



Material Safety Data Sheet

Catalog Number: 821815
Revision date: 25-Apr-2006

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY INFORMATION

Catalog Number: 821815

Product name: 3,3'-DIAMINO BENZIDINE LIQUID CONCENTRATE (50X), STABILIZED

Synonyms: 3,3'-Diaminobenzidine Tetrahydrochloride; 3,3',4,4'-Tetraaminobiphenyl Tetrahydrochloride

Supplier:

MP Biomedicals, LLC
29525 Fountain Parkway
Solon, OH 44139
tel: 440-337-1200

Emergency telephone number: CHEMTREC: 1-800-424-9300 (1-703-527-3887)

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Components | CAS Number | Weight % | ACGIH Exposure Limits: | OSHA Exposure Limits: |
|---|------------|-----------|------------------------|-----------------------|
| NON-HAZARDOUS AQUEOUS BUFFER | N/A | 90 - 100% | None | None |
| 3,3'-DIAMINO BENZIDINE TETRAHYDROCHLORIDE | 7411-49-6 | 1 - 5% | None | None |

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Toxic: danger of very serious irreversible effects if swallowed. May also have serious irreversible effects through skin contact or inhalation.

Category of Danger:

Carc. cat. 3 , Toxic

Principle routes of exposure: Skin

Inhalation: Harmful: possible risk of irreversible effects through inhalation.

Ingestion: Toxic: danger of very serious irreversible effects if swallowed.

Skin contact: Harmful: danger of serious damage to health by prolonged skin contact.

Eye contact: Risk of serious damage to eyes

Statements of hazard Toxic if swallowed

Statement of Spill or Leak - ANSI Label Eliminate all ignition sources. Absorb and/or contain spill with inert materials (e.g., sand, vermiculite). Then place in appropriate container. For large spills, use water spray to disperse vapors, flush spill area. Prevent runoff from entering waterways or sewers.

Precautions - ANSI Label Do not breathe vapors or spray mist Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling.

4. FIRST AID MEASURES

General advice: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Inhalation: Move to fresh air. Call a physician immediately.

Skin contact: Rinse immediately with plenty of water and seek medical advice

Ingestion: Drink 1 or 2 glasses of water. Induce vomiting if person is conscious.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Protection of first-aiders: No information available

Medical conditions aggravated by exposure: None known

5. FIRE FIGHTING MEASURES

Suitable extinguishing media:

Use dry chemical, CO₂, water spray or "alcohol" foam

Specific hazards:

Burning produces irritant fumes.

Unusual hazards:

None known

Special protective equipment for firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Specific methods:

Water mist may be used to cool closed containers.

Flash point:

Not determined

Autoignition temperature:

Not determined

NFPA rating:

| | |
|--------------------|---|
| NFPA Health: | 1 |
| NFPA Flammability: | 1 |
| NFPA Reactivity: | 0 |

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Use personal protective equipment.

Environmental precautions:

Prevent product from entering drains.

Methods for cleaning up:

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Storage:

+4°C

Handling:

Use only in area provided with appropriate exhaust ventilation.

Safe handling advice:

Wear personal protective equipment. Remove and wash contaminated clothing before reuse.

Technical measures/storage conditions:

Keep container tightly closed in a dry and well-ventilated place.

Incompatible products:

Oxidising and spontaneously flammable products

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures: Ensure adequate ventilation, especially in confined areas.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection: Breathing apparatus only if aerosol or dust is formed.

Hand protection: Pvc or other plastic material gloves

Skin and body protection: Impervious clothing Long sleeved clothing

Eye protection: Safety glasses with side-shields

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.



