

ETHYLENE GLYCOL DINITRATE

1056

October 1999

CAS No: 628-96-6
RTECS No: KW5600000
EC No: 603-032-00-9

Glycol dinitrate
EGDN
Nitroglycol
 $C_2H_4N_2O_6 / NO_2-OCH_2CH_2O-NO_2$
Molecular mass: 152.1

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Explosive. Gives off irritating or toxic fumes (or gases) in a fire.	NO open flames, NO sparks, and NO smoking.	Powder, water spray, foam, carbon dioxide, Note: Evacuate area, fight fires only from an explosion-resistant location.
EXPLOSION	Risk of fire and explosion.	Prevent build-up of electrostatic charges (e.g., by grounding). Use non-sparking handtools. Do NOT expose to friction or shock.	In case of fire: cool drums, etc., by spraying with water but avoid contact of the substance with water. Combat fire from a sheltered position.

EXPOSURE		STRICT HYGIENE!	
Inhalation	Headache. Dizziness. Nausea. Weakness. Flushing of the face. Chest pain. Symptoms may be delayed (see Notes).	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Refer for medical attention.
Skin	MAY BE ABSORBED! (See Inhalation).	Protective gloves. Protective clothing.	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
Eyes		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	(See Inhalation).	Do not eat, drink, or smoke during work. Wash hands before eating.	Rinse mouth. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING
Evacuate danger area! Consult an expert! 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 let this chemical enter the environment. (Extra personal protection: complete protective clothing including self-contained breathing apparatus).	E Symbol T+ Symbol R: 2-26/27/28-33 S: (1/2-)33-35-36/37-45 Do not transport with food and feedstuffs.

EMERGENCY RESPONSE	STORAGE
	Fireproof. Store in a separate building. Separated from acids, food and feedstuffs. Cool. Well closed.

IMPORTANT DATA

Physical State; Appearance

COLOURLESS TO YELLOWISH, OILY LIQUID

Chemical dangers

Heating may cause violent combustion or explosion producing toxic fumes (nitrogen oxides). May explosively decompose on shock, friction, or concussion. Reacts with acids.

Occupational exposure limits

TLV: 0.05 ppm; (as TWA) (skin) (ACGIH 1999).

Routes of exposure

The substance can be absorbed into the body by inhalation of its aerosol, through the skin and by ingestion.

Inhalation risk

A harmful contamination of the air can be reached rather quickly on evaporation of this substance at 20°C.

Effects of short-term exposure

The substance may cause effects on the cardiovascular system, resulting in sudden lowering of blood pressure. The substance may cause effects on the blood, resulting in formation of methaemoglobin. Medical observation is indicated. The effects may be delayed.

Effects of long-term or repeated exposure

Repeated exposure leads to marked tolerance. Short absence from exposure may lead to sudden death.

PHYSICAL PROPERTIES

Boiling point: explodes at 114°C

Melting point: -22°C

Relative density (water = 1): 1.49

Solubility in water, g/100 ml at 25°C: 0.5

Vapour pressure, Pa at 20°C: 7

Relative vapour density (air = 1): 5.2

Relative density of the vapour/air-mixture at 20°C (air = 1): 1.0

Octanol/water partition coefficient as log Pow: 1.16

ENVIRONMENTAL DATA

The substance is harmful to aquatic organisms.

NOTES

Symptoms such as chest pains or palpitations that can develop during periods away from work may be indicative of toxicity of the substance and should be reported immediately to the responsible physician.

Use of alcoholic beverages enhances the harmful effect.

Rinse contaminated clothes (fire hazard) with plenty of water.

Do NOT take working clothes home.

Depending on the degree of exposure, periodic medical examination is indicated.

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

ADDITIONAL INFORMATION

LEGAL NOTICE

Neither the EC nor the IPCS nor any person acting on behalf of the EC or the IPCS is responsible for the use which might be made of this information