



## Safety Data Sheet acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

### 1 Identification

- **Product identifier**
- **Trade name:** **DMSO Assay Reagent**
- **Article number:** 700001
- **CAS Number:**  
67-68-5
- **EC number:**  
200-664-3
- **Application of the substance / the mixture**  
This product is for research use - Not for human or veterinary diagnostic or therapeutic use.
- **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**  
Flammable Liquids 4 H227 Combustible liquid.

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- **Label elements**
- **GHS label elements**  
The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms** None
- **Signal word** Warning
- **Hazard statements**  
H227 Combustible liquid.
- **Precautionary statements**  
P210 Keep away from flames and hot surfaces. – No smoking.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.  
P403+P235 Store in a well-ventilated place. Keep cool.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 0  
Fire = 2  
Reactivity = 0

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



HEALTH 0 Health = 0  
FIRE 2 Fire = 2  
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: Substances**
- **CAS No. Description**  
67-68-5 Dimethyl sulfoxide
- **Identification number(s)**
- **EC number:** 200-664-3

### · Dangerous components:

|                  |                    |        |
|------------------|--------------------|--------|
| CAS: 67-68-5     | Dimethyl sulfoxide | 100.0% |
| RTECS: PV6210000 |                    |        |

## 4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture**  
Can release vapors that form explosive mixtures at temperatures at or above the flashpoint.  
Container explosion may occur under fire conditions.  
Emits toxic fumes under fire conditions.  
Sensitive to static discharge.

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- Vapors can travel to a source of ignition and flash back.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
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:**

150 ppm

· **PAC-2:**

290 ppm

· **PAC-3:**

1,800 ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
No special precautions are necessary if used correctly.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Avoid prolonged or repeated exposure.  
Keep away from sources of ignition.  
Take precautionary measures against static discharge.re.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** Store in accordance with information listed on the product insert.
- **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.
- **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.

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- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

|                                   |                          |
|-----------------------------------|--------------------------|
| <b>67-68-5 Dimethyl sulfoxide</b> |                          |
| WEEL                              | Long-term value: 250 ppm |

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.

- **Breathing equipment:** Not required.

- **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.

- **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:** Goggles recommended during refilling.

## 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

|                        |                 |
|------------------------|-----------------|
| <b>Form:</b>           | Liquid          |
| <b>Color:</b>          | Colorless       |
| <b>Odor:</b>           | Odorless        |
| <b>Odor threshold:</b> | Not determined. |

- **pH-value:** Not determined.

- **Change in condition**

|                                     |                    |
|-------------------------------------|--------------------|
| <b>Melting point/Melting range:</b> | 18.45 °C (65.2 °F) |
| <b>Boiling point/Boiling range:</b> | 189 °C (372.2 °F)  |

- **Flash point:** 89 °C (192.2 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 270 °C (518 °F)

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Not determined.

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|                                                   |                                            |
|---------------------------------------------------|--------------------------------------------|
| · <b>Danger of explosion:</b>                     | Not determined.                            |
| · <b>Explosion limits:</b>                        |                                            |
| <b>Lower:</b>                                     | 1.8 Vol %                                  |
| <b>Upper:</b>                                     | 63 Vol %                                   |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 2.5 hPa (1.9 mm Hg)                        |
| · <b>Density at 20 °C (68 °F):</b>                | 1.1 g/cm <sup>3</sup> (9.1795 lbs/gal)     |
| · <b>Relative density</b>                         | Not determined.                            |
| · <b>Vapor density</b>                            | Not determined.                            |
| · <b>Evaporation rate</b>                         | Not determined.                            |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.                            |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| · <b>Viscosity:</b>                               |                                            |
| <b>Dynamic at 20 °C (68 °F):</b>                  | 198 mPas                                   |
| <b>Kinematic:</b>                                 | Not determined.                            |
| <b>Organic solvents:</b>                          | 100.0 %                                    |
| <b>VOC content:</b>                               | 100.00 %                                   |
|                                                   | 1,100.0 g/l / 9.18 lb/gal                  |
| <b>Solids content:</b>                            | 0.0 %                                      |
| · <b>Other information</b>                        | 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.
- **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:**

| 67-68-5 Dimethyl sulfoxide |                      |                                           |
|----------------------------|----------------------|-------------------------------------------|
| Oral                       | LD50                 | 7,200 mg/kg (mouse)<br>14,500 mg/kg (rat) |
|                            | Intraperitoneal LD50 | 2,500 mg/kg (mouse)                       |
|                            | Subcutaneous LD50    | 14,000 mg/kg (mouse)                      |
|                            | Intravenous LD50     | 3,100 mg/kg (mouse)                       |

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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

- **Carcinogenic categories**

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

Substance is not listed.

- **NTP (National Toxicology Program)**

Substance is not listed.

