

SAFETY DATA SHEET

SDS DATE: August 24, 2021



SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Recombinant Human SIRT 1
PRODUCT CODES: Cat# P1675-10, -50
RESTRICTIONS ON USE: For laboratory research purposes. Not for drug or household use.
MANUFACTURER: BioVision, Inc.
ADDRESS: 155 S. Milpitas Boulevard, Milpitas, CA 95035
EMERGENCY PHONE: 858-373-8066
OTHER CALLS: 408-493-1800
FAX PHONE: 408-493-1801

SECTION 2: HAZARDS IDENTIFICATION

Product Name	Description	Amount	Safety Information
Recombinant Human SIRT 1	Contains DTT, PMSF and Glycerol	P1675-10: 10 µg P1675-50: 50 µg	See Below

DTT:

Emergency Overview

OSHA Hazards: Target Organ Effect, Toxic by ingestion, Irritant

Target Organs: Central nervous system

GHS Classification: Acute toxicity, Oral (Category 5)

Skin irritation (Category 2)

Eye irritation (Category 2A)

GHS Label elements, including precautionary statements



Pictogram:

Signal word: Warning

Hazard statement(s): H303 May be harmful if swallowed
H315 Causes skin irritation
H319 Causes serious eye irritation

Precautionary statement(s): P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard: 2

Chronic Health Hazard: *

Flammability: 0

Physical hazards: 0

NFPA Rating

Health hazard: 2

Fire: 0

Reactivity Hazard: 0

Potential Health Effects

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Eyes: Causes eye irritation.

Ingestion: Toxic if swallowed.

PMSF (Phenylmethanesulfonyl fluoride):

Emergency Overview

GHS Classification: Acute toxicity, Oral (Category 3), H301

Skin corrosion (Category 1B), H314

Serious eye damage (Category 1), H318

GHS Label elements, including precautionary statements

Pictogram:



Signal word:

Danger

SAFETY DATA SHEET

SDS DATE: August 24, 2021



Hazard statement(s): H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage

Precautionary statement(s): P260 Do not breathe dust or mist.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health hazard:
Chronic Health Hazard:
Flammability
Physical hazards:

NFPA Rating

Health hazard:
Fire
Reactivity Hazard:

Potential Health Effects

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.
Skin: May be harmful if absorbed through skin. Causes skin irritation.
Eyes: Causes eye irritation.
Ingestion: Toxic if swallowed

Glycerol:

Emergency Overview

OSHA Hazards: Target Organ Effect

Target Organs: Kidney

GHS Classification: Skin irritation (Category 3)

Eye irritation (Category 2B)

GHS Label elements, including precautionary statements

Pictogram: none

Signal word: none

Hazard statement(s): none

Precautionary statement(s): P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

HMIS Classification

Health hazard: 1
Chronic Health Hazard: *
Flammability: 1
Physical hazards: 0

NFPA Rating

Health hazard: 1
Fire: 1
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.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	EC-No.	Molecular Weight	Chemical Formula	Concentration
DTT	3483-12-3	222-468-7	154.25	C ₄ H ₁₀ O ₂ S ₂	<0.1%
PMSF	329-98-6	206-350-2	174.19	C ₇ H ₇ FO ₂ S	<0.1%
Glycerol	56-81-5	200-289-5	92.09	HOCH ₂ CH(OH)CH ₂ OH	≤35%

SECTION 4: FIRST AID MEASURES

DTT:

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.

SAFETY DATA SHEET



SDS DATE: August 24, 2021

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: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5: FIRE-FIGHTING MEASURES

DTT:

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters: Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products: Hazardous decomposition products formed under fire conditions— carbon oxides, sulfur oxides, hydrogen sulfide gas.

Conditions of flammability: Not flammable or combustible.

PMSF (Phenylmethanesulfonyl fluoride):

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture Carbon oxides, Sulphur oxides, Hydrogen fluoride

Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.

Further information Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas.

Glycerol:

Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special hazards arising from the substance or mixture Carbon oxides

Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.

Further information No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Environmental precautions: Do not let product enter drains.

Methods for cleaning up: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7: HANDLING AND STORAGE

DTT, Glycerol:

Precautions for safe handling Avoid contact with skin and eyes. Avoid inhalation of vapor or mist.

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: -20 °C. Air sensitive. Store under inert gas.

PMSF (Phenylmethanesulfonyl fluoride):

Precautions for safe handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place. Moisture sensitive. Storage class (TRGS 510): 6.1B: Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

DTT:

Contains no substances with occupational exposure limit values.

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 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: Chemical safety goggles

Hygiene measures: General industrial hygiene practice.

PMSF (Phenylmethanesulfonyl fluoride):

Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values. Hazardous components without workplace control parameters

Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

SAFETY DATA SHEET

SDS DATE: August 24, 2021



Personal protective equipment

Eye/face 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 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.

