

Doc No: 931-HK124 Rev: A Date of Release: 23-Aug-2016

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

- a) GHS Product Identifier : DAB Chromogen
- b) Other means of identification : Not available
- c) Product code : CH-0906-02, HK010-YCK, HK124-05K, HK124-50K, HK124-1K, HK124-5K, HK124-5KE, HK124-9KT, HK124-7KT, HK151-5K, HX010-07X, HX010-07XE, HX010-YAX, HX010-YCK, HX010-YCKE
- d) Recommended use of the chemical and restrictions on use : Restricted for professional users.
- e) Supplier's details (including name, address, phone number etc.) : BioGenex Laboratories, Inc
49026 Millmont Drive
Fremont, CA 94538
- f) Emergency phone number : BioGenex: (01) (510) 275-0550
Chemtrec Assistance: (800) 424-9300 (U.S. and Canada only)
(01) (703) 527-3887 (all other countries)

2. HAZARD IDENTIFICATION

- a) GHS classification of the substance/mixture and any national or regional information: **OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

H341 GERM CELL MUTAGENICITY - Category 2

H350 CARCINOGENICITY - Category 1B

- b) GHS label elements, including precautionary statements :

LABELING:



SIGNAL WORD : DANGER

Hazard statements :

H350 - May cause cancer.

H341 - Suspected of causing genetic defects.

Precautionary statements

Prevention :

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.

Response :

P308 + P313 - IF exposed or concerned: Get medical attention.

Storage :

P405 - Store locked up.

Disposal :

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

- c) Other hazards which do not result in the classification or are not covered by the GHS: Restricted to professional users.

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

- a) Chemical identity : Mixture
b) Common name, synonyms, etc : DAB
c) CAS number and other unique identifiers

Component	CAS #	Percent	Symbol(s)	Risk Phrase(s)
CITRIC ACID Hydrus	5949-29-1	40-50	Xi	R:37-38-41
POLYETHYLENE GLYCOL	25322-68-3	20-30	Xn	R:21/22
3,3'-DIAMINOBENZIDINE TETRAHYDROCHLORIDE 231-018-9	7411-49-6	2-5	TN	R:45-22-50/53

Note: 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

Get medical aid immediately.

EYES: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. Do NOT allow victim to rub or keep eyes closed.

SKIN: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

INGESTION: Do NOT induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Call a poison control center.

INHALATION: Move the victim to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively. No specific antidote exists.

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.

6. ACCIDENTAL RELEASE MEASURES

- a) Personal precautions, protective equipment and emergency procedures:
Wear appropriate protective equipment as specified in Section 8.
- b) Environmental precautions:
Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.
- c) Methods and materials for containment and cleaning up.
Eliminate source of ignition. Ventilate area. Cover with absorbent material (soda ash) to confine spill and sweep or shovel into container. Close container tightly. Avoid breathing vapors.

7. HANDLING AND STORAGE

- a) Precautions for safe handling:
Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling. Transfer methods should avoid static sparks. Use explosion proof ventilation.
- b) Conditions for safe storage, including any incompatibilities:
Keep in a tightly closed container, stored in a cooled, dry, ventilated area away from sources of heat or ignition. Protect from physical damage. Isolate from incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use in a well-ventilated area

Personal Protective Equipment

Eyes: Wear safety goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: None required where adequate ventilation conditions exist. .

9. PHYSICAL AND CHEMICAL PROPERTIES

- a. **Appearance** Clear and Amber color
- b. **Odor** NDA
- c. **Odor Threshold** NDA
- d. **pH** NDA.
- e. **Melting/Freezing Point (°C)** NDA
- f. **Boiling point (°C)** NDA
- g. **Flash Point (°C)** NDA
- h. **Evaporation Rate** NDA
- i. **Flammability** NDA
- j. **Upper/Lower Flammability or Explosive Limits** : NDA

- k. Vapor Pressure NDA
- l. Vapor Density (Air = 1) NDA
- m. Relative Density NDA
- n. Water Solubility Soluble in water
- o. Partition Coefficient n-octanol/water : NDA
- p. Autoignition Temperature (°C) NDA
- q. Decomposition Temperature(°C) : NDA
- r. Viscosity NDA
- s. Explosive Properties NDA
- t. Oxidizing Properties NDA

10. STABILITY AND REACTIVITY

STABILITY: Stable under normal conditions of use.