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

Substance is not 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 (Assessment by list): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **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

- **UN-Number**
- **DOT** NA1993
- **IMDG, IATA** not regulated

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|                                                                                                                                      |                                                                                                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>· UN proper shipping name</li> <li>· DOT</li> <li>· IMDG, IATA</li> </ul>                     | <p>COMBUSTIBLE LIQUID, N.O.S<br/>not regulated</p>                                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>· Transport hazard class(es)</li> <li>· DOT</li> </ul>                                        |                                                                                                                                                                                                                                                                                        |
|                                                     |                                                                                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> <li>· ADN/R Class:</li> </ul>                                   | <p>3 Combustible liquids<br/>3<br/>not regulated</p>                                                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li>· Packing group</li> <li>· DOT</li> <li>· IMDG, IATA</li> </ul>                               | <p>III<br/>not regulated</p>                                                                                                                                                                                                                                                           |
| <ul style="list-style-type: none"> <li>· Environmental hazards:</li> </ul>                                                           | Not applicable.                                                                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>· Special precautions for user</li> </ul>                                                     | Not applicable.                                                                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</li> </ul>          | Not applicable.                                                                                                                                                                                                                                                                        |
| <ul style="list-style-type: none"> <li>· Transport/Additional information:</li> <li>· DOT</li> <li>· Quantity limitations</li> </ul> | <p>On passenger aircraft/rail: 60 L<br/>On cargo aircraft only: 220 L</p>                                                                                                                                                                                                              |
| <ul style="list-style-type: none"> <li>· IATA</li> <li>· Remarks:</li> </ul>                                                         | <p>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.</p> |
| <ul style="list-style-type: none"> <li>· UN "Model Regulation":</li> </ul>                                                           | not regulated                                                                                                                                                                                                                                                                          |

## 15 Regulatory information

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

- **Section 355 (extremely hazardous substances):**

Substance is not listed.

- **Section 313 (Specific toxic chemical listings):**

Substance is not listed.

- **TSCA (Toxic Substances Control Act):**

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**· Hazardous Air Pollutants**

Substance is not listed.

**· Proposition 65**
**· Chemicals known to cause cancer:**

Substance is not listed.

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

Substance is not listed.

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

Substance is not listed.

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

Substance is not listed.

**· Carcinogenic categories**
**· EPA (Environmental Protection Agency)**

Substance is not listed.

**· TLV (Threshold Limit Value)**

Substance is not listed.

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

Substance is not 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** 01/03/2023

**· 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 &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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Flammable Liquids 4: Flammable liquids – Category 4

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· **\* Data compared to the previous version altered.**

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### 1 Identification

- **Product identifier**
- **Trade name: Cholesterol Assay Buffer (10X)**
- **Article number:** 10008052
- **Application of the substance / the mixture**  
This product is for research use - Not for human or veterinary diagnostic or therapeutic use.
- **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**



GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Eye Damage 1

H318 Causes serious eye damage.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

- **Label elements**
- **GHS label elements**

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

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Trade name: Cholesterol Assay Buffer (10X)

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- **Hazard pictograms**



GHS05 GHS08

- **Signal word** Danger

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

Potassium phosphate, Monobasic  
Sodium chloride

- **Hazard statements**

H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H373 May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
P264 Wash thoroughly after handling.  
P280 Wear eye protection / face protection.  
P302+P352 If on skin: Wash with plenty of water.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a poison center/doctor.  
P321 Specific treatment (see on this label).  
P314 Get medical advice/attention if you feel unwell.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**

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



Health = 3  
Fire = 0  
Reactivity = 0

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



Health = \*3  
Fire = 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.

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| · <b>Dangerous components:</b>     |                                |        |
|------------------------------------|--------------------------------|--------|
| CAS: 7778-77-0<br>RTECS: TC6615500 | Potassium phosphate, Monobasic | 13.61% |
| CAS: 7647-14-5<br>RTECS: VZ4725000 | Sodium chloride                | 2.92%  |
| · <b>Other ingredients</b>         |                                |        |
| CAS: 7732-18-5<br>RTECS: ZC0110000 | Water                          | 81.43% |
| CAS: 73163-53-8                    | Chlolic Acid                   | 2.04%  |

## 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.
- **After inhalation:** 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:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **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:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.

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Trade name: **Cholesterol Assay Buffer (10X)**

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- 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:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 9.6 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

· **PAC-2:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 110 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

· **PAC-3:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 630 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** Store in accordance with information listed on the product insert.
- **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.
- **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 skin.  
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.

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Trade name: Cholesterol Assay Buffer (10X)

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- **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

## 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

- **Form:**

Liquid

- **Color:**

According to product specification

- **Odor:**

Characteristic

- **Odor threshold:**

Not determined.

- **Formulation**

1 M potassium phosphate, pH 7.4, containing 500 mM sodium chloride and 50 mM cholic acid

- **pH-value at 20 °C (68 °F):**

7.4

- **Change in condition**

- **Melting point/Melting range:**

Undetermined.

- **Boiling point/Boiling range:**

100 °C (212 °F)

- **Flash point:**

Not applicable.

- **Flammability (solid, gaseous):**

Not applicable.

- **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.

(Contd. on page 6)

-US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Buffer (10X)

(Contd. from page 5)

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

· **Density:** Not determined.  
 · **Relative density** Not determined.  
 · **Vapor density** Not determined.  
 · **Evaporation rate** Not determined.

· **Solubility in / Miscibility with Water:** Fully miscible.

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

· **Viscosity:**  
   **Dynamic:** Not determined.  
   **Kinematic:** Not determined.

