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INDE: D51828433 CAT NO: AC320900050 PO NBR: 29218H

**** MATERIAL SAFETY DATA SHEET ****

Di-Tert-Butylchlorophosphine
99335

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Di-Tert-Butylchlorophosphine

Catalog Numbers:
AC320900000, AC320900050

Synonyms:

None known.

Company Identification (Europe): Acros Organics BVBA
Janssen Pharmaceuticaal 3a
2440 Geel, Belgium

Company Identification (USA): Acros Organics
One Reagent Lane
Fairlawn, NJ 07410

For information in North America, call: 800-ACROS-01
For information in Europe, call: 0032(0) 14575211
For emergencies in the US, call CHEMTREC: 800-424-9300
For emergencies in Europe, call: 0032(0) 14575299

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
13716-10-4	Di-Tert-Butylchlorophosphine	ca 100	unlisted

Hazard Symbols: C
Risk Phrases: 34

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: colorless liquid. Flash Point: 61 deg C.
Danger! Combustible liquid and vapor. Corrosive. Air sensitive.
Moisture sensitive. May cause central nervous system depression.
Causes eye and skin burns. May cause severe respiratory tract
irritation with possible burns. May cause severe digestive tract
irritation with possible burns.
Target Organs: Central nervous system.

Potential Health Effects

Eye:
Causes eye burns. May cause chemical conjunctivitis and corneal
damage.

Skin:
Causes skin burns. May cause irritation and dermatitis. May cause
cyanosis of the extremities. May cause skin rash (in milder cases),
and cold and clammy skin with cyanosis or pale color.

Ingestion:
May cause severe and permanent damage to the digestive tract. Causes
gastrointestinal tract burns. May cause perforation of the digestive
tract. May cause systemic effects.

Inhalation:
Causes chemical burns to the respiratory tract. Aspiration may lead
to pulmonary edema. May cause systemic effects. Inhalation at high
concentrations may cause CNS depression and asphyxiation.

Chronic:
Effects may be delayed.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes:
Get medical aid immediately. Do NOT allow victim to rub 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:
Do NOT induce vomiting. If victim is conscious and alert, give 2-4
cupfuls of milk or water. Never give anything by mouth to an
unconscious person. Get medical aid immediately.

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:

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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. Use water
spray to keep fire-exposed containers cool. Water may be ineffective.
Material is lighter than water and a fire may be spread by the use of
water. Combustible liquid. 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:

In case of fire, use water, dry chemical, chemical foam, or
alcohol-resistant foam. Use water spray to cool fire-exposed
containers. Water may be ineffective. Do NOT get water inside
containers.

Autoignition Temperature: Not applicable.

Flash Point: 61 deg C (141.80 deg F)

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

NIOSH Health: (estimated) 3; Flammability: 2; Instability: 0

**** 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. Remove all
sources of ignition. Use a spark-proof tool. Provide ventilation.
Place under an inert atmosphere. Do not get water inside containers.

**** SECTION 7 - HANDLING and STORAGE ****

Handling:

Wash thoroughly after handling. 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. Avoid contact with heat, sparks and
flame. Use with adequate ventilation. Handle under an inert
atmosphere. Store protected from air. Do not allow contact with
water. Discard contaminated shoes. Do not pressurize, cut, weld,
braz, 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. Store in a tightly closed container. Store in a cool, dry,
well-ventilated area away from incompatible substances. Corrosives
area. Do not expose to air. Store protected from moisture. Store
under an inert atmosphere.

**** 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
ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Di-Tert-Butylchloro phosphine	none listed	none listed	none listed

OSHA Vacated PELs:

Di-Tert-Butylchlorophosphine:
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:

Follow the OSHA respirator regulations found in 29
CFR 1910.134 or European Standard EN 149. Always use
a NIOSH or European Standard EN 149 approved
respirator when necessary.

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**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Liquid
Color: colorless liquid
Odor: none reported
pH: Not available.
Vapor Pressure: Not available.
Vapor Density: 6.23
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 48 deg C @ 3.00mm Hg
Freezing/Melting Point: Not available.
Decomposition Temperature:
Solubility in water:
Specific Gravity/Density: .9510g/cm3
Molecular Formula: (CH3)3C|2PCl
Molecular Weight: 180.66

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability:
Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to Avoid:
Incompatible materials, ignition sources, moisture, exposure to air, excess heat.
Incompatibilities with Other Materials:
Strong oxidizing agents, strong reducing agents, moisture, air.
Hazardous Decomposition Products:
Hydrogen chloride, carbon monoxide, oxides of phosphorus, irritating and toxic fumes and gases, carbon dioxide, phosphine.
Hazardous Polymerization: Has not been reported

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#: CAS# 13716-10-4 unlisted.
LD50/LC50: Not available.
Carcinogenicity:
Di-Tert-Butylchlorophosphine -
Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology:
No information found.
Teratogenicity:
No information found.
Reproductive Effects:
No information found.
Neurotoxicity:
No information found.
Mutagenicity:
No information found.
Other Studies:
No data available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

**** 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
No information available
Canadian TDG
No information available.

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA
CAS# 13716-10-4 is not listed on the TSCA inventory.
It is for research and development use only.
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.

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TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

SARA
CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPO.
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 depleters.
This material does not contain any Class 2 Ozone depleters.

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
Di-Tert-Butylchlorophosphine is not present on state lists from CA, PA, MN, MA, FL, or NJ.

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: C
Risk Phrases:

R 34 Causes burns.
Safety Phrases:
S 25 Avoid contact with eyes.
S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)
CAS# 13716-10-4: No information available.
United Kingdom Occupational Exposure Limits

United Kingdom Maximum Exposure Limits

Canada
None of the chemicals in this product are listed on the DSL/NDSL list.
This product has a WHMIS classification of E, B3.
CAS# 13716-10-4 is not listed on Canada's Ingredient Disclosure List.
Exposure Limits

**** SECTION 16 - ADDITIONAL INFORMATION ****

MSDS Creation Date: 5/11/1999 Revision #7 Date: 3/18/2003

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

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