Safety Data Sheet

Revision Date: 29 September 2015

Product Name: DetectX® Direct cAMP Enzyme Immunoassay Kit

Section 1: Identification

Product Name:	DetectX® Direct cAMP Enzyme Immunoassay Kit
Also known as:	Catalog Numbers K019-H1 or K019-H5, cAMP EIA
Manufacturer / Supplier	Arbor Assays 1514 Eisenhower Place Ann Arbor, MI 48108-3284 Telephone 734-677-1774 (U.S.) U.S.A. Fax 734-677-6860 (U.S.)
Recommended Use	For Research Use Only

Section 2: Hazard(s) Identification

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

Acetic Anhydride: Flammable Liquid, Category 3
Acute toxicity, Category 4
Skin corrosion, Category 1B

Hydrochloric Acid: Skin Irritant, Class 2
Eye Irritant, Class 2

Triethylamine: Flammable Liquid, Category 2
Acute toxicity, Category 4
Skin corrosion, Category 1A

Hazard statements: Highly flammable liquid and vapor.
Harmful if inhaled, in contact with skin, if swallowed.
Causes severe skin burns and serious eye damage.

Precautionary statements: Wash hands thoroughly after handling.
Wear protective gloves, clothing, and eye/face protection.
Keep away from heat, sparks, open flame.
The small quantities (< 100 mL) supplied in our product are unlikely to cause sever or immediate health effects. Use only as directed and in accordance with safe laboratory practices.

Section 3: Information on Ingredients

Components:
cAMP Standard (C066-125UL, C066-625UL)
cAMP Antibody (C064-3ML, C064-13ML)
cAMP Conjugate (C065-3ML, C065-13ML)
Acetic Anhydride (X071-2ML)
Triethylamine (X072-4ML)
Plate Primer (X073-25ML)
Sample Diluent Concentrate (X074-12ML, X074-60ML)
Wash Buffer Concentrate (X007-30ML, X007-125ML)
TMB Substrate (X019-11ML, X019-55ML)
Stop Solution (X020-5ML, X020-25ML)

Description:

	Chemical Name	CAS No.	Percent
Acetic Anhydride, X071-2ML:	Acetic Anhydride	108-24-7	> 97%
Sample Diluent Concentrate, X074:	Hydrochloric Acid	7647-01-0	5.84%
Stop Solution, X020:	Hydrochloric Acid	7647-01-0	3.65%
Triethylamine, X072-4ML:	Triethylamine	121-44-8	> 99%

Additional components of the kit are non-hazardous or the specific chemical identity and/or exact percentage (concentration) of composition have been withheld as a trade secret.

Section 4: First-Aid Measures

Inhalation	If inhaled, remove to fresh air. Seek medical attention if any respiratory symptoms develop.
Skin Contact	Rinse with copious amounts of water and wash thoroughly with soap and water for 15 minutes. Remove contaminated clothing and shoes. If irritation or discomfort develops seek medical attention.
Eye Contact	Rinse eyes with running water, checking for and removing contact lenses. Continue for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Seek medical attention.
Ingestion	If swallowed, wash out mouth with water if person is conscious. Seek medical attention.

Section 5: Fire-Fighting Measures

Extinguishing Media	Suitable: Carbon Dioxide, dry chemical powder, or appropriate foam.
Firefighting	Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Acetic Anhydride- Emits irritating and highly toxic gases. Water reactive. Will react with water and release flammable toxic gases. Vapor may form explosive mixture with air and can travel to ignition source, flashing back. Hydrochloric Acid- Emits toxic fumes under fires conditions. Triethylamine- Emits irritating and highly toxic gases. Vapors may cause flash fire, travelling to an ignition source, flashing back. Vapors can spread along ground and collect in low or confined areas.

Section 6: Accidental Release Measures

Cleanup Procedures	Wear appropriate protective clothing. Ventilate area. Contain spill to prevent migration. Absorb on sand or vermiculite, place in sealed container for disposal. Wash area of spill with soap and water.
Waste Disposal	Dispose of in accordance with federal, state, and local regulations.

Section 7: Handling and Storage

Handling	Avoid getting components of this kit on you or in you. Do not breathe vapor. Always wear appropriate protective clothing. Always wash hands and other exposed areas thoroughly after using this kit. Do not eat or drink while using this kit. Qualified and experienced professionals should only handle this kit.
Storage	Store according to the package insert instructions.

Section 8: Exposure Controls / Personal Protection

Engineering Controls	No special engineering controls are required when working with this kit. Use with adequate ventilation. Work with chemicals in fume hood.
Protective Equipment	Safety glasses are recommended to prevent eye contact. Chemical resistant gloves and a lab coat should be worn to prevent skin contact.

Section 9: Physical and Chemical Properties

Characteristic	Acetic Anhydride, X071-2ML	Hydrochloric Acid Stop Solution, X020 Sample Diluent Conc., X074	Triethylamine, X072-4ML
Appearance	Colorless liquid	Colorless liquid	Colorless liquid
Odor	Strong pungent	Pungent	Fishy or ammonia
Boiling Point	140˚C	100˚C	88.8˚C
Melting Point	-73˚C	0˚C	-115.3˚C
Density	1.0820 g/mL	Same as water	0.73 g/mL
Vapor Pressure	4.0mm @ 20˚C	Same as water	51.7mm @ 25˚C
Solubility in Water	Decomposes	Complete	Slight
pH	3.0	0.1	12.4

Section 10: Stability and Reactivity

Stability	Acetic Anhydride: Stable, may decompose if exposed to moist air. Readily hydrolyzed. Hydrochloric Acid: This material is stable until the expiration date on the kit if stored as directed. Triethylamine: Stable under normal temperatures and pressures. Oxidizes when exposed to air.
Hazardous Decomposition Products	Acetic Anhydride: Carbon monoxide, carbon dioxide. Hydrochloric Acid: Hydrogen chloride gas. Triethylamine: Nitrogen oxides, carbon monoxide, carbon dioxide, amines.
Incompatibilities	Acetic Anhydride: Metals, strong oxidizing agents, reducing agents, bases, alcohols, amines, ammonia, nitrates, nitric acid, permanganates, phenols, sodium hydroxide, hydrogen peroxide, chromium trioxide, potassium hydroxide perchloric acid. Hydrochloric Acid: Cyanides, sulfides, sulfites, and formaldehyde. Triethylamine: Strong oxidizing agents, strong acids, halogenated hydrocarbons, some metals.

Section 11: Toxicological Information

Route of Exposure	
Skin Contact	May cause skin irritation, burning sensation.
Skin Absorption	May be harmful if absorbed through the skin. Acetic Anhydride: Skin-Rabbit LD50 4 mL/kg Triethylamine: Skin-rabbit 10 mg/24H open MLD.
Eye Contact	May cause eye irritation. Triethylamine: May cause visual disturbances.
Inhalation	May be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled. Acetic Anhydride: Inhalation-rat LC50 1000 ppm/4H Triethylamine: Extremely destructive to mucous membranes and upper respirator tract. Inhalation-mammal LC50 6 g/L, human TCL0 6500 ug/L/4H
Ingestion	Harmful if swallowed. Triethylamine: Oral-rat LD50 460 mg/kg
Symptoms of Exposure	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information

Avoid release into the environment.
Triethylamine: Fish: 48h LC50:50.7 mg/L (Oryzias latipes); 96h LC50:24 mg/L (Oryzias latipes). A BCF of < 5 for carp suggests the potential for bioconcentration in aquatic organisms is low.

Section 13: Disposal Considerations

Dispose of waste materials, unused components and contaminated packaging in compliance with country, state, district and local regulations. If unsure of the applicable requirements, contact the authorities for information.

Section 14: Transport Information

U.S. and Canadian Transportation; DOT

Proper Shipping Name	Chemical Kits
UN Identification Number	1789
Class and Description	8, Miscellaneous
Packing Group	N/A
Hazard Label	Class 8

International Air Transportation (IATA)

Proper Shipping Name	Chemical Kits
UN Identification Number	1789
Class and Description	8, Miscellaneous
Packing Group	III
Hazard Label	Class 8

Section 15: Regulatory Information

Product related information

The product is not subject to classification according to the sources of literature known to us.

Observe general safety regulations when handling chemicals.

Safety Statements

Avoid release to the environment.

Risk Statements

Harmful if swallowed.

U.S. Regulatory Information

Sara Listed: Yes. (Triethylamine, X072-4ML).

Section 16: Other Information

Disclaimer: For Research Use Only. Not for diagnostic, therapeutic, or other uses.

Further Information: The information contained in this document is accurate to the best of our knowledge and is provided in good faith. This document is intended only as a guide to the appropriate precautionary handling of the materials contained in this kit by properly trained personnel using this kit. Final determination or suitability of any materials is the sole responsibility of the user. Arbor Assays shall not be held liable for any damage resulting from use or handling of this product.