· **Solvent content:**  
   **Water:** 81.4 %  
   **VOC content:** 0.00 %  
   0.0 g/l / 0.00 lb/gal

**Solids content:** 16.5 %

· **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.
- **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:**

### 7778-77-0 Potassium phosphate, Monobasic

|      |      |                   |
|------|------|-------------------|
| Oral | LDLO | 4,640 mg/kg (rat) |
|------|------|-------------------|

### 7647-14-5 Sodium chloride

|            |      |                                          |
|------------|------|------------------------------------------|
| Oral       | LDLO | 1,000 mg/kg (man)                        |
|            | TDLO | 650 ml/kg (man)                          |
|            | LD50 | 4,000 mg/kg (mouse)<br>3,000 mg/kg (rat) |
|            | LD50 | 4 g/kg (mouse)                           |
| Inhalative | LC50 | 320 mg/m <sup>3</sup> (mouse)            |
|            | TCLO | 0.63 mg/m <sup>3</sup> (hmn)             |

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# Safety Data Sheet

## acc. to OSHA HCS

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**Trade name: Cholesterol Assay Buffer (10X)**

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|                    |                      |                                      |
|--------------------|----------------------|--------------------------------------|
| Irritation of skin | LCLO                 | 29,300 mg/m <sup>3</sup> /7h (mouse) |
|                    | Irritation           | 500 mg/24h (rabbit)                  |
| Irritation of eyes | Irritation           | 100 mg/24h (rabbit)                  |
|                    | Intraperitoneal LD50 | 2,602 mg/kg (mouse)                  |
|                    | Subcutaneous LD50    | 31.6 mg/kg (rat)                     |
|                    | Intravenous LD50     | 59.5 mg/kg (rat)                     |
|                    | Data                 | 15 mg/3D (hmn)                       |
|                    | Subcutaneous LD50    | 3 g/kg (mouse)                       |

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.

- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

- **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.

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.

US

(Contd. on page 8)



# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/03/2023

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Trade name: Cholesterol Assay Buffer (10X)

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### 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

- |                                                                                  |                 |
|----------------------------------------------------------------------------------|-----------------|
| · <b>UN-Number</b>                                                               |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>UN proper shipping name</b>                                                 |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>Transport hazard class(es)</b>                                              |                 |
| · <b>DOT, ADN, IMDG, IATA</b>                                                    |                 |
| · <b>Class</b>                                                                   | not regulated   |
| · <b>Packing group</b>                                                           |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>Environmental hazards:</b>                                                  | Not applicable. |
| · <b>Special precautions for user</b>                                            | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>                                                  | not regulated   |

### 15 Regulatory information

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

- **Sara**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**

|           |                                |        |
|-----------|--------------------------------|--------|
| 7732-18-5 | Water                          | ACTIVE |
| 7778-77-0 | Potassium phosphate, Monobasic | ACTIVE |
| 7647-14-5 | Sodium chloride                | ACTIVE |

- **Hazardous Air Pollutants**

None of the ingredients is listed.

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Trade name: Cholesterol Assay Buffer (10X)

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- **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** 01/03/2023

- **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 &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Damage 1: Serious eye damage/eye irritation – Category 1

Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2

## Safety Data Sheet acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

### 1 Identification

- **Product identifier**
- **Trade name: Cholesterol Assay Standard**
- **Article number:** 10008053
- **Application of the substance / the mixture**  
This product is for research use - Not for human or veterinary diagnostic or therapeutic use.
- **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**



GHS02 Flame

Flammable Liquids 2 H225 Highly flammable liquid and vapor.



GHS07

Eye Irritation 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS07

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**Trade name: Cholesterol Assay Standard**

(Contd. from page 1)

- **Signal word** Danger

- **Hazard statements**

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

- **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ventilating/lighting/equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P264 Wash thoroughly after handling.

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

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

P370+P378 In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.

P403+P235 Store in a well-ventilated place. Keep cool.

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

- **Classification system:**

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



Health = 2

Fire = 3

Reactivity = 0

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



Health = 2

Fire = 3

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:**

|                                  |         |        |
|----------------------------------|---------|--------|
| CAS: 64-17-5<br>RTECS: KQ6300000 | ethanol | 99.62% |
|----------------------------------|---------|--------|

- **Other ingredients**

|                                  |             |       |
|----------------------------------|-------------|-------|
| CAS: 57-88-5<br>RTECS: FZ8400000 | Cholesterol | 0.38% |
|----------------------------------|-------------|-------|

US

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Trade name: Cholesterol Assay Standard

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## 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult 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.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
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:**

|         |         |           |
|---------|---------|-----------|
| 64-17-5 | ethanol | 1,800 ppm |
|---------|---------|-----------|

- **PAC-2:**

|         |         |           |
|---------|---------|-----------|
| 64-17-5 | ethanol | 3300* ppm |
|---------|---------|-----------|

- **PAC-3:**

|         |         |            |
|---------|---------|------------|
| 64-17-5 | ethanol | 15000* ppm |
|---------|---------|------------|

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## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
No special precautions are necessary if used correctly.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Avoid prolonged or repeated exposure.  
Keep away from sources of ignition.  
Take precautionary measures against static discharge.re.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:** Store in accordance with information listed on the product insert.
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- **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:**

### 64-17-5 ethanol

|     |                                                    |
|-----|----------------------------------------------------|
| PEL | Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm |
| REL | Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm |
| TLV | Short-term value: 1000 ppm                         |
|     | A3                                                 |

- **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.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.

- **Breathing equipment:** Not required.

- **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.

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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

## 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form:

Liquid

Color:

According to product specification

- **Odor:**

Alcohol-like

- **Odor threshold:**

Not determined.

- **Formulation**

A solution in ethanol

- **pH-value:**

Not determined.

- **Change in condition**

Melting point/Melting range:

-114.5 °C (-174.1 °F)

Boiling point/Boiling range:

78 °C (172.4 °F)

- **Flash point:**

13 °C (55.4 °F)

- **Flammability (solid, gaseous):**

Highly flammable.

- **Ignition temperature:**

425 °C (797 °F)

- **Decomposition temperature:**

Not determined.

- **Auto igniting:**

Product is not selfigniting.

