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Material Safety Data Sheet

Diphenylcarbazone-Bromophenol Blue Solution MSDS

Section 1: Chemical Product and Company Identification

Product Name: Diphenylcarbazone-Bromophenol Blue Solution

Catalog Codes: SLD3985

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Ethyl alcohol 200 Proof; Methyl alcohol; 1,5-Diphenylcarbazone; Bromophenol blue, sodium salt

CI#: Not applicable.

Synonym: Diphenylcarbazone-Bromophenol Blue Solution

Chemical Name: Not applicable.

Chemical Formula: Not applicable.

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: 1-800-901-7247

International Sales: 1-281-441-4400

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Ethyl alcohol 200 Proof	64-17-5	94-96
Methyl alcohol	67-56-1	4-6
{1,5-}Diphenylcarbazone	538-62-5	less than or
		equal to 1
Bromophenol blue, sodium salt	62625-28-9	<0.1

Toxicological Data on Ingredients: Ethyl alcohol 200 Proof: ORAL (LD50): Acute: 7060 mg/kg [Rat.]. 3450 mg/kg [Mouse]. VAPOR (LC50): Acute: 20000 ppm 8 hours [Rat]. 39000 mg/m 4 hours [Mouse]. Methyl alcohol: ORAL (LD50): Acute: 5628 mg/kg [Rat.]. DERMAL (LD50): Acute: 15800 mg/kg [Rabbit.]. 1,5-Diphenylcarbazone: ORAL (LD50): Acute: >500 mg/kg [Rat].

Section 3: Hazards Identification

Potential Acute Health Effects:

Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Classified PROVEN by State of California Proposition 65 when associated with alcohol abuse [Ethyl alcohol 200 Proof]. Classified A4 (Not classifiable for human or animal.) by ACGIH [Ethyl alcohol 200 Proof]. Classified 4 (No evidence.) by NTP, None. by OSHA [Methyl alcohol]. **MUTAGENIC EFFECTS:** Not available. **TERATOGENIC EFFECTS:** Classified PROVEN for human [Ethyl alcohol 200 Proof]. Classified POSSIBLE for human [Methyl alcohol]. **DEVELOPMENTAL TOXICITY:** Classified Reproductive system/toxin/female, Reproductive system/toxin/male [PROVEN] [Diphenylcarbazone-Bromophenol Blue Solution]. The substance is toxic to the reproductive system. The substance may be toxic to liver, upper respiratory tract, skin, eyes, central nervous system (CNS), pancreas. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures**Eye Contact:**

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. **WARNING:** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek medical attention.

Ingestion:

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Flammable.

Auto-Ignition Temperature: The lowest known value is 363°C (685.4°F) (Ethyl alcohol 200 Proof).

Flash Points: The lowest known value is CLOSED CUP: 12°C (53.6°F). OPEN CUP: 16°C (60.8°F). (Methyl alcohol)

Flammable Limits: The greatest known range is LOWER: 6% UPPER: 36.5% (Methyl alcohol)

Products of Combustion: These products are acrid and irritating fumes including carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...).

Fire Hazards in Presence of Various Substances:

Highly flammable in presence of open flames and sparks, of heat. Flammable in presence of combustible materials. Slightly flammable to flammable in presence of oxidizing materials.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of oxidizing materials, of metals, of acids.

Fire Fighting Media and Instructions:

Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards:

Containers should be grounded. CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME Vapor may travel considerable distance to source of ignition and flash back. (Ethyl alcohol 200 Proof)

Special Remarks on Explosion Hazards:

Ethanol has an explosive reaction with the oxidized coating around potassium metal. Ethanol ignites and then explodes on contact with acetic anhydride + sodium hydrosulfate (ignites and may explode), disulfuric acid + nitric acid, phosphorous(III) oxide, platinum, potassium-tert-butoxide+ acids. Ethanol forms explosive products in reaction with the following: ammonia + silver nitrate (forms silver nitride and silver fulminate), iodine + phosphorus (forms ethane iodide), magnesium perchlorate (forms ethyl perchlorate), mercuric nitrate, nitric acid + silver (forms silver fulminate) silver nitrate (forms ethyl nitrate) silver(I) oxide + ammonia or hydrazine (forms silver nitride and silver fulminate), sodium (evolves hydrogen gas). (Ethyl alcohol 200 Proof)

Section 6: Accidental Release Measures**Small Spill:**

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill:

Flammable liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage**Precautions:**

Keep locked up.. Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids, alkalis, moisture.

