

# 2,4,5-TRICHLOROPHENOXYACETIC ACID

TCA

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> 2,4,5-T		Solid	White	Odorless
Sinks in water.				
<p>Keep people away.                  Avoid contact with solid and dust.                  Call fire department.                  Notify local health and pollution control agencies.                  Protect water intakes.</p>				
<b>Fire</b>	Combustible. POISONOUS GASES MAY BE PRODUCED IN FIRE. Extinguish with water, dry chemicals, foam, or carbon dioxide.			
<b>Exposure</b>	CALL FOR MEDICAL AID.  SOLID POISONOUS IF SWALLOWED. Irritating to skin and eyes. 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.			
<b>Water Pollution</b>	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.			

<p><b>1. CORRECTIVE RESPONSE ACTIONS</b>                  Stop discharge                  Contain                  Collection Systems: Skim; Dredge</p>	<p><b>2. CHEMICAL DESIGNATIONS</b>                  2.1 CG Compatibility Group: Not listed.                  2.2 Formula: 2, 4, 5-Cl<sub>3</sub>C<sub>6</sub>H<sub>3</sub>OCH<sub>2</sub>COOH                  2.3 IMO/UN Designation: 6.1/2765                  2.4 DOT ID No.: 2765                  2.5 CAS Registry No.: 93-76-5                  2.6 NAERG Guide No.: 152                  2.7 Standard Industrial Trade Classification: 51377</p>
<p><b>3. HEALTH HAZARDS</b>                  3.1 Personal Protective Equipment: Dust mask and rubber gloves                  3.2 Symptoms Following Exposure: Overexposure to dust by inhalation or ingestion may cause fatigue, nausea, vomiting, lowered blood pressure, convulsions, coma. Dust may irritate eyes and skin.                  3.3 Treatment of Exposure: INHALATION: remove victim to fresh air; if required, give artificial respiration. EYES: flush with water until irritating dust is removed. SKIN: wash with soap and water. INGESTION: call physician at once; induce vomiting and administer gastric lavage.                  3.4 TLV-TWA: 10 mg/m<sup>3</sup>                  3.5 TLV-STEL: Not listed.                  3.6 TLV-Ceiling: Not listed.                  3.7 Toxicity by Ingestion: Grade 3; oral LD<sub>50</sub> = 500 mg/kg (rat)                  3.8 Toxicity by Inhalation: Currently not available.                  3.9 Chronic Toxicity: Birth defects in rats and mice. Causes an acne-like skin eruption among human workers                  3.10 Vapor (Gas) Irritant Characteristics: Not pertinent                  3.11 Liquid or Solid Characteristics: Currently not available                  3.12 Odor Threshold: Odorless                  3.13 IDLH Value: 250 mg/m<sup>3</sup>                  3.14 OSHA PEL-TWA: 10 mg/m<sup>3</sup>                  3.15 OSHA PEL-STEL: Not listed.                  3.16 OSHA PEL-Ceiling: Not listed.                  3.17 EPA AEGL: Not listed</p>	

## 4. FIRE HAZARDS

- 4.1 Flash Point: Not pertinent (solid)
- 4.2 Flammable Limits in Air: Not pertinent
- 4.3 Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide
- 4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
- 4.5 Special Hazards of Combustion Products: Toxic hydrogen chloride and phosgene gases may be formed.
- 4.6 Behavior in Fire: Not pertinent
- 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): 12.0 (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: Can be corrosive to common metals
- 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: 11.0 ppm/24 hr/bluegill/TL<sub>m</sub>/fresh water  
0.32 ppm/48 hr/spot/50% kill/salt water
- 6.2 Waterfowl Toxicity: 21,000 ppm LD<sub>50</sub>
- 6.3 Biological Oxygen Demand (BOD): Currently not available
- 6.4 Food Chain Concentration Potential: Will not bioconcentrate
- 6.5 GESAMP Hazard Profile:  
 Bioaccumulation: 0  
 Damage to living resources: 3  
 Human Oral hazard: 2  
 Human Contact hazard: 0  
 Reduction of amenities: XXX

## 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: Keep Away From Food
- 8.2 49 CFR Class: 6.1
- 8.3 49 CFR Package Group: III
- 8.4 Marine Pollutant: No
- 8.5 NFPA Hazard Classification: Not listed
- 8.6 EPA Reportable Quantity: 1000 pounds
- 8.7 EPA Pollution Category: C
- 8.8 RCRA Waste Number: U232
- 8.9 EPA FWPCA List: Not listed

## 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 Physical State at 15° C and 1 atm: Solid
- 9.2 Molecular Weight: 255.5
- 9.3 Boiling Point at 1 atm: Not pertinent (decomposes)
- 9.4 Freezing Point: 316°F = 158°C = 431°K
- 9.5 Critical Temperature: Not pertinent
- 9.6 Critical Pressure: Not pertinent
- 9.7 Specific Gravity: 1.803 at 20°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: (est.) -6,500 Btu/lb = -3,600 cal/g = -150 X 10<sup>6</sup> 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: 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
68	0.024		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