

## DATA SHEET (MSDS)

**Date of Preparation or Revision:** January 27, 2011

### IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY:

Catalog Number: AC1001  
Product Name: EZ-BrdU Staining Kit  
Supplier: Phoenix Flow Systems, Inc.  
6790 Top Gun St. #1  
San Diego, CA 92121  
Telephone: (858) 453-5095  
(800) 886-3569  
Fax: (858) 453-2117  
Emergency Contact: Phoenix Flow Systems, Inc.  
(800) 886-3569 (within U.S.A.)  
(858) 453-5095 (outside U.S.A.)

### COMPOSITION/INFORMATION ON INGREDIENTS:

Chemical Name: EZ-BrdU IHC Staining Kit  
Hazardous Ingredients: Ethyl Alcohol  
Hydrochloric Acid  
PBS  
CAS Registry Numbers: 64-17-5 (Ethyl Alcohol, 70%)  
7647-01-0 (Hydrochloric Acid, 2N)

### HAZARDOUS IDENTIFICATION:

Acute Effects:

Ethyl Alcohol: Appearance: colorless clear liquid. Flash Point: 16.6 deg C. **Flammable liquid and vapor.** May cause central nervous system depression. Causes severe eye irritation. Causes respiratory tract irritation. Causes moderate skin irritation. This substance has caused adverse reproductive and fetal effects in humans. **Warning!** May cause liver, kidney and heart damage.

**Target Organs:** Kidneys, heart, central nervous system, liver.

Hydrochloric Acid: Very hazardous in case of skin contact (irritant), of eye contact (irritant). Hazardous in case of ingestion. Slightly hazardous in case of skin contact (corrosive, permeator), of eye contact (corrosive), of inhalation (lung sensitizer). Liquid or spray mist may produce tissue damage particularly on mucous membranes of eyes, mouth and respiratory tract. Skin contact may produce burns. Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

PBS: Material may cause irritation to the eyes, skin, mucous membranes, and the upper respiratory tract.

Chronic Effects:

Ethyl Alcohol: May cause reproductive and fetal effects. Laboratory experiments have resulted in mutagenic effects. Animal studies have reported the development of tumors. Prolonged exposure may cause liver, kidney, and heart damage.

Hydrochloric Acid: Slightly hazardous in case of skin contact (sensitizer). **CARCINOGENIC EFFECTS:** Classified 3 (Not classifiable for human.) by IARC [Hydrogen chloride]. **MUTAGENIC EFFECTS:** Not available. **TERATOGENIC EFFECTS:** Not available. **DEVELOPMENTAL TOXICITY:** Not available. The substance may be toxic to kidneys, liver, mucous membranes, upper respiratory tract, skin, eyes, and

teeth. Repeated or prolonged exposure to the substance can produce target organs damage. Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

#### **FIRST AID MEASURES:**

In cases of skin contact, wash immediately with soap and copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes and wash before wearing. Consult a physician. In cases of eye contact, flush immediately with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Consult a physician. In cases of inhalation, remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen and consult a physician. If breathing stops, give artificial respiration and consult a physician. In cases of ingestion, wash mouth out with water and consult the local poison center and a physician

#### **FIRE FIGHTING MEASURES:**

Extinguishing Media: Dry chemical powder, carbon dioxide, water spray, alcohol or polymer foam. Special Fire Fighting Procedures: Wear self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.

#### **ACCIDENTAL RELEASE MEASURES:**

Steps to be Taken if Material is Released or Spilled: Absorb material with suitable absorbent material. Place in a suitable container. Avoid raising dust. Hold for appropriate disposal. Wash spill site and ventilate area after material pickup is complete.

#### **HANDLING AND STORAGE:**

Store individual kit components according to label requirements. Hydrochloric acid is harmful and an irritant. May cause sensitization. Avoid direct skin contact with material. Avoid prolonged or repeated exposure. Lab should be equipped with a safety shower and an eye wash station. Wash thoroughly after handling material.

#### **EXPOSURE CONTROLS/PERSONAL PROTECTION:**

Protective Equipment: Wear suitable protective clothing, such as laboratory coat, gloves and chemical safety goggles.

#### **PHYSICAL AND CHEMICAL PROPERTIES:**

Kit Components:	ACN12	5m	Positive Control Cells in 70% EtOH
	ACB13	2ml	BrdU
	ACWB15	175ml	Wash Buffer, PBS.
	ACRB17	130ml	Rinse Buffer, PBS containing gelatin
	ACDB16	65ml	Denaturation Buffer, containing 2N HCl
	ACNB14	65ml	Neutralization Buffer
	ACFM20	325ul	Anti-BrdU (20X)
	ACPR18	32.5ml	Propidium Iodide/RNaseA Solution

#### **STABILITY AND REACTIVITY:**

Stability: Stable under normal handling procedures

#### **TOXICOLOGICAL INFORMATION:**

##### **Ethyl Alcohol:**

RTECS#:

CAS# 64-17-5: KQ6300000

CAS# 7732-18-5: ZC0110000

LD50/LC50:

CAS# 64-17-5:

Draize test, rabbit, eye: 500 mg Severe;

Draize test, rabbit, eye: 500 mg/24H Mild;  
Draize test, rabbit, skin: 20 mg/24H Moderate;  
Inhalation, mouse: LC50 = 39 gm/m<sup>3</sup>/4H;  
Inhalation, rat: LC50 = 20000 ppm/10H;  
Oral, mouse: LD50 = 3450 mg/kg;  
Oral, rabbit: LD50 = 6300 mg/kg;  
Oral, rat: LD50 = 9000 mg/kg;  
Oral, rat: LD50 = 7060 mg/kg;

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity:

CAS# 64-17-5:

ACGIH: A4 - Not Classifiable as a Human Carcinogen CAS# 7732-18-5: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.

