NITRIC ACID

0183
April 1994

CAS No: 7697-37-2
RTECS No: QU5775000
UN No: 2031
EC No: 007-004-00-1

Concentrated Nitric Acid (70%)
HNO_3
Molecular mass: 63.0

TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/SYMPTOMS	PREVENTION	FIRST AID/FIRE FIGHTING
FIRE	Not combustible but enhances combustion of other substances. Gives off irritating or toxic fumes (or gases) in a fire.	NO contact with flammable substances. NO contact with combustibles or organic chemicals.	In case of fire in the surroundings: NO FOAM.
EXPLOSION	Risk of fire and explosion on contact with many common organic compounds.		In case of fire: keep drums, etc., cool by spraying with water.
EXPOSURE		**AVOID ALL CONTACT!**	
Inhalation	Burning sensation. Cough. Laboured breathing. Unconsciousness. Symptoms may be delayed (see Notes).	Ventilation, local exhaust, or breathing protection.	Fresh air, rest. Half-upright position. Artificial respiration if indicated. Refer for medical attention.
Skin	Corrosive. Serious skin burns. Pain. Yellow discolouration.	Protective clothing.	Remove contaminated clothes. Rinse skin with plenty of water or shower. Refer for medical attention.
Eyes	Corrosive. Redness. Pain. Severe deep burns.	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	Corrosive. Abdominal pain. Burning sensation. Shock.	Do not eat, drink, or smoke during work. Wash hands before eating.	Do NOT induce vomiting. Give plenty of water to drink. Rest. Refer for medical attention.

SPILLAGE DISPOSAL	PACKAGING & LABELLING	
Evacuate danger area! Consult an expert! Ventilation. Collect leaking liquid in sealable containers. Cautiously neutralize remainder with sodium carbonate. Then wash away with plenty of water. Do NOT absorb in saw-dust or other combustible absorbents (extra personal protection: complete protective clothing including self-contained breathing apparatus).	O Symbol C Symbol R: 8-35 S: (1/2-)23-26-36-45 Note: B UN Hazard Class: 8	Unbreakable packaging; put breakable packaging into closed unbreakable container. Do not transport with food and feedstuffs.

EMERGENCY RESPONSE	STORAGE
Transport Emergency Card: TEC (R)-9B NFPA Code: H 3; F 0; R 0; OX	Separated from combustible and reducing substances, bases, food and feedstuffs, organic chemicals. Cool. Dry. Keep in a well-ventilated room.

IPCS
International Programme on Chemical Safety

Prepared in the context of cooperation between the International Programme on Chemical Safety and the European Commission

SEE IMPORTANT INFORMATION ON THE BACK.

IMPORTANT DATA

Physical State; Appearance
COLOURLESS TO YELLOW LIQUID, WITH PUNGENT ODOUR.

Chemical Dangers
The substance decomposes on warming producing nitrogen oxides. The substance is a strong oxidant and reacts violently with combustible and reducing materials, e.g., turpentine, charcoal, alcohol. The substance is a strong acid, it reacts violently with bases and is corrosive to metals. Reacts very violently with organic chemicals (e.g., acetone, acetic acid, acetic anhydride), causing fire and explosion hazard. Attacks some plastics.

Occupational Exposure Limits
TLV: 2 ppm; 5.2 mg/m^3
(as STEL: 4 ppm; 10 mg/m^3) (ACGIH 1993-1994).

Routes of Exposure
The substance can be absorbed into the body by inhalation of its vapour and by ingestion.

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

Effects of Short-term Exposure
The substance is very corrosive to the eyes, the skin and the respiratory tract. Corrosive on ingestion as well. Inhalation of vapour may cause lung oedema (see Notes).

PHYSICAL PROPERTIES

Boiling point: 121°C
Melting point: -41.6°C
Relative density (water = 1): 1.4
Solubility in water: miscible

Vapour pressure, kPa at 20°C: 6.4
Relative vapour density (air = 1): 2.2
Relative density of the vapour/air-mixture at 20°C (air = 1): 1.07

ENVIRONMENTAL DATA

NOTES

Depending on the degree of exposure, periodic medical examination is indicated. 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. Rinse contaminated clothes (fire hazard) with plenty of water.

ADDITIONAL INFORMATION