Storage:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls/Personal Protection**Engineering Controls:**

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

Ethyl alcohol 200 Proof TWA: 1000 (ppm) from ACGIH (TLV) [United States] [1999] TWA: 1000 (ppm) from OSHA (PEL) [United States] TWA: 1900 (mg/m3) from OSHA (PEL) [United States] TWA: 1000 (ppm) from NIOSH TWA: 1000 (ppm)

[United Kingdom (UK)] TWA: 1900 (mg/m³) [United Kingdom (UK)] TWA: 1000 STEL: 1250 (ppm) [Canada] Methyl alcohol TWA: 200 from OSHA (PEL) [United States] TWA: 200 STEL: 250 (ppm) from ACGIH (TLV) [United States] [1999] STEL: 250 from NIOSH [United States] TWA: 200 STEL: 250 (ppm) from NIOSH SKIN TWA: 200 STEL: 250 (ppm) [Canada] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid. (Clear)

Odor: Characteristic alcohol

Taste: Not available.

Molecular Weight: Not applicable.

Color: deep red

pH (1% soln/water): Not available.

Boiling Point: approximately 77°C (170.6°F)

Melting Point: -110°C (-166°F)

Critical Temperature: The lowest known value is 240°C (464°F) (Methyl alcohol).

Specific Gravity: approximately 0.8 (Water = 1)

Vapor Pressure: The highest known value is 13.3 kPa (@ 20°C) (Methyl alcohol). Weighted average: 6.08 kPa (@ 20°C)

Vapor Density: The highest known value is 1.59 (Air = 1) (Ethyl alcohol 200 Proof). Weighted average: 1.57 (Air = 1)

Volatility: Not available.

Odor Threshold: The highest known value is 100 ppm (Ethyl alcohol 200 Proof) Weighted average: 100 ppm

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Non-ionic.

Dispersion Properties: See solubility in water, methanol, diethyl ether, acetone.

Solubility:

Easily soluble in cold water, hot water. Soluble in methanol, diethyl ether, acetone.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: sparks, excess heat, incompatible materials

Incompatibility with various substances:

Reactive with oxidizing agents, acids, alkalis, moisture. Slightly reactive to reactive with metals.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Ethanol rapidly absorbs moisture from the air. Can react vigorously with oxidizers. The following oxidants have been demonstrated to undergo vigorous/explosive reaction with ethanol: barium perchlorate, bromine pentafluoride, calcium hypochlorite, chloryl perchlorate, chromium trioxide, chromyl chloride, dioxygen difluoride, disulfuryl difluoride, fluorine nitrate, hydrogen peroxide, iodine heptafluoride, nitric acid nitrosyl perchlorate, perchloric acid permanganic acid, peroxodisulfuric acid, potassium dioxide, potassium perchlorate, potassium permanganate, ruthenium(VIII) oxide, silver perchlorate, silver peroxide, uranium hexafluoride, uranyl perchlorate. Ethanol reacts violently/expodes with the following compounds: acetyl bromide (evolves hydrogen bromide) acetyl chloride, aluminum, sesquibromide ethylate, ammonium hydroxide & silver

oxide, chlorate, chromic anhydride, cyanuric acid + water, dichloromethane + sulfuric acid + nitrate (or) nitrite, hydrogen peroxide + sulfuric acid, iodine + methanol + mercuric oxide, manganese perchlorate + 2,2-dimethoxy propane, perchlorates, permanganates + sulfuric acid, potassium superoxide, potassium tert-butoxide, silver & nitric acid, silver perchlorate, sodium hydrazide, sulfuric acid + sodium dichromate, tetrachlorosilane + water. Ethanol is also incompatible with platinum, and sodium. Since Diphenylcarbazone-Bromophenol Blue Solution is mostly made of Ethanol, it would also be incompatible with these same above compounds.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 3450 mg/kg [Mouse]. (Ethyl alcohol 200 Proof). Acute dermal toxicity (LD50): 15800 mg/kg [Rabbit.]. (Methyl alcohol).

