NABAM

NAB

CAUTIONARY RESPONSE INFORMATION

Common Synonyms
Chem bam
Disodium ethylenebis[dithiocarbamate]
Dithane
EBDC, sodium salt
Ethylenebis [dithiocarbamic acid], disodium salt

Solid or solution — Colorless to light amber — Slight odor

Mixes with water.

KEEP PEOPLE AWAY. AVOID CONTACT WITH SOLUTION AND SOLID.
Wear rubber overclothing (including gloves).
Notify local health and pollution control agencies.
Protect water intakes.

Fire

Not flammable.
Poisonous and flammable gases are produced if the solution boils.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.
DUST
POISONOUS IF INHALED.
Irritating to eyes, nose and throat.
Move victim to fresh air.
If in eyes, hold eyelids open and flush with plenty of water.
If breathing has stopped, give artificial respiration.
If breathing is difficult, give oxygen.

LIQUID OR 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.

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

Stop discharge
Dilute and disperse

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed.
2.2 Formula: $C_4H_6N_2S_4Na_2$
2.3 IMO/UN Designation: 6.1/1609
2.4 DOT ID No.: 2757
2.5 CAS Registry No.: 142-59-6
2.6 NAERG Guide No.: 151
2.7 Standard Industrial Trade Classification: 51542

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Dust mask; self-contained breathing apparatus if compound is hot; goggles; rubber gloves.
3.2 Symptoms Following Exposure: Contact with liquid irritates eyes and may cause mild to severe erythema of skin as well as sensitization reactions.
3.3 Treatment of Exposure: INHALATION: remove to fresh air; administer artificial respiration and oxygen, if indicated. EYES: flush with copious quantities of water for 15 min.; call a physician. SKIN: wash thoroughly with soap and water. INGESTION: induce vomiting and follow with gastric lavage; get medical attention.
3.4 TLV-TWA: Not listed.
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Grade 3; oral LD_{50} = 395 mg/kg (rat)
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Degrades to ethylenethiourea, which may affect thyroid gland of animals.
3.10 Vapor (Gas) Irritant Characteristics: Currently not available
3.11 Liquid or Solid Characteristics: Currently not available
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: If water solution boils, poisonous hydrogen sulfide and highly flammable carbon disulfide vapors form.
4.7 Auto Ignition Temperature: Not pertinent
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Not pertinent
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 unless water is boiling hot, when poisonous hydrogen sulfide and flammable carbon disulfide vapors form.
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:
2.1 ppm/24 hr/fingerling channel catfish/lethal/fresh water
1-10 ppm/*/marine plankton/killed or no growth/salt water
*Time period not specified.
6.2 Waterfowl Toxicity: LD_{50} = 2560 ppm (acute exposure)
6.3 Biological Oxygen Demand (BOD): Currently not available
6.4 Food Chain Concentration Potential: None
6.5 GESAMP Hazard Profile:
Bioaccumulation: 0
Damage to living resources: 4
Human Oral hazard: 2
Human Contact hazard: -
Reduction of amenities: -

7. SHIPPING INFORMATION

7.1 Grades of Purity: Technical; 22% solution in water
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open
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: Yes
8.5 NFPA Hazard Classification: Not listed
8.6 EPA Reportable Quantity: Not listed.
8.7 EPA Pollution Category: Not listed.
8.8 RCRA Waste Number: Not listed
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: 256.3
9.3 Boiling Point at 1 atm: Not pertinent (decomposes)
9.4 Freezing Point: Not pertinent
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 1.14 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: Not pertinent
9.14 Heat of Decomposition: Not pertinent
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 *Data refer to the solid material.

NOTES

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
	NOT PERTINENT		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT

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