
Extinguishing Media: Do NOT use water directly on fire. Use carbon dioxide or dry chemical.
Flash Point: Not available.
Autoignition Temperature: Noncombustible
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 2; Special Hazard: -W-

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm

sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Follow all MSDS and label precautions even after container is emptied because they may contain product residues. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Do not allow contact with water.
Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Phosphorus Trichloride	0.2 ppm TWA; 0.5 ppm STEL	0.2 ppm TWA; 1.5 mg/m3 TWA 25 ppm IDLH	0.5 ppm TWA; 3 mg/m3 TWA

OSHA Vacated PELs: Phosphorus Trichloride: 0.2 ppm TWA; 1.5 mg/m3 TWA
Personal Protective Equipment
Eyes: 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: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: colorless or slight yellow
Odor: pungent odor
pH: Not available.
Vapor Pressure: 100 mm Hg @ 25C
Vapor Density: 4.74
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 76 deg C
Freezing/Melting Point:-112 deg C
Decomposition Temperature: Not available.
Solubility: Reacts.
Specific Gravity/Density:1.574
Molecular Formula:PCl3
Molecular Weight:137.3328

Section 10 - Stability and Reactivity

Chemical Stability: Reacts with water to form hydrogen chloride, a toxic and corrosive gas.
Conditions to Avoid: Contact with water.
Incompatibilities with Other Materials: Reacts violently with water. Alcohols, amines, aluminum, sodium, potassium acids.
Hazardous Decomposition Products: Hydrogen chloride, oxides of phosphorus, phosphorous fumes.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 7719-12-2: TH3675000
LD50/LC50:
CAS# 7719-12-2:
Inhalation, rat: LC50 = 104 ppm/4H;
Inhalation, rat: LC50 = 132 mg/m3;
Oral, rat: LD50 = 18 mg/kg;
.

Carcinogenicity:
CAS# 7719-12-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found

Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	PHOSPHORUS TRICHLORIDE	PHOSPHORUS TRICHLORIDE
Hazard Class:	6.1	6.1(8)
UN Number:	UN1809	UN1809
Packing Group:	I	I

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7719-12-2 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
CAS# 7719-12-2: 1000 lb final RQ; 454 kg final RQ
SARA Section 302 Extremely Hazardous Substances
CAS# 7719-12-2: 1000 lb TPQ
SARA Codes
CAS # 7719-12-2: immediate, delayed, reactive.
Section 313 No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
CAS# 7719-12-2 is listed as a Hazardous Substance under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
CAS# 7719-12-2 is considered highly hazardous by OSHA.
STATE
CAS# 7719-12-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations
European Labeling in Accordance with EC Directives
Hazard Symbols:
T+ C
Risk Phrases:
R 14 Reacts violently with water.
R 26/28 Very toxic by inhalation and if swallowed.
R 29 Contact with water liberates toxic gas.
R 35 Causes severe burns.
R 48/20 Harmful : danger of serious damage to health by prolonged exposure through inhalation.

Safety Phrases:
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face pr
otection.
S 45 In case of accident or if you feel unwell, seek medical advice
immediately (show the label where possible).
S 7/8 Keep container tightly closed and dry.

WGK (Water Danger/Protection)
CAS# 7719-12-2: 1
Canada - DSL/NDSL
CAS# 7719-12-2 is listed on Canada's DSL List.
Canada - WHMIS
This product has a WHMIS classification of D1A, E, F.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
Canadian Ingredient Disclosure List
CAS# 7719-12-2 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 5/18/1999
Revision #9 Date: 12/02/2004