Chronic Effects on Humans:

CARCINOGENIC EFFECTS: Classified PROVEN by State of California Proposition 65 who associated with alcohol abuse [Ethyl alcohol 200 Proof]. Classified A4 (Not classifiable for human or animal.) by ACGIH [Ethyl alcohol 200 Proof]. Classified 4 (No evidence.) by NTP, None. by OSHA [Methyl alcohol]. TERATOGENIC EFFECTS: Classified PROVEN for human [Ethyl alcohol 200 Proof]. Classified POSSIBLE for human [Methyl alcohol]. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [PROVEN] [Diphenylcarbazone-Bromophenol Blue Solution]. Causes damage to the following organs: the reproductive system. May cause damage to the following organs: blood, liver, upper respiratory tract, skin, eyes, central nervous system (CNS), pancreas.

Other Toxic Effects on Humans:

Hazardous in case of skin contact (irritant), of ingestion, of inhalation. Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans:

Teratology (Birth Defect) Information: mutation data an experimental teratogenic effects cited in "Registry of Toxic Effects of Chemical Substances" for Diphenylcarbazone, Ethanol, and Methanol. Reproductive Toxicity Information: Causes reproductive toxicity. Experimental reproductive effects cited in "Registry of Toxic Effects of Chemical Substances" for Ethanol and Methanol

Special Remarks on other Toxic Effects on Humans:

Potential Health effects; Primarily toxic by ingestion. Contains Methyl Alcohol. May be fatal or cause blindness of swallowed
Eye contact: May irritation with burning and stinging with possible damage to the cornea and conjunctiva. Inhalation: Vapor harmful. May cause irritation of the eyes, nose and mucosa of the respiratory tract. Exposure to high concentrations can cause depression of the central nervous system with symptoms of sleepiness and lack of concentration. Skin contact: Drying and cracking which can lead to secondary infections and dermatitis. Ingestion: Symptoms include sleep disorders, hallucinations, distorted perceptions, ataxia, motor function changes, convulsions and tremors, coma, headaches, pulmonary changes, alteration of gastric secretions

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification:

CLASS 3: Flammable liquid. Subsidiary CLASS 6.1: Poisonous material.

Identification: : Alcohol, Flammable, Toxic, n.o.s. (Methanol and Ethanol) UNNA: 1986 PG: II

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Ethyl alcohol 200 Proof
California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Ethyl alcohol 200 Proof
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer (when associated with alcohol abuse) which would require a warning under the statute: Ethyl alcohol 200 Proof
Rhode Island RTK hazardous substances: Ethyl alcohol 200 Proof; Methyl alcohol
Pennsylvania RTK: Ethyl alcohol 200 Proof; Methyl alcohol
Florida: Ethyl alcohol 200 Proof
Minnesota: Methyl alcohol
Massachusetts RTK: Ethyl alcohol 200 Proof; Methyl alcohol
New Jersey: Ethyl alcohol 200 Proof; Methyl alcohol
TSCA 8(b) inventory: Ethyl alcohol 200 Proof; Methyl alcohol; 1,5-Diphenylcarbazone; Bromophenol blue, sodium salt
SARA 313 toxic chemical notification and release reporting: Methyl alcohol 5%
CERCLA: Hazardous substances.: Methyl alcohol: 5000 lbs. (2268 kg);

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC):

R11- Highly flammable. R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. S2- Keep out of the reach of children. S36/37- Wear suitable protective clothing and gloves. S46- If swallowed, seek medical advice immediately and show this container or label.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 3

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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