MATERIAL SAFETY DATA SHEET

SECTION 1- SUBSTANCE IDENTITY AND COMPANY INFORMATION

Identification of the substance/preparation

Product Name	Phosphodiesterase 4D (PDE4D) ACTOne™ Stable Cell Line
Product Catalog	CL-02-PDE4D

Company/Undertaking Identification

Company	eEnzyme LLC
Address	401 Professional Drive, Suite 160 Gaithersburg, MD 20879, USA
Telephone Number	+1-240-683-5851
24 hour Emergency Response	800-919-0755 240-683-5853

SECTION 2- HAZARDS IDENTIFICATION

HMIS Rating	Health: 0	Flammability:0	Reactivity:0
NFPA Rating	Health: 0	Flammability:0	Reactivity:0

This substance is not hazardous as defined by OSHA 29CFR 1910.1200 however this product should be handled according to good lab practices, with proper personal protective equipment, proper engineering controls and within the parameters of the purchaser's safety program.

Health Hazards

For Biosafety Level 1 Cell Cultures

Handle as a potentially biohazardous material under at least Biosafety Level 1 containment.
This cell line is not known to cause disease in healthy adult humans. These cells have **NOT** been screened for Hepatitis B, human immunodeficiency viruses or other adventitious agents, unless otherwise reported on the Certificate of Analysis. Regardless of results reported on the Certificate of Analysis Universal Precautions according to 29 CFR 1910.1030 should be followed at all times when manipulating these cell lines.

See next page for Biosafety Level 2 cell cultures.

For Biosafety Level 2 Cell Cultures
Handle as a potentially biohazardous material under at least Biosafety Level 2 containment.
These cell lines are associated with human disease, hazards include: percutaneous injury, ingestion, mucous membrane exposure (U.S. Government Publication **Biosafety in Microbiological and Biomedical**

Laboratories). These cells have **NOT** been screened for Hepatitis B, human immunodeficiency viruses or other adventitious agents, unless otherwise reported on the Certificate of Analysis. Regardless of results reported on the Certificate of Analysis Universal Precautions according to 29 CFR 1910.1030 should be followed at all times when manipulating these cell lines.

SECTION 3- COMPOSITION/INFORMATION ON INGREDIENTS

Either frozen or growing cells shipped in liquid cell culture medium (a mixture of components that may include, but is not limited to: inorganic salts, vitamins, amino acids, carbohydrates and other nutrients dissolved in water). Frozen Cultures may also contain a 5%-10% solution of Dimethyl sulfoxide as a cryoprotectant.

SECTION 4- FIRST AID MEASURES

Skin contact	Wash off immediately with plenty of water. If symptoms persist, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician.
Ingestion	Never give anything by mouth to an unconscious person. If symptoms persist, call a Physician. Do not induce vomiting without medical advice.
Inhalation	Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.
Notes to physician	Treat symptomatically.

SECTION 5- FIRE FIGHTING MEASURES

Suitable extinguishing media	Water spray. Carbon dioxide (CO2). Foam. Dry chemical.
Target Organ Effects	No known effects under normal use conditions.
Special protective equipment for firefighters	Wear self-contained breathing apparatus and protective suit.

SECTION 6- ACCIDENTAL RELEASE MEASURES

Personal precautions	Use personal protective equipment.
HMIS Methods for cleaning up	Soak up with inert absorbent material.

SECTION 7- HANDLING AND STORAGE

Handling	Always wear recommended Personal Protective Equipment.
Storage	Keep in properly labelled containers.

SECTION 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Use Personal Protective Equipment	Including Eye Protection, Chemical Resistant Gloves, and appropriate clothing to prevent skin exposure. In addition, a Respiratory program that complies with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.
Engineering Controls	The use and storage of this material requires user to maintain and make available appropriate eyewash and safety shower facilities. Use fume hood or other appropriate ventilation method to keep airborne concentrations as low as possible.
Exposure Limits	No exposure limits for this material have been established by ACGIH, NIOSH, or OSHA.

SECTION 9- PHYSICAL AND CHEMICAL PROPERTIES

General Information

Form	Liquid	
Appearance	No information available	
Odor	No information available	
Boiling Point/Range	°C no data available	°F no data available
Melting Point/Range	°C no data available	°F no data available
Flash Point	°C no data available	°F no data available
Autoignition temperature	°C no data available	°F no data available
Oxidizing properties	No information available	
Water solubility	Soluble	

SECTION 10- STABILITY AND REACTIVITY

Stability	Stable.
Materials to avoid	No information available.
Hazardous decomposition Products	No information available.
Polymerization	Hazardous polymerisation does not occur.

SECTION 11- TOXICOLOGICAL INFORMATION

Acute toxicity

Chemical Name	LD50 (oral, rat/mouse)	LD50 (dermal, rat/rabbit)	LC50 (inhalation, rat/mouse)
dimethylsulfoxide	14500 mg/kg Oral LD50	no data available	no data available

Principle Routes of Exposure/ Potential Health effects

Eyes May cause eye irritation with susceptible persons.
Skin Components of the product may be absorbed into the body through the skin. May cause skin irritation in susceptible persons.
Inhalation May cause irritation of respiratory tract.
Ingestion May be harmful if swallowed.
Carcinogenic effects No information available.
Mutagenic effects No information available.
Reproductive toxicity No information available.
Sensitization No information available.

SECTION 12- ECOLOGICAL INFORMATION

Ecotoxicity effects Daphnia magna. (Water flea)
Mobility No information available.
Biodegradation Inherently biodegradable.
Bioaccumulation Does not bioaccumulate.

SECTION 13- DISPOSAL CONSIDERATIONS

Decontaminate all wastes before disposal (steam sterilization, chemical disinfection, and/or incineration). Dispose of in accordance with applicable regulations.

SECTION 14- TRANSPORT INFORMATION

Proper shipping name Not classified as dangerous in the meaning of transport regulations.
Hazard class None
Subsidiary Class Eyes None
Packing group None
UN-No None

SECTION 15- REGULATORY INFORMATION

Component	TSCA
Dimethylsulfoxide 67-68-5 (7-13)	Listed

U.S. Federal Regulations

SARA 313
This product is not regulated bySARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contains HAPs.

U.S. State Regulations

Chemical Name	Massachusetts - RTK	New Jersey - RTK	Pennsylvania - RTK	Illinois - RTK	Rhode Island - RTK
dimethylsulfoxide	-	-	-	-	-

California Proposition 65
This product does not contain chemicals listed under Proposition 65.

WHMIS Hazard Class
Non-controlled

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

SECTION 16- OTHER INFORMATION

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unkown hazards and should be used with caution.Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein.

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