Material Safety Data Sheet
Dimethyl chlorothiophospate, 97%

ACC# 57091

Section 1 - Chemical Product and Company Identification

MSDS Name: Dimethyl chlorothiophospate, 97%
Catalog Numbers: AC116130050, AC116131000, AC116135000
Synonyms: Dimethyl phosphorochloridothioate, Dimethylthiophosphoryl chloride; Dimethyl thiophosphoryl chloride; Dimethylchlorthiofosfat; Methyl PCT; O,O-Dimethyl phosphorochloridothioate; O,O-Dimethylphosphorochloridothioate; Phosphonothioic acid, chloro-, O,O-dimethyl ester; Phosphorochloridothioic acid, O,O-dimethyl ester
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
2524-03-0	Dimethyl chlorothiophosphate	97	219-754-9

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear light yellow clear liquid. Flash Point: 65 deg C.
Danger! Corrosive. Causes eye and skin burns. Poison! May be fatal if inhaled. Harmful if swallowed or absorbed through the skin. Stench. **Combustible liquid and vapor.** May cause severe digestive tract irritation with possible burns. May cause severe respiratory tract irritation with possible burns. May cause central nervous system depression. Moisture sensitive.
Target Organs: Central nervous system, liver, lungs.

Potential Health Effects

Eye: Causes eye burns. May cause conjunctivitis and corneal inflammation. Causes lachyrmation (tearing), blurred vision, and may cause temporary lesions.
Skin: Harmful if absorbed through the skin. Causes skin burns. If absorbed, may cause central nervous system effects. If absorbed through the skin, may cause depressed respiration, lowered body temperature, nausea, salivation, diarrhea, dizziness, and diuresis. May cause cyanosis of the extremities. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.
Ingestion: Harmful if swallowed. Causes gastrointestinal tract burns. May cause liver damage. May cause perforation of the digestive tract. May cause tissue anoxia, characterized by weakness, headache, dizziness, confusion, cyanosis (bluish skin due to deficient oxygenation of the blood), weak and irregular heart beat, collapse, unconsciousness, convulsions, coma and death. May cause excessive salivation, vomiting, and diarrhea. High concentrations may cause drowsiness, convulsions, unconsciousness and central nervous system damage. May cause excessive salivation, abdominal pain, incontinence, muscle cramps and weakness, and confusion.
Inhalation: May be fatal if inhaled. Causes chemical burns to the respiratory tract. May cause effects similar to those described for ingestion. Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema. May cause systemic effects. May cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation at high concentrations may cause CNS depression and asphixiation.
Chronic: Not available. Effects may be delayed (some from to 6 to 21 days).

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).
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: Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
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 victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.
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. Combustible liquid. Containers may explode when heated. Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas.
Extinguishing Media: Do NOT use water directly on fire. Use water spray to cool fire-exposed containers. Use foam, dry chemical, or carbon dioxide. Do NOT get water inside containers.
Flash Point: 65 deg C (149.00 deg F)

Autoignition Temperature: Not applicable.
Explosion Limits, Lower: Not available.
Upper: Not available.
NFPA Rating: (estimated) Health: 3; Flammability: 2; Instability: 2

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Do not get water inside containers. Cover with dry earth, dry sand, or other non-combustible material followed with plastic sheet to minimize spreading and contact with water.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Do not ingest or inhale. Use and store under nitrogen. Do not allow contact with water. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Keep from contact with moist air and steam.
Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area. Store protected from moisture.

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
Dimethyl chlorothiophosphate	none listed	none listed	none listed

OSHA Vacated PELs: Dimethyl chlorothiophosphate: No OSHA Vacated PELs are listed for this chemical.
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: Clear liquid
Appearance: clear light yellow
Odor: stench
pH: Not available.
Vapor Pressure: 4 mm Hg @ 40 deg C
Vapor Density: 5.54
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 66.0 - 67.0 deg C @ 16.00mmHg
Freezing/Melting Point: Not available.
Decomposition Temperature:65 deg C
Solubility: Decomposes.
Specific Gravity/Density:1.3220g/cm3
Molecular Formula:C2H6ClO2SP
Molecular Weight:160.55

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Begins autocatalytic decomposition at temperatures above 120°C.
Conditions to Avoid: Incompatible materials, ignition sources, moisture, temperatures above 120°C.
Incompatibilities with Other Materials: Moisture, water, strong bases, strong oxidizing agents.
Hazardous Decomposition Products: Hydrogen chloride, phosphine, carbon monoxide, oxides of sulfur, oxides of phosphorus, carbon dioxide, chloride fumes.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 2524-03-0: TD1830000

LD50/LC50:
CAS# 2524-03-0:
Inhalation, mouse: LC50 = 320 mg/m3/2H;
Inhalation, rat: LC50 = 340 mg/m3/4H;
Oral, mouse: LD50 = 1800 mg/kg;
Oral, rat: LD50 = 540 mg/kg;
.
Oral, rat: LD50 = 540 mg/kg. Skin, rabbit: LD50 = 316
Carcinogenicity:
CAS# 2524-03-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: Mutagenic effects have occurred in experimental animals.
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: Expected to hydrolyze from moist soil surfaces and water. Insufficient data to determine biodegradation in soil and water. Highly mobile in soil, but not expected to leach. Bioconcentration in aquatic organisms not expected to be important. Will exist almost totally in the vapor-phase in the ambient atmosphere. Will degrade rapidly by reaction with photochemically-produced hydroxyl radicals.
Physical: Half life by reaction w/hydroxyl radicals in the atmosphere: 6.5 hours.
Other: None.

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:	DIMETHYL THIOPHOSPHORYL CHLORIDE	No information available.
Hazard Class:	6.1	
UN Number:	UN2267	
Packing Group:	II	

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 2524-03-0 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
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
CAS# 2524-03-0: 500 lb TPQ
Section 313
This material contains Dimethyl chlorothiophosphate (CAS# 2524-03-0, 97%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR
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:
None of the chemicals in this product are listed as Hazardous Substances 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:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 2524-03-0 can be found on the following state right to know lists: New Jersey, Pennsylvania, 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 21/22 Harmful in contact with skin and if swallowed.
R 23 Toxic by inhalation.
R 34 Causes burns.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 2524-03-0: 2

Canada - DSL/NDSL

CAS# 2524-03-0 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, E, B3.

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# 2524-03-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 9/02/1997
Revision #9 Date: 10/03/2005