

OZONE**0068**
April 1993CAS No: 10028-15-6
RTECS No: RS8225000(cylinder)
O₃
Molecular mass: 48.0

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Not combustible but enhances combustion of other substances. Many reactions may cause fire or explosion.	NO open flames, NO sparks, and NO smoking. NO contact with combustibles.	In case of fire in the surroundings: use appropriate extinguishing media.
EXPLOSION	Risk of fire and explosion when heated or on contact with combustible substances (alkene, ethers).	Closed system, ventilation, explosion-proof electrical equipment and lighting.	In case of fire: keep cylinder cool by spraying with water. Combat fire from a sheltered position.

EXPOSURE	STRICT HYGIENE!		
Inhalation	Cough. Headache. Shortness of breath. Sore throat.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Half-upright position. Artificial respiration may be needed. Refer for medical attention.
Skin	ON CONTACT WITH LIQUID: FROSTBITE.	Cold-insulating gloves.	ON FROSTBITE: rinse with plenty of water, do NOT remove clothes. Refer for medical attention.
Eyes	Redness. Pain. Loss of vision.	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			

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! Ventilation. If in liquid state: NEVER direct water jet on liquid. Personal protection: self-contained breathing apparatus.	

EMERGENCY RESPONSE	SAFE STORAGE
	Fireproof if in building. Separated from all substances. Cool. Ozone is frequently stored refrigerated in halons.

IMPORTANT DATA

Physical State; Appearance

COLOURLESS OR BLUIISH GAS, WITH CHARACTERISTIC ODOUR.

Physical dangers

The gas is heavier than air.

Chemical dangers

The substance decomposes on warming producing oxygen, which increases fire hazard. The substance is a strong oxidant and reacts violently with combustible and reducing materials. Reacts with alkenes, aromatics such as aniline, and ethers, bromine, nitrogen compounds and rubber producing shock-sensitive compounds. Attacks metals except gold and platinum.

Occupational exposure limits

TLV: (light work) 0.1 ppm as TWA;
 TLV: (moderate work) 0.08 ppm as TWA;
 TLV: (heavy work) 0.05 ppm as TWA; A4 (not classifiable as a human carcinogen); (ACGIH 2004).
 MAK: Carcinogen category: 3B; (DFG 2004).

Routes of exposure

The substance can be absorbed into the body by inhalation.

Inhalation risk

A harmful concentration of this gas in the air will be reached very quickly on loss of containment.

Effects of short-term exposure

The substance is irritating to the eyes and the respiratory tract. Inhalation of the gas may cause lung oedema (see Notes). Inhalation of the gas may cause asthma-like reactions. The liquid may cause frostbite. The substance may cause effects on the central nervous system, resulting in headache and impaired vigilance and performance.

Effects of long-term or repeated exposure

Lungs may be affected by repeated or prolonged exposure to the gas.

PHYSICAL PROPERTIES

Boiling point: -112/C
 Melting point: -193/C

Solubility in water, g/100 ml at 0/C: 0.1
 Relative vapour density (air = 1): 1.6

ENVIRONMENTAL DATA

This substance may be hazardous to the environment; special attention should be given to plants.

NOTES

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. The symptoms of asthma 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. Anyone who has shown symptoms of asthma due to this substance should avoid all further contact with this substance. Turn leaking cylinder with the leak up to prevent escape of gas in liquid state. Card has been partly updated in October 2004 and April 2005. See section Occupational Exposure Limits.

ADDITIONAL INFORMATION

LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible