

Doc No: 931-HK183 Rev: A Date of Release: 16-Nov-2016

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

- a) GHS Product Identifier : New Fuchsin Substrate & Chromogen Pack
- b) Other means of identification : Not available
- c) Product code : HK183-5KE
- 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: Mixture

HK184-5K, HK187-5K

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS] : Not classified.

HK185-5K

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS] :

H314 : SKIN CORROSION/IRRITATION - Category 1

Classification according to Directive 1999/45/EC [DPD]

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : C; R34**Human health hazards** : Causes burns.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms

HK186-5K**Classification according to Directive 1999/45/EC [DPD]**

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Xn; R22**Human health hazards** : Harmful if swallowed.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms

- b) GHS label elements, including precautionary statements :

LABELING:**HK184-5K, HK186-5K, HK187-5K****SIGNAL WORD** : No signal word.**HAZARD STATEMENTS** : No known significant effects or critical hazards

PRECAUTIONARY STATEMENTS

Prevention : Not Applicable

Response : Not Applicable

HK185-5K



SIGNAL WORD : DANGER

HAZARD STATEMENTS : H314 - Causes severe skin burns and eye damage.

PRECAUTIONARY STATEMENTS

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

P304 + P340 + P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician.

P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.

P303 + P361 + P353 + P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. Immediately call a POISON CENTER or physician.

P305 + P310 - IF IN EYES: Immediately call a POISON CENTER or physician

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

a) Chemical identity : Mixture

b) Common name, synonyms, etc : NDA

c) CAS number and other unique identifiers

Part No.	Chemical Name	Synonyms	CAS No.	Percent	Einecs#
HK184-5K	Tris(hydroxymethyl)aminomethane	Tris, Trizma	000077-86-1	<10	Unlisted
HK185-5K	Hydrochloric acid	HCl, Hydrogen chloride	007647-01-0	<10	NDA
	New Fuchsin	-----	003248-91-7	<10	NDA
HK186-5K	Sodium nitrite	Nitrous acid, sodium salt	007632-00-0	<10	NDA
HK187-5K	Tris(hydroxymethyl)aminomethane	Tris, Trizma	000077-86-1	<10	Unlisted
	Naphthol AS-MX Phosphate, Sodium salt	-----	096189-12-7	<1	NDA

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

HK184-5K, HK186-5K, HK187-5K

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.

HK185-5K

EYES: Corrosive to eyes. Causes burns.

SKIN: Corrosive to the skin. Causes burns.

INGESTION: Corrosive to the digestive tract. Causes burns.

INHALATION: May give off gas, vapour or dust that is very irritating or corrosive to the respiratory system.

5. FIRE-FIGHTING MEASURES

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

Extinguishing Media: Use an extinguishing agent suitable for the surrounding fire.

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training

Special protective equipment for firefighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide protection for chemical incidents.

HK184-5K, HK186-5K, HK187-5K

Decomposition products may include the following materials: nitrogen oxides halogenated compounds metal oxide/oxides Chlorine (gas).

HK185-5K

Decomposition products may include the following materials: halogenated compounds

6. ACCIDENTAL RELEASE MEASURES

HK184-5K, HK185-5K, HK186-5K, HK187-5K

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.
Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

7. HANDLING AND STORAGE

HK184-5K, HK185-5K, HK186-5K, HK187-5K

- 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

HK184-5K, HK186-5K, HK187-5K

Exposure limits : National occupational exposure limits

Engineering Controls:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source..

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.

HK185-5K

Occupational exposure limits

Component	Exposure limits
Hydrochloric acid	TWA: 5 ppm 8 hours. TWA: 8 mg/m ³ 8 hours. STEL: 10 ppm 15 minutes. STEL: 15 mg/m ³ 15 minutes

9. PHYSICAL AND CHEMICAL PROPERTIES

HK184-5K & HK187-5K

- a. **Appearance :** Liquid
- b. **Odor :** Odorless
- c. **pH :** NDA
- d. **Melting Point/Freezing Point (°C):** NDA
- e. **Boiling point (°C):** NDA
- f. **Flash Point (°C) :** NDA
- g. **Flammability :** NDA
- h. **Water Solubility :** Soluble in water

HK185-5K

- a. **Appearance** : Liquid
- b. **Odor** : Odorless
- c. **pH** : 1-2
- d. **Melting Point/Freezing Point (°C)**: NDA
- e. **Boiling point (°C)**: NDA
- f. **Flash Point (°C)** : NDA
- g. **Flammability** : NDA
- h. **Water Solubility** : Soluble in water

HK186-5K

- a. **Appearance** : Purple Liquid
- b. **Odor** : Pungent
- c. **pH** : 1-2
- d. **Melting Point/Freezing Point (°C)**: NDA
- e. **Boiling point (°C)**: NDA
- f. **Flash Point (°C)** : NDA
- g. **Flammability** : NDA
- h. **Water Solubility** : Soluble in water

10. STABILITY AND REACTIVITY**HK184-5K**

STABILITY: Stable at room temperature in closed containers under normal storage and handling conditions.

