

METHYLCYCLOPENTADIENYLMANGANESE TRICARBONYL

MCT

CAUTIONARY RESPONSE INFORMATION				4. FIRE HAZARDS	7. SHIPPING INFORMATION
Common Synonyms Combustion improver C-12	Liquid Sinks in water.	Yellow to dark orange Faint pleasant odor		<p>4.1 Flash Point: >200°F C.C.</p> <p>4.2 Flammable Limits in Air: Currently not available</p> <p>4.3 Fire Extinguishing Agents: Dry chemical, foam, water spray, carbon dioxide</p> <p>4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent</p> <p>4.5 Special Hazards of Combustion Products: Toxic vapors are formed in a fire.</p> <p>4.6 Behavior in Fire: Not pertinent</p> <p>4.7 Auto Ignition Temperature: Currently not available</p> <p>4.8 Electrical Hazards: Currently not available</p> <p>4.9 Burning Rate: Currently not available</p> <p>4.10 Adiabatic Flame Temperature: Currently not available</p> <p>4.11 Stoichiometric Air to Fuel Ratio: 48.8 (calc.)</p> <p>4.12 Flame Temperature: Currently not available</p> <p>4.13 Combustion Molar Ratio (Reactant to Product): 13.5 (calc.)</p> <p>4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed</p>	<p>7.1 Grades of Purity: 99.8%</p> <p>7.2 Storage Temperature: Ambient</p> <p>7.3 Inert Atmosphere: No requirement</p> <p>7.4 Venting: Pressure-vacuum</p> <p>7.5 IMO Pollution Category: Currently not available</p> <p>7.6 Ship Type: Currently not available</p> <p>7.7 Barge Hull Type: Currently not available</p>
KEEP PEOPLE AWAY. AVOID CONTACT WITH LIQUID. Wear rubber overclothing (including gloves). Call fire department. Notify local health and pollution control agencies.					
Fire	Combustible. POISONOUS GASES ARE PRODUCED IN FIRE. Wear goggles and self-contained breathing apparatus. Extinguish with water, dry chemicals, foam, or carbon dioxide.				
Exposure	CALL FOR MEDICAL AID. LIQUID POISONOUS IF SWALLOWED OR IF SKIN IS EXPOSED. If swallowed will cause loss of consciousness. 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	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.				
1. CORRECTIVE RESPONSE ACTIONS		2. CHEMICAL DESIGNATIONS	5. CHEMICAL REACTIVITY		
Stop discharge Collection Systems: Pump		<p>2.1 CG Compatibility Group: Not listed.</p> <p>2.2 Formula: C₉H₁₀O₃Mn</p> <p>2.3 IMO/UN Designation: Not listed</p> <p>2.4 DOT ID No.: Not listed</p> <p>2.5 CAS Registry No.: 12079-65-1</p> <p>2.6 NAERG Guide No.: Not listed</p> <p>2.7 Standard Industrial Trade Classification: 51550</p>	5.1 Reactivity with Water: No reaction	9.1 Physical State at 15°C and 1 atm: Liquid	
3. HEALTH HAZARDS			5.2 Reactivity with Common Materials: Currently not available	9.2 Molecular Weight: 218.1	
3.1 Personal Protective Equipment: Organic vapor canister mask; rubber gloves and apron; protective goggles or face shield.			5.3 Stability During Transport: Stable	9.3 Boiling Point at 1 atm: 451°F = 233°C = 506°K	
3.2 Symptoms Following Exposure: Inhalation, ingestion, or skin contact affect central nervous system, causing convulsions, respiratory depression, cyanosis, and coma. Liquid irritates eyes.			5.4 Neutralizing Agents for Acids and Caustics: Not pertinent	9.4 Freezing Point: 34°F = 1°C = 274°K	
3.3 Treatment of Exposure: Get medical attention following all exposures to this compound. INHALATION: remove victim from exposure; administer artificial respiration if necessary. EYES: flush with plenty of water for at least 15 min. SKIN: wash well with soap and water. INGESTION: induce vomiting.			5.5 Polymerization: Not pertinent	9.5 Critical Temperature: Not pertinent	
3.4 TLV-TWA: 0.1 mg/m ³ (as manganese)			5.6 Inhibitor of Polymerization: Not pertinent	9.6 Critical Pressure: Not pertinent	
3.5 TLV-STEL: Not listed.				9.7 Specific Gravity: 1.39 at 20°C (liquid)	
3.6 TLV-Ceiling: Not listed.				9.8 Liquid Surface Tension: Currently not available	
3.7 Toxicity by Ingestion: Grade 4; oral LD ₅₀ = 23 mg/kg (rat)				9.9 Liquid Water Interfacial Tension: Currently not available	
3.8 Toxicity by Inhalation: Currently not available.				9.10 Vapor (Gas) Specific Gravity: Not pertinent	
3.9 Chronic Toxicity: Currently not available				9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent	
3.10 Vapor (Gas) Irritant Characteristics: Currently not available				9.12 Latent Heat of Vaporization: Not pertinent	
3.11 Liquid or Solid Characteristics: Currently not available				9.13 Heat of Combustion: (est.) -9,900 Btu/lb = -5,500 cal/g = -230 X 10 ⁶ J/kg	
3.12 Odor Threshold: Currently not available				9.14 Heat of Decomposition: Not pertinent	
3.13IDLH Value: Not listed.				9.15 Heat of Solution: Not pertinent	
3.14 OSHA PEL-TWA: Not listed.				9.16 Heat of Polymerization: Not pertinent	
3.15 OSHA PEL-STEL: Not listed.				9.17 Heat of Fusion: Currently not available	
3.16 OSHA PEL-Ceiling: 5 mg/m ³ (as manganese)				9.18 Limiting Value: Currently not available	
3.17 EPA AEGL: Not listed				9.19 Reid Vapor Pressure: Low	
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
34	87.950	52	0.300		N		N
36	87.879	54	0.300		O		O
38	87.809	56	0.300		T		T
40	87.740	58	0.300		P		P
42	87.669	60	0.300		E		E
44	87.599	62	0.300		R		R
46	87.530	64	0.300		T		T
48	87.459	66	0.300		I		I
50	87.389	68	0.300		N		N
52	87.320	70	0.300		E		E
54	87.250	72	0.300		N		N
56	87.179	74	0.300		E		E
58	87.110	76	0.300		T		T
60	87.040	78	0.300		P		P
62	86.969	80	0.300		E		E
64	86.910	82	0.300		R		R
66	86.839	84	0.300		T		T
68	86.770	86	0.300		I		I
70	86.700				N		N
72	86.629				O		O
74	86.559				T		T
76	86.490				P		P
78	86.419				E		E
80	86.349				R		R
82	86.280				T		T
84	86.209				I		I

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	0.007	60	0.001	60	0.00003		N
		70	0.001	70	0.00004		O
		80	0.002	80	0.00006		T
		90	0.003	90	0.00010		P
		100	0.004	100	0.00014		E
		110	0.006	110	0.00021		R
		120	0.009	120	0.00031		T
		130	0.013	130	0.00044		I
		140	0.018	140	0.00062		N
		150	0.026	150	0.00086		O
		160	0.036	160	0.00119		T
		170	0.050	170	0.00162		P
		180	0.069	180	0.00220		E
		190	0.094	190	0.00294		R
		200	0.127	200	0.00391		T
		210	0.170	210	0.00515		I