

# CARBOFURAN

CBF

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> Curater Furadan Methylcarbamate Niagara 10242	Solid, crystalline      White      Odorless  Mixes and sinks in water.
<p><b>Keep people away. AVOID CONTACT WITH SOLID OR DUST.</b>  <b>Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves).</b>  <b>Notify local health and pollution control agencies.</b>  <b>Protect water intakes.</b></p>	
<b>Fire</b>	NOT FLAMMABLE. Irritating and poisonous fumes produced when heated. Will support combustion if ignited. Wear goggles and self-contained breathing apparatus.
<b>Exposure</b>	CALL FOR MEDICAL AID. DUST OR SOLID. Poisonous if inhaled or swallowed. Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. 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.
<b>Water Pollution</b>	HARMFUL TO AQUATIC LIFE AT VERY LOW CONCENTRATIONS. Fouling to shoreline. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

<p><b>1. CORRECTIVE RESPONSE ACTIONS</b></p> <p>Dilute and disperse Stop discharge Contain Collection Systems: Pump; Dredge</p>	<p><b>2. CHEMICAL DESIGNATIONS</b></p> <p>2.1 <b>CG Compatibility Group:</b> Not listed. 2.2 <b>Formula:</b> C<sub>12</sub>H<sub>16</sub>NO<sub>2</sub>. 2.3 <b>IMO/UN Designation:</b> 6.1/2757 2.4 <b>DOT ID No.:</b> 2757 2.5 <b>CAS Registry No.:</b> 1563-66-2 2.6 <b>NAERG Guide No.:</b> 151 2.7 <b>Standard Industrial Trade Classification:</b> 59110</p>
<p><b>3. HEALTH HAZARDS</b></p> <p>3.1 <b>Personal Protective Equipment:</b> Goggles and recommended mask or respirator, nonpermeable protective clothing, rubber gloves.</p> <p>3.2 <b>Symptoms Following Exposure:</b> INHALATION, INGESTION OR SKIN ABSORPTION: Early symptoms - headache, light-headedness, weakness and nausea. Later symptoms - constriction of pupils, blurred vision, abdominal cramps, excessive salivation, perspiration and vomiting. EYES: Burning sensation and dimming of vision, miosis and loss of accommodation.</p> <p>3.3 <b>Treatment of Exposure:</b> Call a doctor. INHALATION: Remove from exposure. Administer 2 mg atropine sulfate 1 M or oral. If indicated, give artificial respiration and oxygen. EYES: Irrigate with water or saline. One drop of homatropine into conjunctival sac will relieve miosis and loss of accommodation. SKIN: Wash with soap and water followed by alcohol washing and a final soap washing. INGESTION: Induce vomiting by giving a tablespoon of salt in a glass of warm water. Repeat until vomitus is clear. Gastric lavage or syrup of ipecac may be warranted if vomiting is not prompt and profuse.</p> <p>3.4 <b>TLV-TWA:</b> 0.1 mg/m<sup>3</sup> 3.5 <b>TLV-STEL:</b> Not listed. 3.6 <b>TLV-Ceiling:</b> Not listed. 3.7 <b>Toxicity by Ingestion:</b> Grade 4; LD<sub>50</sub> less than 50 mg/kg. 3.8 <b>Toxicity by Inhalation:</b> Currently not available. 3.9 <b>Chronic Toxicity:</b> Prenatal exposure initiated persistent postnatal endocrine dysfunction in mice. As a rapidly reversible inhibitor of cholinesterase it has no chronic effects. A suspected carcinogen.</p> <p>3.10 <b>Vapor (Gas) Irritant Characteristics:</b> Not pertinent 3.11 <b>Liquid or Solid Characteristics:</b> No appreciable hazard. Practically harmless skin. 3.12 <b>Odor Threshold:</b> Odorless 3.13 <b>IDLH Value:</b> Not listed. 3.14 <b>OSHA PEL-TWA:</b> Not listed. 3.15 <b>OSHA PEL-STEL:</b> Not listed. 3.16 <b>OSHA PEL-Ceiling:</b> Not listed. 3.17 <b>EPA AEGL:</b> Not listed</p>	

## 4. FIRE HAZARDS

- 4.1 **Flash Point:**  
Not flammable
- 4.2 **Flammable Limits in Air:** Not flammable.
- 4.3 **Fire Extinguishing Agents:** Not pertinent
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion Products:** Toxic fumes of nitrogen oxides.
- 4.6 **Behavior in Fire:** Very toxic dust and irritating fumes produced at fire temperatures.
- 4.7 **Auto Ignition Temperature:** Not pertinent
- 4.8 **Electrical Hazards:** Not pertinent
- 4.9 **Burning Rate:** Not flammable
- 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

## 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:**  
0.24 ppm/96 hr/Bluegill/LC<sub>50</sub>/static  
0.21 ppm/96 hr/Channel catfish/LC<sub>50</sub>/static  
0.28 ppm/96 hr/Rainbow trout/LC<sub>50</sub>/static
- 6.2 **Waterfowl Toxicity:** 10 day Mallard oral LC<sub>50</sub> = 190 ppm. Acute oral LC<sub>50</sub>, 36 hr old = .370 mg/kg. Acute oral LD<sub>50</sub> Mallard, 7 days old = 628 mg/kg. Acute oral LD<sub>50</sub> Mallard, 30 days old = .5510 mg/kg. Acute oral LD<sub>50</sub> Mallard, 6 mos. old = .415 mg/kg.
- 6.3 **Biological Oxygen Demand (BOD):** May effect BOD.
- 6.4 **Food Chain Concentration Potential:** None
- 6.5 **GESAMP Hazard Profile:**  
Bioaccumulation: 0  
Damage to living resources: 4  
Human Oral hazard: 4  
Human Contact hazard: II  
Reduction of amenities: XXX

## 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Technical 98%. 10% granular formulation. 50, 75 or 80% wettable powder. 4 lb/gal flowable paste.
- 7.2 **Storage Temperature:** Keep away from heat and water.
- 7.3 **Inert Atmosphere:** Currently not available
- 7.4 **Venting:** Currently not available
- 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:** Yes
- 8.5 **NFPA Hazard Classification:** Not listed
- 8.6 **EPA Reportable Quantity:** 10 pounds
- 8.7 **EPA Pollution Category:** A
- 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:** 221.26.
- 9.3 **Boiling Point at 1 atm:** Currently not available
- 9.4 **Freezing Point:** 302-307.4°F = 150-153°C = 423.2-426.2°K
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** 1.180 at 20°C.
- 9.8 **Liquid Surface Tension:** Not pertinent
- 9.9 **Liquid Water Interfacial Tension:** Not pertinent
- 9.10 **Vapor (Gas) Specific Gravity:** (est.) 7.9.
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** (est.) >1
- 9.12 **Latent Heat of Vaporization:** Not pertinent
- 9.13 **Heat of Combustion:** Not pertinent
- 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:** Currently not available
- 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
77	700.000		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