N,N-DIMETHYLCARBAMOYL CHLORIDE

DCR

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Liquid
Chloroformic acid dimethylamide Dimethyl carbamic chloride Dimethylcarbamylchloride N,N-Dimethylchloroformamide DMCC	Sinks and mixes with water.

Keep people away. Avoid contact with liquid and vapor.
Wear self-contained positive pressure breathing apparatus and full protective clothing.
Call fire department.
Use water spray to ``knock down'' vapor.
Notify local health and pollution control agencies.

Fire	Combustible. POISONOUS GASES MAY BE PRODUCED IN A FIRE. Wear self-contained positive pressure breathing apparatus and full protective clothing. Extinguish with dry chemical, CO_2, foam, or water spray.
Exposure	CALL FOR MEDICAL AID VAPOR Harmful if inhaled or absorbed through the skin. Extremely irritating to the eyes, nose, and throat. Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. LIQUID Liquid is corrosive to skin and eyes, and harmful if ingested or absorbed through the skin. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES: Hold eyelids open, flush with plenty of water for at least 15 min. IF SWALLOWED: call a physician immediately.
Water Pollution	Effect of low concentrations on aquatic life are not known. 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

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed.
2.2 Formula: $(CH_3)_2NCOCl$
2.3 IMO/UN Designation: 8/2262
2.4 DOT ID No.: 2262
2.5 CAS Registry No.: 79-44-7
2.6 NAERG Guide No.: 156
2.7 Standard Industrial Trade Classification: 51471

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Approved respirator, chemical-resistant gloves, full protective clothing, safety goggles or 8-inch minimum face shield.
3.2 Symptoms Following Exposure: Material is extremely destructive to the mucous membranes, upper respiratory tract, eyes, and skin. Symptoms of exposure include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting.
3.3 Treatment of Exposure: EYES: Hold eyelids open, flush with running water for at least 15 minutes. SKIN: Remove contaminated clothing and shoes. flush affected areas with running water for at least 15 minutes. Discard contaminated shoes, wash clothing before reuse. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Call a physician.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 2; LD_{50} = 1 g/kg (rat)
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Suspected Carcinogen
3.10 Vapor (Gas) Irritant Characteristics: Vapors cause severe irritation of eyes and throat and can cause eye and lung injury. They cannot be tolerated even at low concentrations.
3.11 Liquid or Solid Characteristics: Severe skin irritant. Causes second and third degree burns on short contact and is very injurious to the eyes.
3.12 Odor Threshold: Currently not available
3.13 IDLH Value: Not listed.
3.14 OSHA PEL-TWA: Not listed.
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: 155°F C.C.
4.2 Flammable Limits in Air: Currently not available
4.3 Fire Extinguishing Agents: Dry chemical, CO_2, foam, and water spray.
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: Toxic fumes of NO_x and HCl
4.6 Behavior in Fire: Currently not available
4.7 Auto Ignition Temperature: Currently not available
4.8 Electrical Hazards: Currently not available
4.9 Burning Rate: Currently not available
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: 22.6 (calc.)
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): 7.5 (calc.)
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: Decomposes
5.2 Reactivity with Common Materials: Currently not available
5.3 Stability During Transport: Stable
5.4 Neutralizing Agents for Acids and Caustics: Currently not available
5.5 Polymerization: Not pertinent
5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

6.1 Aquatic Toxicity: Currently not available
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: 98%
7.2 Storage Temperature: Currently not available
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: Not listed.
8.2 49 CFR Class: Not pertinent.
8.3 49 CFR Package Group: Not listed.
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification:

Category	Classification
Health Hazard (Blue).....	-
Flammability (Red).....	1
Instability (Yellow).....	-

8.6 EPA Reportable Quantity: 1 pound
8.7 EPA Pollution Category: X
8.8 RCRA Waste Number: U097
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Liquid
9.2 Molecular Weight: 107.54
9.3 Boiling Point at 1 atm: 333°F = 167°C = 440°K
9.4 Freezing Point: -27°F = -33°C = 240°K
9.5 Critical Temperature: Currently not available
9.6 Critical Pressure: Currently not available
9.7 Specific Gravity: 1.168 at 20°C
9.8 Liquid Surface Tension: Currently not available
9.9 Liquid Water Interfacial Tension: Currently not available
9.10 Vapor (Gas) Specific Gravity: 3.71
9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available
9.12 Latent Heat of Vaporization: Currently not available
9.13 Heat of Combustion: Currently not available
9.14 Heat of Decomposition: Currently not available
9.15 Heat of Solution: Currently not available
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
	CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE

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
	CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE	0	0.215
						25	0.222
						50	0.229
						75	0.235
						100	0.242
						125	0.249
						150	0.255
						175	0.262
						200	0.269
						225	0.275
						250	0.282
						275	0.288
						300	0.295
						325	0.302
						350	0.308
						375	0.315
						400	0.322
						425	0.328
						450	0.335
						475	0.342
						500	0.348
						525	0.355
						550	0.362
						575	0.368
						600	0.375