






ISOPROPYL CHLOROFORMATE**ICSC: 0287**

**Date of Peer
Review:
May 2003**

Isopropyl chlorocarbonate
Chloroformic acid, isopropyl ester
Carbonochloridic acid 1-methylethyl ester
Isopropyl chloromethanate

CAS # 108-23-6 C₄H₇ClO₂ / (CH₃)₂CHOCOCI
RTECS # LQ6475000 Molecular mass: 122.6
UN # 2407
EC #

TYPES OF HAZARD / EXPOSURE	ACUTE HAZARDS / SYMPTOMS	PREVENTION	FIRST AID / FIRE FIGHTING
FIRE	Highly flammable. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking.	Carbon dioxide, dry powder, alcohol- resistant foam, dry sand.
EXPLOSION	Vapour/air mixtures are explosive.	Closed system, ventilation, explosion- proof electrical equipment and lighting. Do NOT use compressed air for filling, discharging, or handling.	In case of fire: cool drums, etc., by spraying with water but avoid contact of the substance with water.
EXPOSURE		STRICT HYGIENE!	IN ALL CASES CONSULT A DOCTOR!
Inhalation	Burning sensation. Cough. Laboured breathing. Shortness of breath. Sore throat. Symptoms may be delayed (see Notes).	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Half- upright position. Artificial respiration may be needed. Refer for medical attention.
Skin	Redness. Skin burns. Pain. Blisters.	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
Eyes	Causes watering of the eyes. Redness. Pain. Severe deep burns.	Safety goggles and face shield or eye protection in combination with breathing protection.	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.

Ingestion	Abdominal pain. Burning sensation. Shock or collapse.	Do not eat, drink, or smoke during work.	Rinse mouth. Do NOT induce vomiting. Refer for medical attention.
SPILLAGE DISPOSAL		PACKAGING & LABELLING	
Ventilation. Remove all ignition sources. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent and remove to safe place. Do NOT wash away into sewer. (Extra personal protection: chemical protection suit including self-contained breathing apparatus.)		Do not transport with food and feedstuffs. EU Classification UN Classification UN Hazard Class: 6.1 UN Subsidiary Risks: 3 and 8 UN Pack Group: I	
EMERGENCY RESPONSE		STORAGE	
Transport Emergency Card: TEC (R)-61GTFC-I		Fireproof. Separated from strong oxidants, food and feedstuffs. Dry. Well closed.	
    		Prepared in the context of cooperation between the International Programme on Chemical Safety and the Commission of the European Communities © IPCS, CEC 1999 SEE IMPORTANT INFORMATION ON BACK	

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IMPORTANT DATA

PHYSICAL STATE; APPEARANCE:
COLOURLESS LIQUID, WITH PUNGENT ODOUR.

PHYSICAL DANGERS:
The vapour is heavier than air and may travel along the ground; distant ignition possible.

CHEMICAL DANGERS:
The substance decomposes on heating producing toxic and corrosive fumes including hydrogen chloride and phosgene. Reacts violently with strong oxidants. Reacts with water to produce alcohol and hydrogen chloride (see ICSC 0163).

OCCUPATIONAL EXPOSURE LIMITS:
TLV not established.

ROUTES OF EXPOSURE:
The substance can be absorbed into the body by inhalation of its vapour and by ingestion.

INHALATION RISK:
No indication can be given about the rate in which a harmful concentration in the air is reached on evaporation of this substance at 20°C.

EFFECTS OF SHORT-TERM EXPOSURE:
Causes watering of the eyes. The substance is corrosive to the eyes, the skin and the respiratory tract. Corrosive on ingestion. Inhalation of vapour may cause lung oedema (see Notes). The effects may be delayed. Medical observation is indicated.

PHYSICAL PROPERTIES

Boiling point: 104.6°C
Relative density (water = 1): 1.08
Solubility in water: slow reaction
Vapour pressure, kPa at 20°C: 3
Relative vapour density (air = 1): 4.2

Relative density of the vapour/air-mixture at 20°C (air = 1): 1.1
Flash point: 20°C c.c.
Auto-ignition temperature: >500°C
Explosive limits, vol% in air: 4-15

ENVIRONMENTAL DATA
NOTES
Health effects of exposure to the substance have not been investigated adequately. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Immediate administration of an appropriate inhalation therapy by a doctor or a person authorized by him/her, should be considered.
ADDITIONAL INFORMATION
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