- **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

Lower:

3.5 Vol %

Upper:

15 Vol %

- **Vapor pressure at 20 °C (68 °F):**

59 hPa (44.3 mm Hg)

- **Density at 20 °C (68 °F):**

0.78833 g/cm<sup>3</sup> (6.57861 lbs/gal)

- **Relative density**

Not determined.

- **Vapor density**

Not determined.

- **Evaporation rate**

Not determined.

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- |                                                                   |                                            |
|-------------------------------------------------------------------|--------------------------------------------|
| <b>· Solubility in / Miscibility with Water at 20 °C (68 °F):</b> | 1,000 g/l                                  |
| <b>· Partition coefficient (n-octanol/water):</b>                 | Not determined.                            |
| <b>· Viscosity:</b>                                               |                                            |
| <b>Dynamic at 20 °C (68 °F):</b>                                  | 1.2 mPas                                   |
| <b>Kinematic:</b>                                                 | Not determined.                            |
| <b>· Solvent content:</b>                                         |                                            |
| <b>Organic solvents:</b>                                          | 99.6 %                                     |
| <b>VOC content:</b>                                               | 99.62 %<br>785.3 g/l / 6.55 lb/gal         |
| <b>    Solids content:</b>                                        | 0.4 %                                      |
| <b>· Other information</b>                                        | 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.
- **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:**

### 64-17-5 ethanol

|                    |                      |                                       |
|--------------------|----------------------|---------------------------------------|
| Oral               | TDLO                 | 1.14 ml/kg (man)                      |
|                    | LD50                 | 7,060 mg/kg (rat)                     |
| Dermal             | TDLO                 | 650 (man)                             |
|                    | LD50                 | 40,000 mg/kg (rat)                    |
| Inhalative         | TCLO                 | 1,800 (hmn)                           |
|                    | LC50                 | 10 h - 20,000 mg/m <sup>3</sup> (rat) |
|                    | LD50 Inhalation TCLO | 1,800 mg/m <sup>3</sup> /30m (hmn)    |
| Irritation of skin | TDLO                 | 1,800 mg/kg (wmn)                     |
|                    | Intraperitoneal LD50 | 280 mg/kg (rat)                       |

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.

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- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

- **Carcinogenic categories**

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

|         |             |   |
|---------|-------------|---|
| 64-17-5 | ethanol     | 1 |
| 57-88-5 | Cholesterol | 3 |

- **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.

- **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

- **UN-Number**

- **DOT, IMDG, IATA**

UN1170

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Trade name: Cholesterol Assay Standard

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|                                                                                                                            |                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>· UN proper shipping name</li> <li>· DOT</li> <li>· IMDG</li> <li>· IATA</li> </ul> | Ethanol solutions<br>ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION)<br>Ethanol solution |
|----------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|

- Transport hazard class(es)

- DOT



|                                                                            |                          |
|----------------------------------------------------------------------------|--------------------------|
| <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul> | 3 Flammable liquids<br>3 |
|----------------------------------------------------------------------------|--------------------------|

- IMDG, IATA



|                                                                            |                          |
|----------------------------------------------------------------------------|--------------------------|
| <ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul> | 3 Flammable liquids<br>3 |
|----------------------------------------------------------------------------|--------------------------|

- Packing group

- DOT, IMDG, IATA

II

- Environmental hazards:

Not applicable.

- Special precautions for user

Warning: Flammable liquids

- Hazard identification number (Kemler code):

33

- EMS Number:

F-E,S-D

- Stowage Category

A

- 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: 5 L  
 On cargo aircraft only: 60 L

- IMDG

- Limited quantities (LQ)

1L

- Excepted quantities (EQ)

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

- IATA

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- |                                 |                                                                                                                                                                                                                                                                                 |
|---------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| · <b>Remarks:</b>               | 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. |
| · <b>UN "Model Regulation":</b> | UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II                                                                                                                                                                                                                        |

## 15 Regulatory information

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

- **Sara**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

- **Hazardous Air Pollutants**

None of the ingredients is listed.

- **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:**

64-17-5 | ethanol

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value)**

64-17-5 | ethanol

A3

- **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

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

**Trade name: Cholesterol Assay Standard**

(Contd. from page 9)

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** 01/03/2023

**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  
Flammable Liquids 2: Flammable liquids – Category 2  
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

US

## Safety Data Sheet acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

### 1 Identification

- **Product identifier**
- **Trade name: Cholesterol Assay Detector**
- **Article number:** 10008054
- **Application of the substance / the mixture**  
This product is for research use - Not for human or veterinary diagnostic or therapeutic use.
- **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**



GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Eye Damage 1

H318 Causes serious eye damage.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure 3

H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

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

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Detector

(Contd. from page 1)

- **Hazard pictograms**



GHS05 GHS07 GHS08

- **Signal word** Danger

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

Potassium phosphate, Monobasic  
Sodium chloride

- **Hazard statements**

H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
P264 Wash thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear eye protection / face protection.  
P302+P352 If on skin: Wash with plenty of water.  
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.  
P310 Immediately call a poison center/doctor.  
P321 Specific treatment (see on this label).  
P314 Get medical advice/attention if you feel unwell.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P332+P313 If skin irritation 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 = 3  
Fire = 0  
Reactivity = 0

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



Health = \*3  
Fire = 0  
Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

US

(Contd. on page 3)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Detector

(Contd. from page 2)

### 3 Composition/information on ingredients

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

- **Dangerous components:**

|                                    |                                    |        |
|------------------------------------|------------------------------------|--------|
| CAS: 7778-77-0<br>RTECS: TC6615500 | Potassium phosphate, Monobasic     | 64.59% |
| CAS: 7647-14-5<br>RTECS: VZ4725000 | Sodium chloride                    | 13.86% |
| CAS: 119171-73-2                   | 10-Acetyl-3,7-dihydroxyphenoxazine | 11.86% |
| CAS: 81-25-4<br>RTECS: FZ9350000   | Cholic acid                        | 9.69%  |

### 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.
- **After inhalation:** 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:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **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.