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.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) 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).

Control of environmental exposure

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

Glycerol:

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

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

Skin 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.

Body Protection

Impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

No special environmental precautions required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	DTT	PMSF	Glycerol
Appearance:	Clear liquid	Crystalline solid	Clear liquid
pH:	3.0-5.0	No data available	5.5-8
Water Solubility:	High	No data available	Soluble
Other Solubility:	No data available	No data available	No data available
Boiling Point (°C):	No data available	No data available	182 °C (360 °F)
Melting Point (°C):	No data available	92 °C (198 °F)	20 °C (68 °F)
Flash Point (°C):	No data available	No data available	160 °C (320 °F)
Ignition Temperature (°C):	No data available	No data available	370 °C (698 °F)
Density	No data available	No data available	1.25 g/ml

SECTION 10: STABILITY AND REACTIVITY

Property	DTT	PMSF	Glycerol
Chemical stability	Stable under recommended storage conditions		
Conditions to avoid:	No data available	Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas. Exposure to moisture	No data available
Materials to avoid:	Bases, Oxidizing agents, Reducing agents, Alkali metals	No data available	Strong bases, strong oxidizing agents
Hazardous decomposition products:	Carbon oxides, sulfur oxides, hydrogen sulfide gas	Carbon oxides, Sulphur oxides, Hydrogen fluoride	Carbon oxides

SECTION 11: TOXICOLOGICAL INFORMATION

SAFETY DATA SHEET

SDS DATE: August 24, 2021

DTT

Acute toxicity: no data available

Irritation and corrosion: no data available

Sensitization: no data available

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

Potential Health Effects

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Eyes: Causes eye irritation.

Ingestion: Toxic if swallowed.

PMSF (Phenylmethanesulfonyl fluoride):

Acute toxicity LD50 Oral - Mouse - 200 mg/kg Inhalation: No data available Dermal: No data available

Skin corrosion/irritation No data available

Serious eye damage/eye irritation No data available

Respiratory or skin sensitization No data available

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.

Specific target organ toxicity - single exposure No data available

Specific target organ toxicity - repeated exposure No data available

Aspiration hazard No data available

Additional Information RTECS: XT8040000

Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

Liver - Irregularities - Based on Human Evid

Glycerol:

Acute toxicity: LD50 Dermal – rabbit – >10,000 mg/kg

Irritation and corrosion: no data available

Sensitization: no data available

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

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.

Synergistic effects: 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: MA8050000

SECTION 12: ECOLOGICAL INFORMATION

DTT

SAFETY DATA SHEET



SDS DATE: August 24, 2021

Elimination information (persistence and degradability): no data available

Ecotoxicity effects: no data available

Further information on ecology: no data available

PMSF (Phenylmethanesulfonyl fluoride):

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: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: no data available

Glycerol:

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: no data available

SECTION 13: DISPOSAL CONSIDERATIONS

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a 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

DTT:

DOT (US): Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

PMSF (Phenylmethanesulfonyl fluoride):

DOT (US): UN number: 2928 class: 6.1 (8) Packing group: II Proper shipping name: Toxic solids, corrosive, organic, n.o.s. (α -Toluenesulphonyl fluoride)

Reportable Quantity (RQ): Poison Inhalation Hazard: No

IMDG: UN number: 2928 Class: 6.1 (8) Packing group: II EMS-No: F-A, S-B

Proper shipping name: TOXIC SOLID, CORROSIVE, ORGANIC, N.O.S. (α -Toluenesulphonyl fluoride)

IATA: UN number: 2928 Class: 6.1 (8) Packing group: II

Proper shipping name: Toxic solid, corrosive, organic, n.o.s. (α -Toluenesulphonyl fluoride)

Glycerol:

DOT (US): Not dangerous goods.

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: DTT: Acute Health Hazard, Chronic Health Hazard; Glycerol: Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components: Glycerol, CAS-No. 56-81-5; Revision Date: 2007-03-01

Pennsylvania Right To Know Components: DTT CAS-No. 3483-12-3; Glycerol, CAS-No. 56-81-5; Revision Date: 2007-03-01;

α -Toluenesulphonyl fluoride CAS-No. 329-98-6 Revision Date

New Jersey Right To Know Components: DTT CAS-No. 3483-12-3; Glycerol, CAS-No. 56-81-5; Revision Date: 2007-03-01;

α -Toluenesulphonyl fluoride CAS-No. 329-98-6 Revision Date

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: This product is not classified according to the EU regulations.

Component	Risk Phrases	Safety Phrases
DTT	R20/21/22	S60
PMSF	--	--
Glycerol	--	S24/25

SAFETY DATA SHEET

SDS DATE: August 24, 2021



SECTION 16: OTHER 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.