

Safety Data Sheet

Control Number: 907-006

DAB Chromogens

August 17, 2017

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1. Product and Company Identification

| | |
|--|---|
| Product(s) | Betazoid DAB Chromogen (BDB900, BRR900A, BRA900A) DAB Chromogen (DB851, BRR851, BRA851) DAB Chromogen (ORI6009, ORR6009, ORI6054, ORR6054) intelliPATH™ DAB Chromogen (IPC5008, IPR5008, IPA5008) |
| Related Product Kit | Betazoid DAB Chromogen Kit (BDB2004, BRA2004A, BRR2004A) DAB Chromogen Kit (DB801, BRA801, BRR801) Cardassian DAB Chromogen Kit (DBC859, BRR859, BRA859) intelliPATH™ DAB Chromogen Kit (IPK5010, IPR5010, IPA5010) intelliPATH™ Universal HRP Detection Kit (IPK5003, IPR5003, IPA5003, IPK5011, IPR5011, IPA5011) MACH 4 Universal HRP-Polymer Detection System (BRI4012) DAB Chromogen Kit (ORI6011K, ORR6011K) ONCORE DAB Chromogen (ORI6056K, ORR6056K) |
| Intended Use & Restrictions | Immunohistochemistry reagent intended for use by professional laboratory personnel that have been properly trained in its use. |
| Company Information | Biocare Medical, LLC 60 Berry Drive Pacheco, CA 94553 United States Tel: +1 800-799-9499 (7AM-5PM, PST, Mon-Fri) Fax: +1 925-603-8080 Web: www.biocare.net |
| 24-Hour Emergency Contact | CHEMTREC +1 800-424-9300 (USA and Canada only) +1 703-527-3887 (all other countries) |

2. Hazards Identification

Emergency Overview Harmful substance. Colorless to tan, brown or purple liquid. Although limited evidence exists, substance is a possible carcinogen. Potential for irreversible effects.

OSHA Hazards Suspected Carcinogen and/or Mutagen

**GHS Classification
Signal words, Symbol,
Hazard &
Precautionary
Statements**



Danger

H341 Suspected of causing genetic effects.

H350 May cause cancer.

P201 Obtain special instructions before use.

P281 Use personal protective equipment as required.

O308+P313 If exposed or concerned, Get medical advice/attention.

Potential Health Effects

Skin Contact May be harmful if exposed to skin. May cause skin irritation, itching, redness or inflammation.

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Eye Contact May be harmful if exposed to eyes. May cause eye irritation, watering eyes, stinging or burning sensation.

Inhalation May be harmful if inhaled. May cause respiratory tract irritation, headache, dizziness, nausea or coughing.

Ingestion May be harmful if swallowed. May cause irritation of gastrointestinal tract, nausea, or vomiting.

See Section 11: Toxicological Information for additional information.

Environmental Effects None identified.

See Section 12: Ecological Information for additional information.

3. Composition / Information on Ingredients

| Chemical Name | Synonyms | % Composition | CAS Number |
|--|-----------------|---------------|------------|
| 3,3'-diaminobenzidine tetrahydrochloride dihydrate | DAB | 3-5% | 7411-49-6 |
| Propylene glycol | 1,2-Propanediol | 40-80% | 57-55-6 |
| Water | Not Applicable | 20-60% | 7732-18-5 |

Note: It has been determined that the remaining ingredients of this product are not classified as hazardous according to the Federal OSHA Hazardous Communication Standard (29 CFR 1910.1200) or the Globally Harmonized System of Classification and Labeling of Chemicals.

4. First Aid Measures

General Advice Avoid further exposure to product. Consult a physician.

In case of skin contact Wash exposed area with soap and plenty of water. Remove any contaminated clothing. Seek medical attention.

In case of eye contact Wash eyes with plenty of water for at least 15 minutes. Have victim remove contact lenses. Be sure to wash under eyelids. Seek medical attention.

If inhaled Remove victim to well-ventilated area. If victim is not breathing, give artificial respiration. Seek medical attention.

If swallowed If victim is conscious, rinse mouth with water. Do not give anything to an unconscious victim. Seek medical attention.

5. Fire Fighting Measures

Suitable Extinguishing Media Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Use extinguisher media appropriate for surrounding fire.

Special Protective Equipment for Firefighters Wear self-contained breathing apparatus and protective clothing to prevent contact with eyes and skin.

Special Exposure Hazards Avoid inhalation of fumes, which may be toxic or irritating.

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6. Accidental Release Measures

- Personal Precautions** Use of personal protective equipment is recommended as described in Section 8. Isolate hazard area and deny entry to unprotected personnel.
- Environmental Precautions** Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches and waterways.
- Methods for containment and clean up** Small spills may be contained and cleaned-up with paper towels or absorbent pads. Absorb large spills with sand or vermiculite and place in a closed container for waste disposal. Avoid physical contact during removal.

7. Handling and Storage

- Precautions for Safe Handling** Avoid contact with eyes, skin and clothing. Do not ingest. Wash hands thoroughly after use.
- Conditions for Safe Storage** Store at temperature indicated on label. Keep container tightly closed. Keep container in a cool, well-ventilated area. Store away from oxidizers. Light sensitive.

8. Exposure Controls / Personal Protection

Permissible Exposure Limits None identified.