(Contd. on page 4)

US

# Safety Data Sheet

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Printing date 01/03/2023

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Trade name: Cholesterol Assay Detector

(Contd. from page 3)

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:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 9.6 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

- **PAC-2:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 110 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

- **PAC-3:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 630 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

## 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:** Store in accordance with information listed on the product insert.

- **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.

- **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 skin.

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.

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# Safety Data Sheet

acc. to OSHA HCS

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Trade name: Cholesterol Assay Detector

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- **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

## 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

|                 |                                    |
|-----------------|------------------------------------|
| Form:           | lyophilized                        |
| 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.

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# Safety Data Sheet

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Revision date 01/03/2023

Trade name: Cholesterol Assay Detector

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- |                           |                 |
|---------------------------|-----------------|
| · <b>Density:</b>         | Not determined. |
| · <b>Relative density</b> | Not determined. |
| · <b>Vapor density</b>    | Not applicable. |
| · <b>Evaporation rate</b> | Not applicable. |

- |                                                  |          |
|--------------------------------------------------|----------|
| · <b>Solubility in / Miscibility with Water:</b> | Soluble. |
|--------------------------------------------------|----------|

- |                                                   |                 |
|---------------------------------------------------|-----------------|
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined. |
|---------------------------------------------------|-----------------|

- |                     |                 |
|---------------------|-----------------|
| · <b>Viscosity:</b> |                 |
| <b>Dynamic:</b>     | Not applicable. |
| <b>Kinematic:</b>   | Not applicable. |

- |                           |        |
|---------------------------|--------|
| · <b>Solvent content:</b> |        |
| <b>VOC content:</b>       | 0.00 % |

- |                        |         |
|------------------------|---------|
| <b>Solids content:</b> | 100.0 % |
|------------------------|---------|

- |                            |                                            |
|----------------------------|--------------------------------------------|
| · <b>Other information</b> | 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.
- **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:**

- |                                                               |
|---------------------------------------------------------------|
| · <b>LD/LC50 values that are relevant for classification:</b> |
|---------------------------------------------------------------|

| ATE (Acute Toxicity Estimate) |  |  |
|-------------------------------|--|--|
|-------------------------------|--|--|

|      |      |             |
|------|------|-------------|
| Oral | LD50 | 4,216 mg/kg |
|------|------|-------------|

| 7778-77-0 Potassium phosphate, Monobasic |  |  |
|------------------------------------------|--|--|
|------------------------------------------|--|--|

|      |      |                   |
|------|------|-------------------|
| Oral | LDLO | 4,640 mg/kg (rat) |
|------|------|-------------------|

| 7647-14-5 Sodium chloride |  |  |
|---------------------------|--|--|
|---------------------------|--|--|

|            |      |                               |
|------------|------|-------------------------------|
| Oral       | LDLO | 1,000 mg/kg (man)             |
|            | TDLO | 650 ml/kg (man)               |
|            | LD50 | 4,000 mg/kg (mouse)           |
|            |      | 3,000 mg/kg (rat)             |
| Inhalative | LD50 | 4 g/kg (mouse)                |
|            | LC50 | 320 mg/m <sup>3</sup> (mouse) |
|            | TCLO | 0.63 mg/m <sup>3</sup> (hmn)  |
|            |      |                               |

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# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

**Trade name: Cholesterol Assay Detector**

(Contd. from page 6)

|                            |                      |                                      |
|----------------------------|----------------------|--------------------------------------|
| Irritation of skin         | LCLO                 | 29,300 mg/m <sup>3</sup> /7h (mouse) |
|                            | Irritation           | 500 mg/24h (rabbit)                  |
| Irritation of eyes         | Irritation           | 100 mg/24h (rabbit)                  |
|                            | Intraperitoneal LD50 | 2,602 mg/kg (mouse)                  |
|                            | Subcutaneous LD50    | 31.6 mg/kg (rat)                     |
|                            | Intravenous LD50     | 59.5 mg/kg (rat)                     |
|                            | Data                 | 15 mg/3D (hmn)                       |
|                            | Subcutaneous LD50    | 3 g/kg (mouse)                       |
| <b>81-25-4 Cholic acid</b> |                      |                                      |
| Oral                       | LD50                 | 4,950 mg/kg (mouse)                  |

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

- **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 2 (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
Danger to drinking water if even small quantities leak into the ground.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

US

(Contd. on page 8)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Detector

(Contd. from page 7)

### 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

- |                                                                                  |                 |
|----------------------------------------------------------------------------------|-----------------|
| · <b>UN-Number</b>                                                               |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>UN proper shipping name</b>                                                 |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>Transport hazard class(es)</b>                                              |                 |
| · <b>DOT, ADN, IMDG, IATA</b>                                                    |                 |
| · <b>Class</b>                                                                   | not regulated   |
| · <b>Packing group</b>                                                           |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>Environmental hazards:</b>                                                  | Not applicable. |
| · <b>Special precautions for user</b>                                            | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>                                                  | not regulated   |

### 15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

|           |                                |        |
|-----------|--------------------------------|--------|
| 7778-77-0 | Potassium phosphate, Monobasic | ACTIVE |
| 7647-14-5 | Sodium chloride                | ACTIVE |
| 81-25-4   | Cholic acid                    | ACTIVE |

· **Hazardous Air Pollutants**

None of the ingredients is listed.

