

Safety Data Sheet
according to 1907/2006/EC, Article 31

Revision: 12.09.2008

Printing date 14.07.2010

1 Identification of substance**Product details**

Trade name

Phenylphosphorodichloridate

Stock number:

A10479, L00203

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
Benzstrasse 3
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com
www.alfa-chemcat.com

Informing department:

Product safety department.

Emergency information:

Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240**2 Hazards identification**

Hazard designation:



T+ Very toxic

Information pertaining to particular dangers for man and environment

R 22 Harmful if swallowed.
R 27 Very toxic in contact with skin.
R 34 Causes burns.

GHS label elements

**Danger**

H310 - Fatal in contact with skin.

**Danger**

H314 - Causes severe skin burns and eye damage.

Warning

H302 - Harmful if swallowed.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P361 Remove/Take off immediately all contaminated clothing.

Prevention:

Response:

Storage:

Disposal:

P361

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

Phenyl dichlorophosphate (CAS# 770-12-7); 100%

Identification number(s):

EINECS Number:

212-220-6

4 First aid measures

General information

After inhalation

Instantly remove any clothing soiled by the product.

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult doctor.

After swallowing

Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

For safety reasons unsuitable extinguishing agents

Special hazards caused by the material, its products of combustion or flue gases:

In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.

Water.

Reacts violently with water

Can be released in case of fire:

Carbon monoxide and carbon dioxide

Hydrogen chloride (HCl)

Phosphorus oxides

Protective equipment:

Wear self-contained breathing apparatus.

Wear full protective suit.

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Measures for environmental protection:

Measures for cleaning/collecting:

Ensure adequate ventilation

Do not allow material to be released to the environment without proper governmental permits.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

Additional information:

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

7 Handling and storage

Handling

Information for safe handling:

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:

No special measures required.

Storage

Requirements to be met by storerooms and containers:

Information about storage in one common storage facility:

No special requirements.

Do not store together with strongly basic or oxidizing materials.

Store away from alcohols.

Store away from water.

Further information about storage conditions:

Protect from humidity and keep away from water.

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Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Store in a locked cabinet or with access restricted to technical experts or their assistants.

8 Exposure controls and personal protection

Additional information about design of technical systems:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.
Components with critical values that require monitoring at the workplace:	Not required.
Additional information:	No data
Personal protective equipment	The usual precautionary measures should be adhered to in handling the chemicals. Keep away from foodstuffs, beverages and food. Instantly remove any soiled and impregnated garments. Wash hands during breaks and at the end of the work. Avoid contact with the eyes and skin. Use breathing protection with high concentrations. Tightly sealed safety glasses. Full face protection Face protection Protective work clothing.
General protective and hygienic measures	
Breathing equipment:	
Eye protection:	
Body protection:	

9 Physical and chemical properties:**General Information**

Form:	Liquid
Colour:	Colourless
Smell:	Not determined

Change in condition	
Melting point/Melting range:	-1°C
Boiling point/Boiling range:	241-243°C
Sublimation temperature / start:	Not determined

Flash point: > 110°C**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Danger of explosion:** Product is not explosive.

Critical values for explosion:	
Lower:	Not determined
Upper:	Not determined

Steam pressure: Not determined**Density at 20°C** 1.417 g/cm³**10 Stability and reactivity**

Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
Materials to be avoided:	Water/moisture Oxidizing agents Bases Alcohols
Dangerous reactions:	Reacts violently with water
Dangerous products of decomposition:	Carbon monoxide and carbon dioxide Hydrogen chloride (HCl) Phosphorus oxides (e.g. P ₂ O ₅)

11 Toxicological information**Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	400 mg/kg (rat)
Dermal	LD50	14-400 mg/kg (guinea pig)

Primary irritant effect:	Corrosive effect on skin and mucous membranes. Irritant for skin and mucous membranes.
on the skin:	
on the eye:	Strong corrosive effect. Irritant effect.
Sensitization:	No sensitizing effect known.
Additional toxicological information:	Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach. To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:

Additional ecological information:	
General notes:	Do not allow product to reach ground water, water bodies or sewage system. Water hazard class 2 (Self-assessment): hazardous for water. Danger to drinking water if even small quantities leak into soil. Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Product:	
Recommendation	Consult state, local or national regulations for proper disposal. Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations.

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**Uncleaned packagings:
Recommendation:**

Disposal must be made according to official regulations.

14 Transport information**Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)**

ADR/RID-GGVS/E Class: 8 (CT1) Corrosive substances.
Kemler Number: 86
UN-Number: 2922
Packaging group: II
Label: 8+6.1
Designation of goods: 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (Phenylphosphorodichloridate)
Limited quantities (LQ): LQ22

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 8
UN Number: 2922
Label: 8+6.1
Packaging group: II
Marine pollutant: No
Correct technical name: CORROSIVE LIQUID, TOXIC, N.O.S. (Phenylphosphorodichloridate)

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 8
UN/ID Number: 2922
Label: 8+6.1
Packaging group: II
Correct technical name: CORROSIVE LIQUID, TOXIC, N.O.S. (Phenylphosphorodichloridate)

UN "Model Regulation":

UN2922, CORROSIVE LIQUID, TOXIC, N.O.S., 8 (6.1), II

15 Regulatory information**Designation according to EC guidelines:****Code letter and hazard designation of product:**

T+ Very toxic

Risk phrases:

22 Harmful if swallowed.
 27 Very toxic in contact with skin.
 34 Causes burns.

Safety phrases:

26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 28 After contact with skin, wash immediately with plenty of water.
 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

National regulations**Information about limitation of use:**

Employment restrictions concerning young persons must be observed.
 For use only by technically qualified individuals.

Water hazard class:

Water hazard class 2 (Self-assessment): hazardous for water.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.**Contact:** Zachariah Holt**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
 ICAO: International Civil Aviation Organization
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent