

CYANOGEN**1390**

October 2001

CAS No: 460-19-5
 RTECS No: GT1925000
 UN No: 1026
 EC No: 608-011-00-8

Dicyanogen
 Ethanedinitrile
 Oxalonitrile
 (cylinder)
 C_2N_2
 Molecular mass: 52.04

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.	Shut off supply; if not possible and no risk to surroundings, let the fire burn itself out; in other cases extinguish with dry powder, carbon dioxide.
EXPLOSION	Gas/air mixtures are explosive. Risk of fire and explosion on contact with strong oxidants.	Closed system, ventilation, explosion-proof electrical equipment and lighting.	In case of fire: keep cylinder cool by spraying with water.

EXPOSURE		AVOID ALL CONTACT!	IN ALL CASES CONSULT A DOCTOR!
Inhalation	Convulsions. Cough. Dizziness. Headache. Laboured breathing. Sore throat. Unconsciousness. Vomiting.	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Half-upright position. Artificial respiration may be needed. No mouth-to-mouth artificial respiration. Refer for medical attention. See Notes.
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.	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. Remove all ignition sources. NEVER direct water jet on liquid. Personal protection: gas-tight chemical protection suit including self-contained breathing apparatus.	F Symbol T Symbol N Symbol R: 11-23-50/53 S: (1/2-)23-45-60-61 UN Hazard Class: 2.3 UN Subsidiary Risks: 2.1

EMERGENCY RESPONSE	SAFE STORAGE
Transport Emergency Card: TEC (R)-20G2TF NFPA Code: H4; F4; R2	Fireproof. Cool.

IMPORTANT DATA

Physical State; Appearance

COLOURLESS GAS OR COMPRESSED LIQUEFIED GAS, WITH CHARACTERISTIC ODOUR.

Physical dangers

The gas is heavier than air and may travel along the ground; distant ignition possible.

Chemical dangers

On combustion, forms toxic gases including hydrogen cyanide, carbon monoxide, nitrogen oxides. Reacts with strong oxidants causing fire and explosion hazard. The substance reacts with acids forming highly toxic gases such as hydrogen cyanide.

Occupational exposure limits

TLV: 10 ppm as TWA; (ACGIH 2004).

MAK: 5 ppm, 11 mg/m³; Peak limitation category: II(2); skin absorption (H); Pregnancy risk group: IIc; (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. Rapid evaporation of the liquid may cause frostbite. The substance may cause effects on the central nervous system, resulting in respiratory failure and collapse. Exposure far above the OEL may result in death.

PHYSICAL PROPERTIES

Boiling point: -21.2/C

Melting point: -27.9/C

Relative density (water = 1): 0.95 at -21/C

Solubility in water, ml/100 ml at 20/C: 450

Relative vapour density (air = 1): 1.8

Flash point: Flammable Gas

Explosive limits, vol% in air: 6.6-42.6

Octanol/water partition coefficient as log Pow: 0.07

ENVIRONMENTAL DATA

The substance is very toxic to aquatic organisms.

NOTES

Specific treatment is necessary in case of poisoning with this substance; the appropriate means with instructions must be available.

The odour warning when the exposure limit value is exceeded is insufficient.

Turn leaking cylinder with the leak up to prevent escape of gas in liquid state.

Card has been partly updated in April 2005. See sections Occupational Exposure Limits, Emergency Response.

ADDITIONAL INFORMATION

LEGAL NOTICE

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