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# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Detector

(Contd. from page 8)

- **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** 01/03/2023

- **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

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Damage 1: Serious eye damage/eye irritation – Category 1

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2



## Safety Data Sheet acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

### 1 Identification

- **Product identifier**
- **Trade name: Cholesterol Assay Horseradish Peroxidase**
- **Article number:** 10008055
- **Application of the substance / the mixture**  
This product is for research use - Not for human or veterinary diagnostic or therapeutic use.
- **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**



GHS08 Health hazard

Sensitization - Respiratory 1

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Specific Target Organ Toxicity - Repeated Exposure  
2

H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Eye Damage 1

H318 Causes serious eye damage.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure 3

H335 May cause respiratory irritation.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Horseradish Peroxidase

(Contd. from page 1)

- **Label elements**

- **GHS label elements**

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

- **Hazard pictograms**



GHS05 GHS07 GHS08

- **Signal word** Danger

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

Potassium phosphate, Monobasic

Sodium chloride

Horseradish Peroxidase

- **Hazard statements**

H315 Causes skin irritation.

H318 Causes serious eye damage.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H373 May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P264 Wash thoroughly after handling.

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

P280 Wear eye protection / face protection.

P284 [In case of inadequate ventilation] wear respiratory protection.

P302+P352 If on skin: Wash with plenty of water.

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.

P310 Immediately call a poison center/doctor.

P321 Specific treatment (see on this label).

P314 Get medical advice/attention if you feel unwell.

P362+P364 Take off contaminated clothing and wash it before reuse.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P342+P311 If experiencing respiratory symptoms: Call a poison center/doctor.

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 = 3

Fire = 0

Reactivity = 0

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



Health = \*3

Fire = 0

Reactivity = 0

(Contd. on page 3)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

**Trade name: Cholesterol Assay Horseradish Peroxidase**

(Contd. from page 2)

- **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:**

|                                    |                                |        |
|------------------------------------|--------------------------------|--------|
| CAS: 7778-77-0<br>RTECS: TC6615500 | Potassium phosphate, Monobasic | 70.28% |
| CAS: 7647-14-5<br>RTECS: VZ4725000 | Sodium chloride                | 15.08% |
| CAS: 81-25-4<br>RTECS: FZ9350000   | Cholic acid                    | 10.55% |
| CAS: 9003-99-0                     | Horseradish Peroxidase         | 4.09%  |

### 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.
- **After inhalation:** 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:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **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.

US

(Contd. on page 4)



# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Horseradish Peroxidase

(Contd. from page 3)

### 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:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 9.6 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

- **PAC-2:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 110 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

- **PAC-3:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 630 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

### 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:** Store in accordance with information listed on the product insert.
- **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.
- **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.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

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**Trade name: Cholesterol Assay Horseradish Peroxidase**

(Contd. from page 4)

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 skin.

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

## 9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:

lyophilized

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.

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## acc. to OSHA HCS

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Trade name: Cholesterol Assay Horseradish Peroxidase

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|                                                   |                                               |
|---------------------------------------------------|-----------------------------------------------|
| · <b>Auto igniting:</b>                           | Product is not selfigniting.                  |
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                        |                                               |
| <b>Lower:</b>                                     | Not determined.                               |
| <b>Upper:</b>                                     | Not determined.                               |
| · <b>Vapor pressure:</b>                          | Not applicable.                               |
| · <b>Density:</b>                                 | Not determined.                               |
| · <b>Relative density</b>                         | Not determined.                               |
| · <b>Vapor density</b>                            | Not applicable.                               |
| · <b>Evaporation rate</b>                         | Not applicable.                               |
| · <b>Solubility in / Miscibility with Water:</b>  | Soluble.                                      |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                               |
| · <b>Viscosity:</b>                               |                                               |
| <b>Dynamic:</b>                                   | Not applicable.                               |
| <b>Kinematic:</b>                                 | Not applicable.                               |
| · <b>Solvent content:</b>                         |                                               |
| <b>VOC content:</b>                               | 0.00 %                                        |
| <b>Solids content:</b>                            | 100.0 %                                       |
| · <b>Other information</b>                        | 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.
- **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:**

|                                                               |      |                     |
|---------------------------------------------------------------|------|---------------------|
| · <b>LD/LC50 values that are relevant for classification:</b> |      |                     |
| <b>7778-77-0 Potassium phosphate, Monobasic</b>               |      |                     |
| Oral                                                          | LDLO | 4,640 mg/kg (rat)   |
| <b>7647-14-5 Sodium chloride</b>                              |      |                     |
| Oral                                                          | LDLO | 1,000 mg/kg (man)   |
|                                                               | TDLO | 650 ml/kg (man)     |
|                                                               | LD50 | 4,000 mg/kg (mouse) |

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**Trade name: Cholesterol Assay Horseradish Peroxidase**

