SODIUM HYPOCHLORITE

SHC

CAUTIONARY RESPONSE INFORMATION

Common Synonyms			
Liquid bleach	Watery liquid	Green to yellow	Bleaching liquid odor
	Sinks and mixes with water.		

Avoid contact with liquid.
Notify local health and pollution control agencies.
Protect water intakes.

Fire	Not flammable. Cool exposed containers with water.
Exposure	CALL FOR MEDICAL AID. LIQUID Irritating to skin and eyes. Harmful if swallowed. 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

Dilute and disperse
Stop discharge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed.
2.2 Formula: NaOCl-H_2O
2.3 IMO/UN Designation: 8.0/1791
2.4 DOT ID No.: 3212
2.5 CAS Registry No.: 7681-52-9
2.6 NAERG Guide No.: 140
2.7 Standard Industrial Trade Classification: 52331

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Rubber gloves; goggles.
3.2 Symptoms Following Exposure: Liquid can be irritating to skin and eyes if contact is maintained.
3.3 Treatment of Exposure: INGESTION: induce vomiting, give water, and repeat. SKIN: wash off contacted skin area. EYES: flush with plenty of water for 15 min. and consult 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 1; oral rat LD_{50} = 8.91 g/kg
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: None
3.10 Vapor (Gas) Irritant Characteristics: Slight irritation of eyes and mucous membranes.
3.11 Liquid or Solid Characteristics: Irritates eyes and skin on prolonged contact.
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: 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: Not pertinent
4.6 Behavior in Fire: May decompose, generating irritating chlorine gas.
4.7 Auto Ignition Temperature: Not flammable
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Not flammable
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric 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: Destroy with sodium bisulfite or hypo and water, then neutralize with soda ash.
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): None
6.4 Food Chain Concentration Potential: None
6.5 GESAMP Hazard Profile:
Bioaccumulation: 0
Damage to living resources: 3
Human Oral hazard: 2
Human Contact hazard: II
Reduction of amenities: XX

7. SHIPPING INFORMATION

7.1 Grades of Purity: Several grades and concentrations, typified by ordinary household bleach.
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Pressure-vacuum
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: Oxidizer
8.2 49 CFR Class: 5.1
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: Liquid
9.2 Molecular Weight: Not applicable
9.3 Boiling Point at 1 atm: Decomposes
9.4 Freezing Point: Not pertinent
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 1.06 at 20°C (liquid)
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: Not pertinent
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: (est.) –90 Btu/lb = –50 cal/g = -2×10^5 J/kg
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
42	66.169	42	0.908		NOT PERTINENT		NOT PERTINENT
44	66.169	44	0.908				
46	66.169	46	0.908				
48	66.169	48	0.908				
50	66.169	50	0.908				
52	66.169	52	0.908				
54	66.169	54	0.908				
56	66.169	56	0.908				
58	66.169	58	0.908				
60	66.169	60	0.908				
62	66.169	62	0.908				
64	66.169	64	0.908				
66	66.169	66	0.908				
68	66.169	68	0.908				
70	66.169	70	0.908				
72	66.169	72	0.908				
74	66.169	74	0.908				
76	66.169	76	0.908				

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
	MISCIBLE		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT