

# SAFETY DATA SHEET

Cat# K100-100 HDAC Activity Colorimetric Assay Kit

SDS DATE: Mar 31, 2015

## SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** HDAC Activity Colorimetric Assay Kit  
**PRODUCT CODES:** Cat#K100-100  
**MANUFACTURER:** LifeSpan BioSciences, Inc.  
**ADDRESS:** 2401 - 4th Avenue, Suite 900, Seattle, WA 98121  
**PHONE:** 1-206-464-1554  
**FAX:** 1-206-577-4565  
**CHEMTEL:** 1-800-255-3924 (United States, Canada, Puerto Rico, and the U.S. Virgin Islands)  
**EMERGENCY PHONES:** 1-813-248-0585 (Other locations)  
**CHEMTEL CONTRACT ID:** MIS2559905



## SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Component	Description	Volume	Safety Information
HDAC Substrate	In DMSO	500 µl	See below
10X HDAC Assay Buffer	Proprietary Buffer	1.0 ml	No hazards
Lysine Developer	Contains Trypsin >1%	1.0 ml	See below
HDAC Inhibitor (Trichostatin A, 1 mM)	In DMSO	10 µl	See below
HeLa Nuclear Extract (5 mg/ml)	Liquid	50 µl	No hazards
Deacetylated Standard (10 mM)	In DMSO	20 µl	See below

**NOTE:** The safety data shown below is based on pure ingredients: The amounts in this kit are far less.

## SECTION 3: HAZARDS IDENTIFICATION

Component	CAS Number	EC-No.	Molecular Weight	Chemical Formula
DMSO	67-68-5	200-664-3	78.13	C <sub>2</sub> H <sub>6</sub> OS
Trypsin	9002-07-7	232-650-8	--	--

### DMSO:

#### Emergency Overview

**OSHA Hazards:** Combustible liquid, Target organ effect

**Target Organs:** Eyes, Skin

**GHS Classification:** Flammable liquids (Category 4)

**GHS Label elements, including precautionary statements**

**Pictogram:** none

**Signal word:** Warning

**Hazard statement(s):** H227 Combustible liquid

**Precautionary statement(s):** none

#### HMIS Classification

Health hazard: 0

Chronic Health Hazard: \*

Flammability: 2

Physical hazards: 0

#### NFPA Rating

Health hazard: 0

Fire: 2

Reactivity Hazard: 0

#### Potential Health Effects

**Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation.

**Skin:** May be harmful if absorbed through skin. May cause skin irritation.

**Eyes:** May cause eye irritation.

**Ingestion:** May be harmful if swallowed.

**Aggravated Medical Condition:** Avoid contact w/DMSO solutions containing toxic materials or materials with unknown toxicological properties. DMSO is readily absorbed through skin and may carry such materials into the body.

### Trypsin:

#### Emergency Overview

**OSHA Hazards:** Target organ effect, Skin and respiratory sensitizer, Irritant

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Target Organs: Lungs

GHS Classification: Skin irritation (Category 2)  
Eye irritation (Category 2A)  
Respiratory sensitization (Category 1)  
Skin sensitization (Category 1)  
Specific target organ toxicity – single exposure (Category 3)

GHS Label elements, including precautionary statements

Pictogram:



Signal word:

Danger

Hazard statement(s):

H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
H335 May cause respiratory irritation.

Precautionary statement(s):

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/ eye protection/ face protection.  
P285 In case of inadequate ventilation wear respiratory protection.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P321 Specific treatment (see supplemental first aid instructions on this label).  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician.  
P362 Take off contaminated clothing and wash before reuse.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health hazard: 2

Chronic health hazard: \*

Flammability: 0

Physical hazards: 0

NFPA Rating

Health hazard: 2

Fire: 0

Reactivity Hazard: 0

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## SECTION 4: FIRST AID MEASURES

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**General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact:** Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed:** DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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## SECTION 5: FIRE-FIGHTING MEASURES

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### DMSO:

**Suitable extinguishing media:** For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

**Special protective equipment for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

**Hazardous combustion products:** Hazardous combustion products formed under fire conditions – no data available.

**Further information:** Use water spray to cool unopened containers.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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**Personal precautions:** Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

**Environmental precautions:** Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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Methods for cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

## SECTION 7: HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Use explosion-proof equipment. Keep away from sources of ignition (no smoking). Take measures to prevent the buildup of electrostatic charge.

### Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place.

Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature: -80 °C

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### DMSO:

Components	CAS-No.	Value	Control parameters	Basis
Dimethyl sulfoxide	67-68-5	TWA	250 ppm	USA. Workplace Environmental Exposure Levels (WEEL)

### Trypsin:

#### Personal protective equipment

##### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

##### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### Eye protection

Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin and body protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	DMSO	Trypsin
Appearance:	Clear liquid	liquid
pH:	No data available	No data available
Water Solubility:	Completely miscible	No data available
Other Solubility:	No data available	No data available
Boiling Point (°C)	189 °C (372 °F)	No data available
Melting Point (°C)	16-19 °C (61-66 °F)	No data available
Flash Point (°C)	87 °C (189 °F)	No data available
Ignition Temp. (°C)	301 °C (574 °F)	No data available
Density:	1.1 g/ml	No data available

## SECTION 10: STABILITY AND REACTIVITY

Property	DMSO	Trypsin
Chemical Stability:	Stable under recommended storage conditions	
Conditions to Avoid:	Heat, flames, sparks	No data available
Materials to Avoid:	Acid chlorides, phosphorus halides, strong acids, strong oxidizing agents, strong reducing agents	Strong oxidizing agents
Hazardous decomposition products:	Carbon oxides, sulfur oxides	No data available

## SECTION 11: TOXICOLOGICAL INFORMATION

### DMSO:

Acute toxicity: LD50 Oral - rat - 14,500 mg/kg; LC50 Inhalation - rat - 4 h - 40250 ppm; LD50 Dermal - rabbit - > 5,000 mg/kg

Irritation and corrosion: Skin - rabbit - Mild skin irritation - 24 h; Eyes - rabbit - Mild eye irritation

Sensitisation: no data available

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## Chronic exposure

### Carcinogenicity: rat - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.

### Carcinogenicity: mouse - Oral

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Leukaemia Skin and Appendages: Other: Tumors.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Genotoxicity in vitro - mouse – lymphocyte; Cytogenetic analysis

Genotoxicity in vitro - mouse – lymphocyte; Mutation in mammalian somatic cells.

Genotoxicity in vivo - rat – Intraperitoneal; Cytogenetic analysis

Genotoxicity in vivo - mouse – Intraperitoneal; DNA damage

Developmental Toxicity - mouse – Intraperitoneal; Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific

Developmental Abnormalities: Musculoskeletal system.; Reproductive toxicity - rat – Intraperitoneal; Effects on Fertility: Abortion.

**Reproductive toxicity:** - rat – Intraperitoneal; Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

**Reproductive toxicity** - rat – Subcutaneous; Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants); Effects on Fertility: Litter size (e.g., # fetuses per litter; measured before birth).

**Reproductive toxicity** - mouse – Oral; Effects on Fertility: Pre-implantation mortality (e.g., reduction in number of implants per female; total number of implants per corpora lutea). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

**Specific Developmental Abnormalities:** Musculoskeletal system.

**Additional Information:** RTECS: PV6210000

## Trypsin:

**Acute toxicity:** LD50 Oral – rat – >5,000 mg/kg

**Skin corrosion/irritation:** no data available

**Serious eye damage/eye irritation:** no data available

**Respiratory or skin sensitization:** May cause allergic respiratory and skin reactions.

**Germ cell mutagenicity:** no data available

### Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity:** no data available

**Teratogenicity:** no data available

**Specific target organ toxicity – single exposure (GHS):** no data available

**Specific target organ toxicity – repeated exposure (GHS):** no data available

**Aspiration hazard:** no data available

**Signs and Symptoms of Exposure:** To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional information:** RTECS: no data available

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## SECTION 12: ECOLOGICAL INFORMATION

### DMSO:

**Elimination information (persistence and degradability):** no data available

**Ecotoxicity effects:** Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 34,000 mg/l - 96 h; LC50 - Oncorhynchus mykiss (rainbow trout) - 35,000 mg/l - 96 h; Toxicity to daphnia and other aquatic invertebrates.; EC50 - Daphnia pulex (Water flea) - 27,500 mg/l

Toxicity to algae EC50 - Lepomis macrochirus (Bluegill) - > 400,000 mg/l - 96 h

**Further information on ecology:** no data available

### Trypsin:

**Persistence and degradability:** no data available

**Toxicity:** no data available

**Bioaccumulative potential:** no data available

**Mobility in soil:** no data available

**PBT and vPvB assessment:** no data available

**Other adverse effects:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life. May be harmful to aquatic organisms due to the shift of the pH. Avoid release to the environment.

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## SECTION 13: DISPOSAL CONSIDERATIONS

**Product:** Offer surplus and non-recyclable solutions to a licensed disposal company. Contact licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging:** Dispose of as unused product.

## SECTION 14: TRANSPORT INFORMATION

**Trypsin:**

**DOT (US):** Not dangerous goods.

**IMDG:** Not dangerous goods.

**IATA:** Not dangerous goods.

**DMSO:**

**DOT (US):** UN-Number: 1993 Class: CBL Packing group: III; Proper shipping name: Combustible liquid, n.o.s. (Dimethyl sulfoxide); Marine pollutant: No; Poison Inhalation Hazard: No

**IMDG:** Not dangerous goods.

**IATA:** Not dangerous goods.

## SECTION 15: REGULATORY INFORMATION

**SARA 302 Components:** SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components:** SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**SARA 311/312 Hazards:** Trypsin; Acute Health Hazard, Chronic Health Hazard

DMSO; Fire Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components:** No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components:**

Dimethyl sulfoxide, CAS-No. 67-68-5

Trypsin, CAS-No. 9002-07-7;

**New Jersey Right To Know Components:**

Dimethyl sulfoxide, CAS-No. 67-68-5

Trypsin, CAS-No. 9002-07-7;

**California Prop. 65 Components:** This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

### EU regulations

Component	Risk Phrases	Safety Phrases
DMSO	R10, R36/37/38	S24/25, S36/37/39, S45
Trypsin	--	--

## SECTION 16: OTHER INFORMATION:

**OTHER INFORMATION:**

**PREPARATION INFORMATION:**

**DISCLAIMER:**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. BioVision, Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.