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|                            |                      |                                      |
|----------------------------|----------------------|--------------------------------------|
| Inhalative                 | LD50                 | 3,000 mg/kg (rat)                    |
|                            |                      | 4 g/kg (mouse)                       |
|                            | LC50                 | 320 mg/m <sup>3</sup> (mouse)        |
|                            | TCLO                 | 0.63 mg/m <sup>3</sup> (hmn)         |
|                            | LCLO                 | 29,300 mg/m <sup>3</sup> /7h (mouse) |
| Irritation of skin         | Irritation           | 500 mg/24h (rabbit)                  |
| Irritation of eyes         | Irritation           | 100 mg/24h (rabbit)                  |
|                            | Intraperitoneal LD50 | 2,602 mg/kg (mouse)                  |
|                            | Subcutaneous LD50    | 31.6 mg/kg (rat)                     |
|                            | Intravenous LD50     | 59.5 mg/kg (rat)                     |
|                            | Data                 | 15 mg/3D (hmn)                       |
|                            | Subcutaneous LD50    | 3 g/kg (mouse)                       |
| <b>81-25-4 Cholic acid</b> |                      |                                      |
| Oral                       | LD50                 | 4,950 mg/kg (mouse)                  |

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** Sensitization possible through inhalation.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful  
Irritant

- **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 2 (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
Danger to drinking water if even small quantities leak into the ground.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

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**Trade name: Cholesterol Assay Horseradish Peroxidase**

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- **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

- |                                                                                  |                 |
|----------------------------------------------------------------------------------|-----------------|
| · <b>UN-Number</b>                                                               |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>UN proper shipping name</b>                                                 |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>Transport hazard class(es)</b>                                              |                 |
| · <b>DOT, ADN, IMDG, IATA</b>                                                    |                 |
| · <b>Class</b>                                                                   | not regulated   |
| · <b>Packing group</b>                                                           |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>Environmental hazards:</b>                                                  | Not applicable. |
| · <b>Special precautions for user</b>                                            | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>                                                  | not regulated   |

### 15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

None of the ingredients is listed.

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**Trade name: Cholesterol Assay Horseradish Peroxidase**

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- **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** 01/03/2023

- **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

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Damage 1: Serious eye damage/eye irritation – Category 1

Sensitization - Respiratory 1: Respiratory sensitisation – Category 1

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2



## Safety Data Sheet acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

### 1 Identification

- **Product identifier**
- **Trade name: Cholesterol Assay Oxidase**
- **Article number:** 10008056
- **Application of the substance / the mixture**  
This product is for research use - Not for human or veterinary diagnostic or therapeutic use.
- **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**



GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Eye Damage 1

H318 Causes serious eye damage.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure 3

H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements**

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

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Trade name: Cholesterol Assay Oxidase

(Contd. from page 1)

- **Hazard pictograms**



GHS05 GHS07 GHS08

- **Signal word** Danger

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

Potassium phosphate, Monobasic  
Sodium chloride

- **Hazard statements**

H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
P264 Wash thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear eye protection / face protection.  
P302+P352 If on skin: Wash with plenty of water.  
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.  
P310 Immediately call a poison center/doctor.  
P321 Specific treatment (see on this label).  
P314 Get medical advice/attention if you feel unwell.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P332+P313 If skin irritation 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 = 3  
Fire = 0  
Reactivity = 0

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



Health = \*3  
Fire = 0  
Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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(Contd. on page 3)



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## acc. to OSHA HCS

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Revision date 01/03/2023

Trade name: Cholesterol Assay Oxidase

(Contd. from page 2)

### 3 Composition/information on ingredients

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

- **Dangerous components:**

|                                    |                                |        |
|------------------------------------|--------------------------------|--------|
| CAS: 7778-77-0<br>RTECS: TC6615500 | Potassium phosphate, Monobasic | 50.38% |
| CAS: 7647-14-5<br>RTECS: VZ4725000 | Sodium chloride                | 10.81% |
| CAS: 81-25-4<br>RTECS: FZ9350000   | Cholic acid                    | 7.57%  |

- **Other ingredients**

|           |                     |        |
|-----------|---------------------|--------|
| 9028-76-6 | Cholesterol oxidase | 31.24% |
|-----------|---------------------|--------|

### 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.
- **After inhalation:** 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:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **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.

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Trade name: Cholesterol Assay Oxidase

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- **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:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 9.6 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

· **PAC-2:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 110 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

· **PAC-3:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 630 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

## 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:** Store in accordance with information listed on the product insert.
- **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.
- **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 skin.  
Avoid contact with the eyes and skin.

(Contd. on page 5)

-US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Oxidase

(Contd. from page 4)

- **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

## 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

**Form:** lyophilized  
**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.

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Trade name: Cholesterol Assay Oxidase

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|                                                   |                                            |
|---------------------------------------------------|--------------------------------------------|
| <b>Upper:</b>                                     | Not determined.                            |
| · <b>Vapor pressure:</b>                          | Not applicable.                            |
| · <b>Density:</b>                                 | Not determined.                            |
| · <b>Relative density</b>                         | Not determined.                            |
| · <b>Vapor density</b>                            | Not applicable.                            |
| · <b>Evaporation rate</b>                         | Not applicable.                            |
| · <b>Solubility in / Miscibility with Water:</b>  | Soluble.                                   |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| · <b>Viscosity:</b>                               |                                            |
| <b>Dynamic:</b>                                   | Not applicable.                            |
| <b>Kinematic:</b>                                 | Not applicable.                            |
| · <b>Solvent content:</b>                         |                                            |
| <b>VOC content:</b>                               | 0.00 %                                     |
| <b>Solids content:</b>                            | 68.8 %                                     |
| · <b>Other information</b>                        | 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.
- **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:**

### 7778-77-0 Potassium phosphate, Monobasic

|      |      |                   |
|------|------|-------------------|
| Oral | LDLO | 4,640 mg/kg (rat) |
|------|------|-------------------|

