

M-DINITROBENZENE

DNB

CAUTIONARY RESPONSE INFORMATION

Common Synonyms 1,3-Dinitrobenzene meta-Dinitrobenzene Dinitrobenzol 1,3-Dinitrobenzol m-DNB	Solid Sinks in water.	Yellow	Slight odor
<p>KEEP PEOPLE AWAY. AVOID CONTACT WITH SOLID AND DUST. Avoid inhalation. Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). Shut off ignition sources and call fire department. Notify local health and pollution control agencies. Protect water intakes.</p>			
Fire	Combustible. May explode if exposed to heat or flames. Flood discharge area with water. Combat fires from behind barrier.		
Exposure	CALL FOR MEDICAL AID. VAPOR OR DUST POISONOUS IF INHALED OR IF SKIN IS EXPOSED. Move victim to fresh air. If in eyes, hold eyelids open and flush with plenty of water. If breathing is difficult, give oxygen. SOLID POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.		
Water Pollution	HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.		

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Contain
Collection Systems: Skim; Pump;
Dredge

2. CHEMICAL DESIGNATIONS

2.1 **CG Compatibility Group:** Not listed.
2.2 **Formula:** 1,3-C₆H₄(NO₂)₂
2.3 **IMO/UN Designation:** 6.1/1597
2.4 **DOT ID No.:** 1597
2.5 **CAS Registry No.:** 99-65-0
2.6 **NAERG Guide No.:** 152
2.7 **Standard Industrial Trade Classification:** 51140

3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Dust respirator; rubber gloves; protective clothing.
3.2 **Symptoms Following Exposure:** Inhalation or ingestion causes loss of color, nausea, headache, dizziness, drowsiness, and collapse. Eyes are irritated by liquid. Stains skin yellow; if contact is prolonged, can be absorbed into blood and cause same symptoms as for inhalation.
3.3 **Treatment of Exposure:** INHALATION: remove from exposure; get medical attention for methemoglobinemia. EYES: flush with water for at least 15 min. SKIN: wash well with soap and water. INGESTION: induce vomiting, if conscious; give gastric lavage and saline cathartic; get medical attention.
3.4 **TLV-TWA:** 0.15 ppm
3.5 **TLV-STEL:** Not listed.
3.6 **TLV-Ceiling:** Not listed.
3.7 **Toxicity by Ingestion:** Grade 4; oral LD₅₀ = 42 mg/kg (bird)
3.8 **Toxicity by Inhalation:** Currently not available.
3.9 **Chronic Toxicity:** May cause liver damage, anemia, neuritis.
3.10 **Vapor (Gas) Irritant Characteristics:** Currently not available
3.11 **Liquid or Solid Characteristics:** Currently not available
3.12 **Odor Threshold:** Currently not available
3.13 **IDLH Value:** 50 mg/m³
3.14 **OSHA PEL-TWA:** 1 mg/m³
3.15 **OSHA PEL-STEL:** Not listed.
3.16 **OSHA PEL-Ceiling:** Not listed.
3.17 **EPA AEGL:** Not listed

4. FIRE HAZARDS

- 4.1 **Flash Point:** Not pertinent (combustible solid)
4.2 **Flammable Limits in Air:** Not pertinent
4.3 **Fire Extinguishing Agents:** Water from protected location
4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
4.5 **Special Hazards of Combustion Products:** Not pertinent
4.6 **Behavior in Fire:** May explode
4.7 **Auto Ignition Temperature:** 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:** 33.3 (calc.)
4.12 **Flame Temperature:** Currently not available
4.13 **Combustion Molar Ratio (Reactant to Product):** 10.0 (calc.)
4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction
5.2 **Reactivity with Common Materials:** No reaction
5.3 **Stability During Transport:** Stable
5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
5.5 **Polymerization:** Not pertinent
5.6 **Inhibitor of Polymerization:** Not pertinent

6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:** 8-10 mg/l/6 hr/minnows/min. lethal dose/fresh water
6.2 **Waterfowl Toxicity:** Currently not available
6.3 **Biological Oxygen Demand (BOD):** Currently not available
6.4 **Food Chain Concentration Potential:** Currently not available
6.5 **GESAMP Hazard Profile:** Not listed

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Commercial
7.2 **Storage Temperature:** Ambient
7.3 **Inert Atmosphere:** No requirement
7.4 **Venting:** Open (flame arrester)
7.5 **IMO Pollution Category:** Currently not available
7.6 **Ship Type:** Currently not available
7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Poison
8.2 **49 CFR Class:** 6.1
8.3 **49 CFR Package Group:** II
8.4 **Marine Pollutant:** No
8.5 **NFPA Hazard Classification:** Not listed
8.6 **EPA Reportable Quantity:** 100 pounds
8.7 **EPA Pollution Category:** B
8.8 **RCRA Waste Number:** Not listed
8.9 **EPA FWPCA List:** Yes

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Solid
9.2 **Molecular Weight:** 168.1
9.3 **Boiling Point at 1 atm:** 556°F = 291°C = 564°K
9.4 **Freezing Point:** 194°F = 90°C = 363°K
9.5 **Critical Temperature:** Not pertinent
9.6 **Critical Pressure:** Not pertinent
9.7 **Specific Gravity:** 1.58 at 18°C (solid)
9.8 **Liquid Surface Tension:** Not pertinent
9.9 **Liquid Water Interfacial Tension:** Not pertinent
9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
9.11 **Ratio of Specific Heats of Vapor (Gas):** Not pertinent
9.12 **Latent Heat of Vaporization:** Not pertinent
9.13 **Heat of Combustion:** -7,378 Btu/lb = -4,099 cal/g = -171.5 X 10⁵ J/kg
9.14 **Heat of Decomposition:** Not pertinent
9.15 **Heat of Solution:** Not pertinent
9.16 **Heat of Polymerization:** Not pertinent
9.17 **Heat of Fusion:** 24.70 cal/g
9.18 **Limiting Value:** Currently not available
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
	N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T

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
34	0.001		N O T		N O T		N O T
36	0.001		P E R T I N E N T		P E R T I N E N T		P E R T I N E N T
38	0.002						
40	0.002						
42	0.003						
44	0.003						
46	0.004						
48	0.004						
50	0.005						
52	0.006						
54	0.006						
56	0.007						
58	0.007						
60	0.008						
62	0.008						
64	0.009						
66	0.009						
68	0.010						
70	0.011						
72	0.011						
74	0.012						
76	0.012						
78	0.013						
80	0.013						
82	0.014						
84	0.014						