

International Chemical Safety Cards

NITROGEN DIOXIDE

ICSC: 0930

NITROGEN DIOXIDE Nitrogen oxide Nitrogen peroxide (cylinder) NO_2 Molecular mass: 46.01 CAS # 10102-44-0 RTECS # QW9800000 ICSC # 0930 UN # 1067 EC # 007-002-00-0			
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TYPES OF HAZARD/ EXPOSURE	ACUTE HAZARDS/ SYMPTOMS	PREVENTION	FIRST AID/ FIRE FIGHTING
FIRE	Not combustible but enhances combustion of other substances.	NO contact with combustibles.	In case of fire in the surroundings: all extinguishing agents allowed.
EXPLOSION			In case of fire: keep cylinder cool by spraying with water.
EXPOSURE		STRICT HYGIENE!	IN ALL CASES CONSULT A DOCTOR!
• INHALATION	Cough. Dizziness. Headache. Sweating. Laboured breathing. Nausea. Shortness of breath. Sore throat. Vomiting. Weakness. Wheezing. 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	Redness. Pain.	Protective gloves. Protective clothing.	First rinse with plenty of water, then remove contaminated clothes and rinse again. Refer for medical attention.
• EYES	Redness. Pain.	Safety goggles, 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.	Rinse mouth. Refer for medical attention.
SPILLAGE DISPOSAL	STORAGE	PACKAGING & LABELLING	
Evacuate danger area! Consult an	Ventilation along the floor.		

expert! Ventilation. Do NOT absorb in saw-dust or other combustible absorbents. Remove vapour with fine water spray. Neutralize used water with chalk or soda (extra personal protection: complete protective clothing including self-contained breathing apparatus).		T+ symbol R: 26-37 S: (1/2-)7/9-26-45 UN Hazard Class: 2.3 UN Subsidiary Risks: 5.1 and 8
SEE IMPORTANT INFORMATION ON BACK		
ICSC: 0930	Prepared in the context of cooperation between the International Programme on Chemical Safety & the Commission of the European Communities © IPCS CEC 1993	

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I M P O R T A N T D A T A	PHYSICAL STATE; APPEARANCE: REDDISH-BROWN GAS OR YELLOW LIQUID , WITH PUNGENT ODOUR.	ROUTES OF EXPOSURE: The substance can be absorbed into the body by inhalation and by ingestion.
	PHYSICAL DANGERS: The gas is heavier than air.	INHALATION RISK: A harmful concentration of this gas in the air will be reached very quickly on loss of containment.
	CHEMICAL DANGERS: The substance is a strong oxidant and reacts violently with combustible and reducing materials. Reacts with water to form nitric acid and nitric oxide. Attacks steel in the presence of moisture.	EFFECTS OF SHORT-TERM EXPOSURE: The substance and the vapour irritate the eyes, the skin and the respiratory tract. Inhalation of the gas or the vapor may cause lung oedema (see Notes). Exposure at high level may result in death. The effects may be delayed. Medical observation is indicated.
	OCCUPATIONAL EXPOSURE LIMITS (OELs): TLV (as TWA): 3 ppm; 5.6 mg/m ³ ; (as STEL): 5 ppm; 9.4 mg/m ³ (ACGIH 1996).	EFFECTS OF LONG-TERM OR REPEATED EXPOSURE: The substance may have effects on the immune system and lungs , resulting in decrease in resistance to infection. May cause genetic damage in humans. Animal tests show that this substance possibly causes toxic effects upon human reproduction.
	PHYSICAL PROPERTIES	Boiling point: 21.2°C Melting point: -9.3°C Relative density (water = 1): 1.45 (liquid)
ENVIRONMENTAL DATA		
NOTES		
The commercial brown liquid under pressure is an equilibrium mixture of nitrogen dioxide and the colourless nitrogen tetroxide. Non irritant concentration may cause lung oedema. The symptoms of lung oedema often do		

Boiling point: 21.2°C

Melting point: -9.3°C

Relative density (water = 1): 1.45 (liquid)

Solubility in water: reaction

Vapour pressure, kPa at 20°C: 96

Relative vapour density (air = 1): 1.58

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 spray, by a doctor or a person authorized by him/her, should be considered. Do NOT take working clothes home. Rinse contaminated clothes (fire hazard) with plenty of water. Turn leaking cylinder with the leak up to prevent escape of gas in liquid state.

Transport Emergency Card: TEC (R)-109
NFPA Code: H3; F0; R0; OX

ADDITIONAL INFORMATION

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**IMPORTANT
LEGAL
NOTICE:**

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