9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|----------------------------------|--|
| Appearance and Odor | Brown |
| Physical state: | Liquid |
| Formula: | C ₁₂ H ₁₄ N ₄ •4ClH |
| Molecular weight: | 360.1 |
| Melting point/range: | No data available at this time. |
| Boiling point/range: | No Data available at this time. |
| Density: | No data available |
| Vapor pressure: | No data available |
| Evaporation rate: | No data available |
| Vapor density: | No data available |
| Solubility (in water): | Soluble |
| Flash point: | Not determined |
| Autoignition temperature: | Not determined |

10. STABILITY AND REACTIVITY

| | |
|--|---|
| Stability: | Stable under recommended storage conditions. |
| Polymerization: | None under normal processing. |
| Hazardous decomposition products: | Nitrogen oxides (NO _x)/ammonia/CN ⁻ , Chloride/Hydrochloric acid |
| Materials to avoid: | Strong oxidising agents |
| Conditions to avoid: | Exposure to air or moisture over prolonged periods. |

11. TOXICOLOGICAL INFORMATION

Product Information

Acute toxicity

Components

NON-HAZARDOUS AQUEOUS
BUFFER
3,3'-DIAMINOBENZIDINE
TETRAHYDROCHLORIDE

RTECS Number:

Not Available

DV8753000

Selected LD50s and LC50s

Not Determined

Not Determined

| | |
|-------------------------------|---|
| Chronic toxicity: | Chronic exposure may cause nausea and vomiting, higher exposure causes unconsciousness. |
| Local effects: | Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. |
| Specific effects: | May include moderate to severe erythema (redness) and moderate edema (raised skin), nausea, vomiting, headache. |
| Primary irritation: | No data is available on the product itself. |
| Carcinogenic effects: | Possible carcinogen |
| Mutagenic effects: | No data is available on the product itself. |
| Reproductive toxicity: | No data is available on the product itself. |

12. ECOLOGICAL INFORMATION

| | |
|-----------------------------|-------------------|
| Mobility: | No data available |
| Bioaccumulation: | No data available |
| Ecotoxicity effects: | No data available |

Aquatic toxicity:

May cause long-term adverse effects in the aquatic environment.

| Components | U.S. DOT - Appendix B - Marine Pollutan | U.S. DOT - Appendix B - Severe Marine Pollutants | United Kingdom - The Red List: |
|--|---|--|--------------------------------|
| NON-HAZARDOUS AQUEOUS BUFFER | Not Listed | Not Listed | Not Listed |
| 3,3'-DIAMINOBENZIDINE TETRAHYDROCHLORIDE | Not Listed | Not Listed | Not Listed |

| Components | Germany VCI (WGK) | World Health Organization (WHO) - Drinking Water | Ecotoxicity - Fish Species Data |
|--|-------------------|--|---------------------------------|
| NON-HAZARDOUS AQUEOUS BUFFER | Not Listed | Not Listed | Not Listed |
| 3,3'-DIAMINOBENZIDINE TETRAHYDROCHLORIDE | Not Listed | Not Listed | Not Listed |

| Components | Ecotoxicity - Freshwater Algae Data | Ecotoxicity - Microtox Data | Ecotoxicity - Water Flea Data |
|--|-------------------------------------|-----------------------------|-------------------------------|
| NON-HAZARDOUS AQUEOUS BUFFER | Not Listed | Not Listed | Not Listed |
| 3,3'-DIAMINOBENZIDINE TETRAHYDROCHLORIDE | Not Listed | Not Listed | Not Listed |

| Components | EPA - ATSDR Priority List | EPA - HPV Challenge Program Chemical List | California - Priority Toxic Pollutants |
|--|---------------------------|---|--|
| NON-HAZARDOUS AQUEOUS BUFFER | Not Listed | Not Listed | Not Listed |
| 3,3'-DIAMINOBENZIDINE TETRAHYDROCHLORIDE | Not Listed | Not Listed | Not Listed |

| Components | California - Priority Toxic Pollutants | California - Priority Toxic Pollutants |
|--|--|--|
| NON-HAZARDOUS AQUEOUS BUFFER | Not Listed | Not Listed |
| 3,3'-DIAMINOBENZIDINE TETRAHYDROCHLORIDE | Not Listed | Not Listed |

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:

Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority. Residue from fires extinguished with this material may be hazardous.

