

## Safety Data Sheet acc. to OSHA HCS

Printing date 08/19/2021

Revision date 08/19/2021

### 1 Identification

- **Product identifier**
- **Trade name: S-Glutathionylated Protein Detection Kit**
- **Article number:** 10010721
- **Application of the substance / the mixture**  
This product is for research use - Not for human or veterinary diagnostic or therapeutic use. It is the responsibility of the purchaser to determine suitability for other applications.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Cayman Chemical Co.  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108  
USA
- **Information department:** Product safety department
- **Emergency telephone number:**  
During normal opening times: +1 (734) 971-3335  
US/CANADA: 800-424-9300  
Outside US/CANADA: 703-741-5970

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Tox. 1 H300 Fatal if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.



GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.

Skin Sens. 1 H317 May cause an allergic skin reaction.

(Contd. on page 2)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/19/2021

Revision date 08/19/2021

**Trade name: S-Glutathionylated Protein Detection Kit**

(Contd. from page 1)

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05 GHS06 GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

PSSG Blocking Reagent

PSSG Assay Buffer (10X)

PSSG Reduction Reagent

- **Hazard statements**

H300 Fatal if swallowed.

H311 Toxic in contact with skin.

H332 Harmful if inhaled.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

- **Precautionary statements**

P260 Do not breathe dusts or mists.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P271 Use only outdoors or in a well-ventilated area.

P272 Contaminated work clothing must not be allowed out of the workplace.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 If swallowed: Immediately call a poison center/doctor.

P321 Specific treatment (see on this label).

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 IF INHALED: Remove person to fresh air and keep 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.

P312 Call a poison center/doctor if you feel unwell.

P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 4

Fire = 0

Reactivity = 0

(Contd. on page 3)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/19/2021

Revision date 08/19/2021

**Trade name: S-Glutathionylated Protein Detection Kit**

(Contd. from page 2)

**· HMIS-ratings (scale 0 - 4)**

HEALTH	4	Health = *4
FIRE	0	Fire = 0
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

**· Dangerous components:**

PSSG Blocking Reagent	>50–≤100%
PSSG Assay Buffer (10X)	>10–<20%
PSSG Reduction Reagent	>10–<20%

**· Other ingredients**

PSSG Lysis Buffer	>2.5–≤10%
PSSG Labeling Reagent	≤2.5%
PSSG Detection Reagent I (HRP)	≤2.5%
PSSG Detection Reagent II (FITC)	≤2.5%

**· Additional information:**

The specific chemical identity of composition and exact percentage is being withheld as a trade secret. The specific chemical identity and exact percentage is made available to health professionals, employees, and designated representatives in accordance with the applicable provisions of paragraph §1910.1200.

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.  
No further relevant information available.

(Contd. on page 4)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/19/2021

Revision date 08/19/2021

**Trade name: S-Glutathionylated Protein Detection Kit**

(Contd. from page 3)

- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
Use fire fighting measures that suit the environment.  
A solid water stream may be inefficient.
- **Special hazards arising from the substance or mixture**  
67-56-1 During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Mount respiratory protective device.  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

None of the ingredients is listed.

· **PAC-2:**

None of the ingredients is listed.

· **PAC-3:**

None of the ingredients is listed.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Thorough dedusting.  
Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

(Contd. on page 5)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/19/2021

Revision date 08/19/2021

Trade name: S-Glutathionylated Protein Detection Kit

(Contd. from page 4)

- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

US

(Contd. on page 6)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/19/2021

Revision date 08/19/2021

Trade name: S-Glutathionylated Protein Detection Kit

(Contd. from page 5)

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Solid
Color:	According to product specification

Odor:	Characteristic
Odor threshold:	Not determined.

pH-value:	Not applicable.
-----------	-----------------

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

Flash point:	Not applicable.
--------------	-----------------

Flammability (solid, gaseous):	Not determined.
--------------------------------	-----------------

Decomposition temperature:	Not determined.
----------------------------	-----------------

Auto igniting:	Product is not selfigniting.
----------------	------------------------------

Danger of explosion:	Product does not present an explosion hazard.
----------------------	---

- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure:	Not applicable.
-----------------	-----------------

Density:	Not determined.
----------	-----------------

Relative density	Not determined.
------------------	-----------------

Vapor density	Not applicable.
---------------	-----------------

Evaporation rate	Not applicable.
------------------	-----------------

- **Solubility in / Miscibility with**

Water:	Soluble.
--------	----------

Partition coefficient (n-octanol/water):	Not determined.
--	-----------------

- **Viscosity:**

Dynamic:	Not applicable.
----------	-----------------

Kinematic:	Not applicable.
------------	-----------------

- **Solvent content:**

VOC content:	0.00 %
--------------	--------

Solids content:	100.0 %
-----------------	---------

- **Other information**

No further relevant information available.
--

### 10 Stability and reactivity

- **Reactivity** No further relevant information available.