Epidemiology: Ethanol has been shown to produce fetotoxicity in the embryo or fetus of laboratory animals. Prenatal exposure to ethanol is associated with a distinct pattern of congenital malformations that have collectively been termed the "fetal alcohol syndrome".

Teratogenicity: Oral, Human - woman: TDLo = 41 gm/kg (female 41 week(s) after conception) Effects on Newborn - Apgar score (human only) and Effects on Newborn - other neonatal measures or effects and Effects on Newborn - drug dependence.

Reproductive Effects: Intrauterine, Human - woman: TDLo = 200 mg/kg (female 5 day(s) pre-mating)

Fertility - female fertility index (e.g. # females pregnant per # sperm positive females; # females pregnant per # females mated).

Neurotoxicity: No information available.

Mutagenicity: DNA Inhibition: Human, Lymphocyte = 220 mmol/L.; Cytogenetic Analysis: Human, Lymphocyte = 1160 gm/L.; Cytogenetic Analysis: Human, Fibroblast = 12000 ppm.; Cytogenetic Analysis: Human, Leukocyte = 1 pph/72H gm/L.; Cytogenetic Analysis: Human, Fibroblast = 12000 ppm.; Cytogenetic Analysis: Human, Leukocyte = 1 pph/72H (Continuous).; Sister Chromatid Exchange: Human, Lymphocyte = 500 ppm/72H (Continuous).

Other Studies: Standard Draize Test(Skin, rabbit) = 20 mg/24H (Moderate) Standard Draize Test: Administration into the eye (rabbit) = 500 mg (Severe).

Section 12 - Ecological Information

Ecotoxicity: Fish: Rainbow trout: LC50 = 12900-15300 mg/L; 96 Hr; Flow-through @ 24-24.3°C Rainbow trout: LC50 = 11200 mg/L; 24 Hr; Fingerling (Unspecified) via: Phytobacterium phosphoreum: EC50 = 34900 mg/L; 5-30 min; Microtox test When spilled on land it is apt to volatilize, biodegrade, and leach into the ground water, but no data on the rates of these processes could be found. Its fate in ground water is unknown. When released into water it will volatilize and probably biodegrade. It would not be expected to adsorb to sediment or bioconcentrate in fish.

Environmental: When released to the atmosphere it will photodegrade in hours (polluted urban atmosphere) to an estimated range of 4 to 6 days in less polluted areas. Rainout should be significant.

Physical: No information available.

Other: No information available.

Hazard Symbols:

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Risk Phrases:

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Exposure Limits

CAS# 64-17-5: OEL-AUSTRALIA:TWA 1000 ppm (1900 mg/m<sup>3</sup>) OEL-BELGIUM:TWA 1000 ppm (1880 mg/m<sup>3</sup>) OEL-CZECHOSLOVAKIA:TWA 1000 mg/m<sup>3</sup>;STEL 5000 mg/m<sup>3</sup> OEL-DENMARK:TWA 1000 ppm (1900 mg/m<sup>3</sup>) OEL-FINLAND:TWA 1000 ppm (1900 mg/m<sup>3</sup>);STEL 1250 ppm (2400 mg/m<sup>3</sup>) OEL-FRANCE:TWA 1000 ppm (1900 mg/m<sup>3</sup>);STEL 5000 ppm OEL-GERMANY:TWA 1000 ppm (1900 mg/m<sup>3</sup>) OEL-HUNGARY:TWA 1000 mg/m<sup>3</sup>;STEL 3000 mg/m<sup>3</sup> OEL-THE NETHERLANDS:TWA 1000 ppm (1900 mg/m<sup>3</sup>) OEL-THE PHILIPPINES:TWA 1000 ppm (1900 mg/m<sup>3</sup>) OEL-POLAND :TWA 1000 mg/m<sup>3</sup> OEL-RUSSIA:STEL 1000 mg/m<sup>3</sup> OEL-SWEDEN:TWA 1000 ppm (1900 mg/m<sup>3</sup>) OEL-SWITZERLAND:TWA 1000 ppm (1900 mg/m<sup>3</sup>) OEL-THAILAND:TWA 1000 ppm (1900 mg/m<sup>3</sup>) OEL-TURKEY:TWA 1000 ppm (1900 mg/m<sup>3</sup>) OEL-UNITED KINGDOM:TWA 1000 ppm (1900 mg/m<sup>3</sup>) JAN9

OEL IN BULGARIA, COLOMBIA , JORDAN, KOREA check ACGIH TLV OEL IN NEW ZEALAND,  
SINGAPORE, VIETNA M check ACGI TLV

#### Section 16 - Additional Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages.