

NITRIC OXIDE

NTX

CAUTIONARY RESPONSE INFORMATION				4. FIRE HAZARDS	7. SHIPPING INFORMATION
Common Synonyms Mononitrogen monoxide Nitrogen monoxide	Compressed gas	Colorless	Sharp unpleasant odor	4.1 Flash Point: Not pertinent (nonflammable compressed gas)	7.1 Grades of Purity: C.P.: 99+%
			Reacts with water. Poisonous red-brown vapor cloud is produced.	4.2 Flammable Limits in Air: Not pertinent	7.2 Storage Temperature: Cool ambient
			Evacuate. KEEP PEOPLE AWAY. AVOID CONTACT WITH GAS. Wear goggles and self-contained breathing apparatus. Notify local health and pollution control agencies. Protect water intakes.	4.3 Fire Extinguishing Agents: Not pertinent	7.3 Inert Atmosphere: No requirement
Fire	Not flammable.			4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent	7.4 Venting: Safety relief. Containers must be in well-ventilated area.
Exposure	CALL FOR MEDICAL AID. VAPOR POISONOUS IF INHALED. Irritating to eyes, nose and throat. Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.			4.5 Special Hazards of Combustion Products: Not pertinent	7.5 IMO Pollution Category: Currently not available
Water Pollution	Effect of low concentrations on aquatic life is unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.			4.6 Behavior in Fire: Supports combustion, so all fires burn more vigorously.	7.6 Ship Type: Currently not available
				4.7 Auto Ignition Temperature: Not pertinent	7.7 Barge Hull Type: Currently not available
				4.8 Electrical Hazards: Not pertinent	
				4.9 Burning Rate: Not pertinent	
				4.10 Adiabatic Flame Temperature: Currently not available	
				4.11 Stoichiometric Air to Fuel Ratio: Not pertinent	
				4.12 Flame Temperature: Currently not available	
				4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent	
				4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed	
1. CORRECTIVE RESPONSE ACTIONS				5. CHEMICAL REACTIVITY	9. PHYSICAL & CHEMICAL PROPERTIES
Stop discharge Chemical and Physical Treatment: Neutralize	2.1 CG Compatibility Group: Not listed. 2.2 Formula: NO 2.3 IMO/UN Designation: 2/1660 2.4 DOT ID No.: 1660 2.5 CAS Registry No.: 10102-43-9 2.6 NAERG Guide No.: 124 2.7 Standard Industrial Trade Classification: 52239	2. CHEMICAL DESIGNATIONS		5.1 Reactivity with Water: Reacts with water to form nitric acid. The reaction is not violent.	9.1 Physical State at 15°C and 1 atm: Gas
3.1 Personal Protective Equipment: Self-contained breathing apparatus or gas mask with universal canister		3. HEALTH HAZARDS		5.2 Reactivity with Common Materials: Reacts rapidly with air to form nitrogen tetroxide; see this compound.	9.2 Molecular Weight: 30.0
3.2 Symptoms Following Exposure: Continued inhalation of low concentrations causes chronic irritation, cough, headache, corrosion of teeth, loss of strength; symptoms from overexposure to higher concentrations (which may be delayed for 6-24 hours) include irritation of nose and throat, tightness in chest, difficult breathing, pallor, loss of consciousness, and death; pulmonary edema occurs; if patient recovers, pneumonia may develop.		3.1 Personal Protective Equipment: Self-contained breathing apparatus or gas mask with universal canister		5.3 Stability During Transport: Stable	9.3 Boiling Point at 1 atm: -241.1°F = -151.7°C = 121.5°K