Contaminated packaging: Methods for cleaning up:

Do not re-use empty containers
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

14. TRANSPORT INFORMATION

UN/Id No:

Not regulated

DOT:**Proper shipping name:**

Not Regulated

| | |
|--|--|
| Components | U.S. DOT - Appendix A Table 1 - Reportable Quantities |
| NON-HAZARDOUS AQUEOUS BUFFER | Not Listed |
| 3,3'-DIAMINOBENZIDINE TETRAHYDROCHLORIDE | Not Listed |

TDG (Canada):

WHMIS hazard class:

D2a very toxic materials



IMDG/IMO

IMDG - Hazard Classifications

Not Applicable

| | | |
|--|--|---|
| Components | U.S. DOT - Appendix B - Marine Pollutan | U.S. DOT - Appendix B - Severe Marine Pollutants |
| NON-HAZARDOUS AQUEOUS BUFFER | Not Listed | Not Listed |
| 3,3'-DIAMINOBENZIDINE TETRAHYDROCHLORIDE | Not Listed | Not Listed |

IMO-labels:

15. REGULATORY INFORMATION

International Inventories

Components

NON-HAZARDOUS AQUEOUS BUFFER

Inventory - United States TSCA - Sect. 8(b)

Not Listed

Canada DSL Inventory List -

Not Listed

Components

3,3'-DIAMINOBENZIDINE TETRAHYDROCHLORIDE

Inventory - United States TSCA - Sect. 8(b)

Present

Canada DSL Inventory List -

Present

Australia (AICS):

Present

Inventory - China:

Present

EU EINECS List -

231-018-9; C12H14N4.4ClH

Philippines PICCS:

Present

U.S. regulations:

Components

NON-HAZARDOUS AQUEOUS BUFFER

California Proposition 65

-
Not Listed

Massachusetts Right to Know List:

Not Listed

New Jersey Right to Know List:

Not Listed

Pennsylvania Right to Know List:

Not Listed

3,3'-DIAMINOBENZIDINE TETRAHYDROCHLORIDE

Not Listed

Not Listed

Not Listed

Not Listed

| Components | Florida substance List: | Rhode Island Right to Know List: | Illinois - Toxic Air Contaminants | Connecticut - Hazardous Air Pollutants |
|--|-------------------------|----------------------------------|-----------------------------------|--|
| NON-HAZARDOUS AQUEOUS BUFFER | Not Listed | Not Listed | Not Listed | Not Listed |
| 3,3'-DIAMINOBENZIDINE TETRAHYDROCHLORIDE | Not Listed | Not Listed | Not Listed | Not Listed |

| Components | SARA 313 Emission reporting/Toxic Release of Chemicals | CERCLA/SARA - Section 302 Extremely Haz | NTP: | IARC: |
|--|--|---|------|-------|
| NON-HAZARDOUS AQUEOUS BUFFER | Not Listed | Not Listed | None | None |
| 3,3'-DIAMINOBENZIDINE TETRAHYDROCHLORIDE | Not Listed | Not Listed | None | None |

SARA 313 Notification:

The above is your notification as to the SARA 313 listing for this product(s) pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

If you are unsure if you are subject to the reporting requirements of Section 313, or need more information, please call the EPA Emergency Planning and Community Right-To-Know Information Hotline: (800) 535-0202 or (202) 479-2499 (in Washington, DC or Alaska).

State Notification:

The above information is your notice as to the Right-to-Know listings of the stated product(s). Individual states will list chemicals for a variety of reasons including, but not limited to, the compounds toxicity; carcinogenic, tumorigenic and/or reproductive hazards; and the compounds environmental impact if accidentally released.

16. OTHER INFORMATION

Prepared by: Health & Safety

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End of Safety Data Sheet