CONDITIONS TO AVOID: Bases, oxidizing agents, acids, aldehydes, copper, brass, and aluminum.

DECOMPOSITION: Nitrogen oxides, carbon monoxide, carbon dioxide, nitrogen, and ammonia and/or derivatives.

HAZARDOUS POLYMERIZATION: None reported.

HK185-5K

STABILITY: Stable at room temperature under normal storage and handling conditions.

CONDITIONS TO AVOID: Strong oxidizing agents.

DECOMPOSITION: Nitrogen oxides, carbon monoxide, carbon dioxide, hydrogen chloride gas, hydrogen.

HAZARDOUS POLYMERIZATION: None reported.

HK186-5K

STABILITY: Stable at room temperature under normal storage and handling conditions.

CONDITIONS TO AVOID: Strong acids, Strong reducing agents, ammonium salt, amines, activated carbon, cyanides.

DECOMPOSITION: Nitrogen oxides, carbon monoxide, carbon dioxide, phosphorus oxides, phosphine, nitrogen, and ammonia and/or derivatives.

HAZARDOUS POLYMERIZATION: None reported.

HK187-5K

STABILITY: Stable at room temperature in closed containers under normal storage and handling conditions.

CONDITIONS TO AVOID: Bases, oxidizing agents, acids, aldehydes, copper, brass, and aluminum.

DECOMPOSITION: Nitrogen oxides, carbon monoxide, carbon dioxide, phosphorus oxides, phosphin, nitrogen, and ammonia and/or derivatives.

HAZARDOUS POLYMERIZATION: None reported.

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:

HK184-5K, HK187-5K

EYE CONTACT: May cause eye irritation.

SKIN CONTACT: May cause skin irritation. May be absorbed through the skin. Skin absorption may cause unconsciousness.

INGESTION: May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns.

INHALATION: May cause irritation of the respiratory tract with burning pain in the nose and throat, coughing, wheezing, shortness of breath and pulmonary edema.

CHRONIC: Prolonged or repeated exposure may cause dermatitis.

TARGET ORGANS: None identified

ROUTES OF ENTRY: None indicated

The toxicological properties have not been thoroughly investigated.

HK185-5K

Hydrochloric acid: CORROSIVE.

EYE CONTACT: May cause severe irritation, conjunctivitis, corneal necrosis and burns with impairment or permanent loss of vision.

SKIN CONTACT: May cause severe irritation, inflammation, ulceration, necrosis and chemical burns, shock symptoms may develop including rapid pulse, sweating and collapse. Photosensitization reactions may occur in persons previously exposed. Contact with a compressed gas may cause frostbite.

INGESTION: May cause burns of the mouth, throat, esophagus and stomach with consequent pain, uneasiness, nausea, salivation, vomiting, diarrhea, chills, shock and intense thirst. Nephritis, fever and perforation of the intestinal tract, and circulatory collapse may occur. Death may be due to esophageal or gastric necrosis.

INHALATION: May cause irritation and burning of the throat. Coughing and choking.

CHRONIC: Repeated or prolonged exposure may cause conjunctivitis, dermatitis, photosensitization, bronchitis, gastritis, and erosion and discoloration of exposed tissues and organs.

TARGET ORGANS: None identified.

ROUTES OF ENTRY: None indicated

The toxicological properties have not been thoroughly investigated.

HK186-5K

EYE CONTACT: May cause eye irritation.

SKIN CONTACT: May cause skin irritation.

INGESTION: May cause irritation of the digestive tract.

INHALATION: Material is irritating to mucous membrane and upper respiratory tract. Absorption into the body leads to the formation of methemoglobin which in sufficient concentration causes cyanosis. Onset may be delayed 2 to 4 hours or longer.

CHRONIC: Laboratory experiments have shown mutagenic effects.

TARGET ORGANS: Blood cardiovascular system.

ROUTES OF ENTRY: None indicated

The toxicological properties have not been thoroughly investigated.