3.3 Treatment of Exposure: Get medical attention at once following inhalation of this gas. INHALATION: if breathing has stopped, give artificial respiration with 100% oxygen; keep victim quiet and warm; keep head and chest lower than hips, to aid in drainage from lungs; alert physician to possibility of delayed pulmonary edema during 6-24 hours.		3.2 Symptoms Following Exposure: Continued inhalation of low concentrations causes chronic irritation, cough, headache, corrosion of teeth, loss of strength; symptoms from overexposure to higher concentrations (which may be delayed for 6-24 hours) include irritation of nose and throat, tightness in chest, difficult breathing, pallor, loss of consciousness, and death; pulmonary edema occurs; if patient recovers, pneumonia may develop.		5.4 Neutralizing Agents for Acids and Caustics: Flood with water, rinse with sodium bicarbonate or lime solution.	9.4 Freezing Point: -262.5°F = -163.6°C = 109.6°K
3.4 TLV-TWA: 25 ppm		3.3 Treatment of Exposure: Get medical attention at once following inhalation of this gas. INHALATION: if breathing has stopped, give artificial respiration with 100% oxygen; keep victim quiet and warm; keep head and chest lower than hips, to aid in drainage from lungs; alert physician to possibility of delayed pulmonary edema during 6-24 hours.		5.5 Polymerization: Not pertinent	9.5 Critical Temperature: 847.4°F = 453°C = 726.2°K
3.5 TLV-STEL: Not listed.		3.4 TLV-TWA: 25 ppm		5.6 Inhibitor of Polymerization: Not pertinent	9.6 Critical Pressure: 940 psia = 64 atm = 6.5 MN/m²
3.6 TLV-Ceiling: Not listed.		3.5 TLV-STEL: Not listed.			9.7 Specific Gravity: Not pertinent
3.7 Toxicity by Ingestion: Not pertinent (gas at normal temperatures)		3.6 TLV-Ceiling: Not listed.			9.8 Liquid Surface Tension: Not pertinent
3.8 Toxicity by Inhalation: Currently not available.		3.7 Toxicity by Ingestion: Not pertinent (gas at normal temperatures)			9.9 Liquid Water Interfacial Tension: Not pertinent
3.9 Chronic Toxicity: Currently not available		3.8 Toxicity by Inhalation: Currently not available.			9.10 Vapor (Gas) Specific Gravity: 1.6 (nitrogen dioxide)
3.10 Vapor (Gas) Irritant Characteristics: Currently not available		3.9 Chronic Toxicity: Currently not available			9.11 Ratio of Specific Heats of Vapor (Gas): 1.400 at 15°C
3.11 Liquid or Solid Characteristics: Currently not available		3.10 Vapor (Gas) Irritant Characteristics: Currently not available			9.12 Latent Heat of Vaporization: Not pertinent
3.12 Odor Threshold: Currently not available		3.11 Liquid or Solid Characteristics: Currently not available			9.13 Heat of Combustion: Not pertinent
3.13 IDLH Value: 100 ppm		3.12 Odor Threshold: Currently not available			9.14 Heat of Decomposition: Not pertinent
3.14 OSHA PEL-TWA: 25 ppm.		3.13 IDLH Value: 100 ppm			9.15 Heat of Solution: -257 Btu/lb = -143 cal/g = 5.98 X 10⁵ J/kg
3.15 OSHA PEL-STEL: Not listed.		3.14 OSHA PEL-TWA: 25 ppm.			9.16 Heat of Polymerization: Not pertinent
3.16 OSHA PEL-Ceiling: Not listed.		3.15 OSHA PEL-STEL: Not listed.			9.17 Heat of Fusion: 18.3 cal/g
3.17 EPA AEGL: Not listed		3.16 OSHA PEL-Ceiling: Not listed.			9.18 Limiting Value: Currently not available
		3.17 EPA AEGL: Not listed			9.19 Reid Vapor Pressure: Currently not available
					NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
NOT PERTINENT			NOT PERTINENT		NOT PERTINENT		NOT PERTINENT

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
REACTS			NOT PERTINENT		NOT PERTINENT	0	0.233
						10	0.233
						20	0.233
						30	0.233
						40	0.233
						50	0.233
						60	0.233
						70	0.233
						80	0.233
						90	0.233
						100	0.233
						110	0.233
						120	0.233
						130	0.233
						140	0.233
						150	0.233
						160	0.233
						170	0.233
						180	0.233
						190	0.233
						200	0.233
						210	0.233
						220	0.233
						230	0.233
						240	0.233
						250	0.233