Engineering Controls Use in a well-ventilated area.

Personal Protective Equipment

- Eye Protection** Use splash-proof chemical safety goggles.
- Skin Protection** Use chemically resistant gloves and a lab coat with sleeves.
- Respiratory Protection** Exceeding exposure limits is unlikely during normal usage. However, if irritating vapors are produced, respiratory protection is recommended. Attempt to reduce exposure levels to an acceptable range.
- General Hygiene Measures** Avoid contact with eyes, skin and clothing. Wash hands thoroughly after handling and before eating or drinking.

9. Physical and Chemical Properties

- Appearance** Clear solution that may be colorless, tan to brown or purple.
- Odor** Not determined
- pH (as supplied)** Not determined
- Melting point** Not determined
- Boiling point** Not determined
- Flash point** Not determined
- Flammability** Not determined
- Lower explosion limit** Not determined
- Upper explosion limit** Not determined
- Vapor pressure** Not determined
- Vapor density** Not determined
- Specific gravity** Not determined

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| Solubility (in water) | Soluble |
| Partition coefficient (n-octanol/water) | Not determined |
| Auto-ignition temperature | Not determined |
| Decomposition Temperature | Not determined |

10. Stability and Reactivity

| | |
|---|---|
| Chemical Stability | Stable under recommended storage conditions. May darken with time. |
| Conditions to avoid | Keep away from incompatible materials. Avoid direct sunlight. |
| Materials to avoid | Oxidizing agents, reducing agents, acid chlorides, acid anhydrides. |
| Hazardous decomposition products | Hazardous decomposition products formed under fire conditions: carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen chloride gas. |
| Possibility of hazardous reactions | None identified. |

11. Toxicological Information

| | |
|---|---|
| Acute dose effects | DAB: LD50 Oral (mouse), 1834 mg/kg Propylene glycol: LD50 Oral (rat), 20,000 mg/kg |
| Repeat dose effects | Not determined |
| Skin irritation | Propylene glycol: Human, mild skin irritation, 7 days |
| Skin and respiratory sensitization | No data available |
| Eye irritation | Propylene glycol: Rabbit, mild eye irritation |
| Carcinogenicity | DAB: Oral (rat), Tumorigenic, equivocal tumorigenic agent by RTECS criteria. Presumed to have carcinogenic potential for humans. DAB is classified as a suspected carcinogen with the potential of producing irreversible effects. However, there is evidence suggesting that although 3,3'-diaminobenzidine is structurally related to benzidine, it may not exhibit a similar carcinogenic effect. RTECS: DAB, DV8750000; Propylene glycol, TY2000000 |
| Mutagenicity | DAB: Genotoxicity in vitro (rat, liver), unscheduled DNA synthesis DAB: Genotoxicity in vivo (mouse, intraperitoneal), cytogenetic analysis |
| Reproductive effects | No data available |
| Developmental effects | No data available |
| Target organ effects | No data available |

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated at product concentrations.

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12. Ecological Information

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| Ecotoxicity | Propylene glycol: Toxicity to fish. mortality NOEC, (Pimephales promelas [fathead minnow]), 52,930 mg/l, 96 h Toxicity to daphnia and other aquatic invertebrates, EC50 (Daphnia magna [Water flea]), > 10,000 mg/l, 48 h; mortality NOEC (Daphnia), 13,020 mg/l, 48 h |
| Persistence and degradability | No data available |
| Bioaccumulation/accumulation | No data available |
| Mobility in environmental media | No data available |
| Other hazardous effects | No data available |

13. Disposal Considerations

| | |
|-------------------------------|---|
| Product | Disposal should be in accordance with applicable national, state, and local laws and regulations. Local regulations may be more stringent than national or state requirements. Verify local and state regulations before discharging into public sewers or landfills. Do not dump into any body of water. Contact a licensed professional waste disposal service for appropriate methods of disposal. |
| Contaminated packaging | Dispose of as unused product. |

14. Transportation Information

| | |
|------------------------------|----------------|
| Proper shipping name | Not applicable |
| Technical name | Not applicable |
| Hazard class | Not applicable |
| Identification number | Not applicable |
| Packing group | Not applicable |
| DOT (US) | Not regulated |
| IMDG | Not regulated |
| IATA | Not regulated |
| TDG | Not regulated |

15. Regulatory Information

Inventory Status

| | |
|---------------------------------------|--|
| United States (TSCA) | All components are listed. |
| Canada (DSL / NDSL) | All components are listed. |
| SARA 302 Components | No chemicals in this product are subject to reporting requirements. |
| SARA 313 Components | No components exceed threshold reporting levels. |
| SARA 311/312 Hazards | DAB: Chronic health hazard |
| California Prop. 65 components | This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm. |

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16. Other Information

Sources and Suitability The above information was obtained from sources available at the time of revision and believed to be accurate and reliable. The information included is not intended to be all inclusive and should only be used as a guide. Biocare shall not be held liable for any damage resulting from use, handling, or contact with the above product.

Revision Date August 17, 2017
(All SDS's before this date should be discarded.)

Replaces Revision July 25, 2016. This SDS has been updated to reflect current hazard information and product formulations.

Note: Before using this product, please visit the Biocare Medical website at <http://biocare.net/> for the current version of this SDS.