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) :

Toxicity Data

CAS#	RTECS	LD50	CARCINOGENICITY						
			ACGIH	IARC	NIOSH	NTP	OSHA	Other	
000077-86-1	TY2900000	ORL-RAT: 5.9 gm/kg	No	No	No	No	No	None	
003248-91-7	NDA	NDA	NDA	NDA	NDA	NDA	NDA	NDA	
007632-00-0	RA1225000	ORL-CHD LDLO: 22 mg/kg	LANCAO 2,162,17	NDA	No	NDA	No	No	NDA
		ORL-HUM LDLO: 71 mg/kg	34ZIAG -,543,69						
		IPR-MUS: 158 mg/kg	JPETAB 165,30,69						
		ORL-MUS: 175 mg/kg	FAONAU 53A,97,74						
		IHL-RAT LC50: 5.5 mg/m ³	GTPZAB 16(10),36,72						
		IVN-RAT: 65 mg/kg	ARZNAD 13,320,63						
		ORL-RAT: 85 mg/kg	AIHAAP 30,470,69						
		EYE-RBT: 500 mg/24H MLD	28ZPAK -,15,72						
007647-01-0	NDA	ORL-RBT: 186 mg/kg	SOVEA7 27,246,74						
		IPR-MUS: 40 mg/kg		No	No	No	No	No	None
096189-12-7	NDA	ORL-RBT: 900 mg/kg	AIHAAP 30,470,69						
		NDA		NDA	NDA	NDA	NDA	NDA	NDA

Only selected Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. Consult the actual entry in RTECS for complete information.

12. ECOLOGICAL INFORMATION

- a) Ecotoxicity (aquatic and terrestrial, where available): Not expected to present significant adverse environmental effects.. b) Persistence and degradability : No data available.
- c) Bioaccumulative potential : No data available.
- d) Mobility in the soil : No data available.
- e) Other adverse effects : Not a PBT or vPvB

13. DISPOSAL INFORMATION

HK184-5K, HK187-5K

Dispose in accordance with all applicable federal, state, and local environmental regulations.

Not listed as a material banned from land disposal according to RCRA.

HK185-5K, HK186-5K

Cautiously add to a large stirred excess of water. Adjust pH to neutral. Dispose in accordance with all applicable federal, state, and local environmental regulations.

14. TRANSPORT INFORMATION

HK184-5K, HK185-5K, HK186-5K, HK187-5K

ADR/RID / IMDG / IATA : Not regulated.

15. REGULATORY INFORMATION

HK184-5K, HK186-5K, HK187-5K

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Annex XIV : None of the components are listed.

Seveso II Directive : This product is not controlled under the Seveso II Directive

HK185-5K

Seveso II Directive: This product is controlled under the Seveso II Directive.

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

HK185

HAZARD STATEMENTS

H314 Causes severe skin burns and eye damage

H335 May cause respiratory irritation

FULL TEXT OF CLASSIFICATIONS [CLP/GHS] :

SKIN CORROSION/IRRITATION - Category 1

Skin Corr. 1B, H314 SKIN CORROSION/IRRITATION - Category 1B

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

RISK PHRASES : R34- Causes burns
R37- Irritating to respiratory system.

FULL TEXT OF CLASSIFICATIONS [CLP/GHS] :

C - Corrosive
Xi - Irritant

HK184-5K, HK187-5K

HAZARD STATEMENTS

H315 Causes skin irritation
H319 Causes serious eye irritation.
H335 May cause respiratory irritation

FULL TEXT OF CLASSIFICATIONS [CLP/GHS] :

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
SKIN CORROSION/IRRITATION - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

RISK PHRASES : R36/37/38- Irritating to eyes, respiratory system and skin

FULL TEXT OF CLASSIFICATIONS [CLP/GHS] : Xi - Irritant

HK186-5K

H272 : May intensify fire; oxidiser
H301 (oral): Toxic if swallowed
H400 : Very toxic to aquatic life.

FULL TEXT OF CLASSIFICATIONS [CLP/GHS] :

SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
SKIN CORROSION/IRRITATION - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

RISK PHRASES

R8- Contact with combustible material may cause fire.
R25- Toxic if swallowed.
R22- Harmful if swallowed.
R50- Very toxic to aquatic organisms.

CLASSIFICATIONS :

O - Oxidising
T - Toxic
Xn - Harmful
N - Dangerous for the environment

Key abbreviations:

N/A : Not Applicable
NDA : No data available

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