CONDITIONS TO AVOID: Heat, sources of ignition.

Materials to Avoid : Oxidizing Agents, Reducing agents, Acid chlorides, Acid anhydrides

Hazardous Decomposition Products : Carbon dioxide, Carbon monoxide, oxides of Nitrogen

11. TOXICOLOGICAL INFORMATION

a) Information on the likely routes of exposure: Eyes, Oral, Dermal, Inhalation

b) Symptoms related to the physical, chemical and toxicological characteristics:

INHALATION: May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema. May cause ulceration of nasal tissue, insomnia, nervous tremors with numb extremities, chemical pneumonia, shock, unconsciousness, and death

INGESTION: May cause perforation of the digestive tract and severe digestive tract irritation with abdominal pain, nausea, vomiting and diarrhea. May cause difficulty in swallowing, stomach distension, possible cerebral swelling and death

SKIN CONTACT: Repeated or prolonged contact can cause redness, irritation, and scaling of the skin (dermatitis). Normal care and personal hygiene should prevent skin effects.

EYE CONTACT: Eye irritation may occur with exposure to concentrated vapors or contact with product.

TARGET ORGANS: Central nervous system, Respiratory system

c) Delayed and immediate effects and also chronic effects from short and long term exposure

NDA

d) Numerical measures of toxicity (such as acute toxicity estimates)

Component Analysis - LD50/LC50

CITRIC ACID (5949-29-1)

Oral LD50 Rat 3000 mg/kg (related to Citric acid)

POLYETHYLENE GLYCOL 8000 (25322-68-3)

Oral LD50 Rat 28 g/kg; Dermal LD50 Rabbit >20 g/kg

RTECS Acute Toxicity (selected)

3 gm/kg Oral Rat LD50; 11700 mg/kg Oral Rat LD50 (related to Citric acid)

CITRIC ACID (5949-29-1) Oral:

POLYETHYLENE GLYCOL 8000 (25322-68-3) Oral: 22 gm/kg Oral Rat LD50; >50 gm/kg Oral Rat LD50; 31600 mg/kg Oral Rat LD50; 28 gm/kg Oral Rat LD50; 31640 mg/kg Oral Rat LD50; 27500 mg/kg Oral Rat LD50; 50 gm/kg Oral Rat LD50; 30200 mg/kg Oral Rat LD50; 50 gm/kg Oral Rat LD50; >50 gm/kg Oral Rat LD50; 1054 mg/kg Oral Rat LD50; 600 mg/kg Oral Rat LD50; 51200 mg/kg Oral Rat LD50; 32 gm/kg Oral Rat LD50; 51310 mg/kg Oral Rat LD50; >4 gm/kg Oral Rat LD50; 45 gm/kg Oral Rat LD50; 44200 mg/kg Oral Rat LD50; 30 gm/kg Oral Rat LD50; 50 gm/kg Oral Rat LD50; 820 mg/kg Oral Rat LD50

Skin: >20 gm/kg Skin Rabbit LD50; >20 gm/kg Skin Rabbit LD50; >20 gm/kg Skin Rabbit LD50; >20 gm/kg Skin Rabbit LD50; >20 gm/kg Skin Rabbit LD50; >20 mL/kg Skin Rabbit LD50; >20 gm/kg Skin Rabbit LD50; >20 gm/kg Skin Rabbit LD50; >20 gm/kg Skin Rabbit LD50; 1800 uL/kg Skin Rabbit LD50

12. ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial, where available):

CITRIC ACID

Fish: 96 Hr LC50 *Lepomis macrochirus*: 1516 mg/L [static] (related to Citric acid)
Invertebrate: 72 Hr EC50 *Daphnia magna*: 120 mg/L (related to Citric acid)

POLYETHYLENE GLYCOL Fish: 24 Hr LC50 *Carassius auratus*: >5000 mg/L (PEG 200, 400, 800)

- b) Persistence and degradability : NDA
- c) Bioaccumulative potential : NDA
- d) Mobility in the soil : NDA.
- e) Other adverse effects : NDA

13. DISPOSAL INFORMATION

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. TRANSPORT INFORMATION

US DOT: Not regulated.

MO: Not regulated.

IATA: Not regulated.

Proper shipping name Not applicable
Technical name Not applicable
Hazard class Not applicable

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.

16. Other information including information on preparation and revision of the SDS

Key abbreviations:

N/A	: Not Applicable
NDA	: No data available

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