- **Chemical stability**

- **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

- **Possibility of hazardous reactions** No dangerous reactions known.

(Contd. on page 7)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/19/2021

Revision date 08/19/2021

**Trade name: S-Glutathionylated Protein Detection Kit**

(Contd. from page 6)

- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

### ATE (Acute Toxicity Estimate)

Oral	LD50	0.75 mg/kg
Dermal	LD50	449 mg/kg
Inhalative	LC50/4 h	2.24 mg/l

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Toxic  
Harmful  
Corrosive  
Irritant  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/19/2021

Revision date 08/19/2021

**Trade name: S-Glutathionylated Protein Detection Kit**







(Contd. from page 7)

- Must not reach bodies of water or drainage ditch undiluted or unneutralized.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>· <b>UN-Number</b></li> <li>· <b>DOT, IMDG, IATA</b></li> </ul>                                | UN3290  |
| <ul style="list-style-type: none"> <li>· <b>UN proper shipping name</b></li> <li>· <b>DOT, IATA</b></li> <li>· <b>IMDG</b></li> </ul> | Toxic solid, corrosive, inorganic, n.o.s. (PSSG Blocking Reagent)<br>TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S. (PSSG Blocking Reagent)  |
| <ul style="list-style-type: none"> <li>· <b>Transport hazard class(es)</b></li> <li>· <b>DOT</b></li> </ul>                           | <div style="display: flex; justify-content: space-around; align-items: center;">   </div> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>  | 6.1 Toxic substances<br>6.1, 8  |
| <ul style="list-style-type: none"> <li>· <b>IMDG</b></li> </ul>   | <div style="display: flex; justify-content: space-around; align-items: center;">   </div> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>  | 6.1 Toxic substances<br>6.1/8   |
| <ul style="list-style-type: none"> <li>· <b>IATA</b></li> </ul>   | <div style="display: flex; justify-content: space-around; align-items: center;">   </div> |
| <ul style="list-style-type: none"> <li>· <b>Class</b></li> </ul>  | 6.1 Toxic substances  |

(Contd. on page 9)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/19/2021

Revision date 08/19/2021

Trade name: S-Glutathionylated Protein Detection Kit

(Contd. from page 8)

· Label	6.1 (8)
· Packing group	
· DOT, IMDG, IATA	I
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Toxic substances
· Hazard identification number (Kemler code):	668
· EMS Number:	F-A,S-B
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 1 kg On cargo aircraft only: 25 kg
· IMDG	
· Limited quantities (LQ)	0
· Excepted quantities (EQ)	Code: E5 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 300 g
· IATA	
· Remarks:	When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.
· UN "Model Regulation":	UN 3290 TOXIC SOLID, CORROSIVE, INORGANIC, N.O.S. (PSSG BLOCKING REAGENT), 6.1 (8), I

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**  
No further relevant information available.
- **Sara**

· <b>Section 355 (extremely hazardous substances):</b>
--

None of the ingredients is listed.
------------------------------------

· <b>Section 313 (Specific toxic chemical listings):</b>
--

None of the ingredients is listed.
------------------------------------

· <b>TSCA (Toxic Substances Control Act):</b>
---

None of the ingredients is listed.
------------------------------------

· <b>Hazardous Air Pollutants</b>
-----------------------------------

None of the ingredients is listed.
------------------------------------

(Contd. on page 10)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 08/19/2021

Revision date 08/19/2021

**Trade name: S-Glutathionylated Protein Detection Kit**

(Contd. from page 9)

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value)**

None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

All chemicals may pose unknown hazards and should be used with caution. This SDS applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. Cayman Chemical Company assumes no responsibility for incidental or consequential damages, including lost profits, arising from the use of these data. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Cayman Chemical Company assumes no responsibility for the completeness or accuracy of the information contained herein.

- **Department issuing SDS:** Environment protection department.

- **Contact:** -

- **Date of preparation / last revision** 08/19/2021 / -

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 1: Acute toxicity – Category 1

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 4: Acute toxicity – Category 4

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

(Contd. on page 11)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 08/19/2021

Revision date 08/19/2021

**Trade name: S-Glutathionylated Protein Detection Kit**

Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
Skin Sens. 1: Skin sensitisation – Category 1  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
· **\* Data compared to the previous version altered.**

(Contd. from page 10)

US