### 7647-14-5 Sodium chloride

|            |      |                                      |
|------------|------|--------------------------------------|
| Oral       | LDLO | 1,000 mg/kg (man)                    |
|            | TDLO | 650 ml/kg (man)                      |
|            | LD50 | 4,000 mg/kg (mouse)                  |
|            |      | 3,000 mg/kg (rat)                    |
| Inhalative | LD50 | 4 g/kg (mouse)                       |
|            | LC50 | 320 mg/m <sup>3</sup> (mouse)        |
|            | TCLO | 0.63 mg/m <sup>3</sup> (hmn)         |
|            | LCLO | 29,300 mg/m <sup>3</sup> /7h (mouse) |

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

**Trade name: Cholesterol Assay Oxidase**

(Contd. from page 6)

|                    |                            |                     |
|--------------------|----------------------------|---------------------|
| Irritation of skin | Irritation                 | 500 mg/24h (rabbit) |
| Irritation of eyes | Irritation                 | 100 mg/24h (rabbit) |
|                    | Intraperitoneal LD50       | 2,602 mg/kg (mouse) |
|                    | Subcutaneous LD50          | 31.6 mg/kg (rat)    |
|                    | Intravenous LD50           | 59.5 mg/kg (rat)    |
|                    | Data                       | 15 mg/3D (hmn)      |
|                    | Subcutaneous LD50          | 3 g/kg (mouse)      |
|                    | <b>81-25-4 Cholic acid</b> |                     |
| Oral               | LD50                       | 4,950 mg/kg (mouse) |

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

- **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 2 (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
Danger to drinking water if even small quantities leak into the ground.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

US

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Oxidase

(Contd. from page 7)

## 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

- |                                                                                  |                 |
|----------------------------------------------------------------------------------|-----------------|
| · <b>UN-Number</b>                                                               |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>UN proper shipping name</b>                                                 |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>Transport hazard class(es)</b>                                              |                 |
| · <b>DOT, ADN, IMDG, IATA</b>                                                    |                 |
| · <b>Class</b>                                                                   | not regulated   |
| · <b>Packing group</b>                                                           |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>Environmental hazards:</b>                                                  | Not applicable. |
| · <b>Special precautions for user</b>                                            | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>                                                  | not regulated   |

## 15 Regulatory information

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

- **Sara**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

- **Hazardous Air Pollutants**

None of the ingredients is listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

(Contd. on page 9)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

**Trade name: Cholesterol Assay Oxidase**

(Contd. from page 8)

**· 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** 01/03/2023

· **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

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Damage 1: Serious eye damage/eye irritation – Category 1

Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3

Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2

· **\* Data compared to the previous version altered.**



## Safety Data Sheet acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

### 1 Identification

- **Product identifier**
- **Trade name: Cholesterol Assay Esterase**
- **Article number:** 10008057
- **Application of the substance / the mixture**  
This product is for research use - Not for human or veterinary diagnostic or therapeutic use.
- **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**



GHS08 Health hazard

Specific Target Organ Toxicity - Repeated Exposure H373 May cause damage to organs through prolonged or repeated exposure.

2



GHS05 Corrosion

Eye Damage 1

H318 Causes serious eye damage.



GHS07

Skin Irritation 2

H315 Causes skin irritation.

Specific Target Organ Toxicity - Single Exposure 3

H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements**

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

(Contd. on page 2)



# Safety Data Sheet

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Trade name: Cholesterol Assay Esterase

(Contd. from page 1)

- **Hazard pictograms**



GHS05 GHS07 GHS08

- **Signal word** Danger

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

Potassium phosphate, Monobasic  
Sodium chloride

- **Hazard statements**

H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.

- **Precautionary statements**

P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
P264 Wash thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear eye protection / face protection.  
P302+P352 If on skin: Wash with plenty of water.  
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.  
P310 Immediately call a poison center/doctor.  
P321 Specific treatment (see on this label).  
P314 Get medical advice/attention if you feel unwell.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P332+P313 If skin irritation 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 = 3  
Fire = 0  
Reactivity = 0

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



Health = \*3  
Fire = 0  
Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

US

(Contd. on page 3)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Esterase

(Contd. from page 2)

### 3 Composition/information on ingredients

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

- **Dangerous components:**

|                                    |                                |        |
|------------------------------------|--------------------------------|--------|
| CAS: 7778-77-0<br>RTECS: TC6615500 | Potassium phosphate, Monobasic | 66.8%  |
| CAS: 7647-14-5<br>RTECS: VZ4725000 | Sodium chloride                | 14.33% |
| CAS: 81-25-4<br>RTECS: FZ9350000   | Cholic acid                    | 10.03% |

- **Other ingredients**

|           |                      |       |
|-----------|----------------------|-------|
| 9026-00-0 | Cholesterol esterase | 8.84% |
|-----------|----------------------|-------|

### 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.
- **After inhalation:** 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:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **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.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Esterase

(Contd. from page 3)

- **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:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 9.6 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

· **PAC-2:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 110 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

· **PAC-3:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7778-77-0 | Potassium phosphate, Monobasic | 630 mg/m <sup>3</sup> |
|-----------|--------------------------------|-----------------------|

## 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:** Store in accordance with information listed on the product insert.
- **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.
- **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 skin.  
Avoid contact with the eyes and skin.

(Contd. on page 5)

US

# Safety Data Sheet

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Printing date 01/03/2023

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Trade name: Cholesterol Assay Esterase

(Contd. from page 4)

- **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

## 9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

**Form:**

Liquid

**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.

(Contd. on page 6)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Esterase

(Contd. from page 5)

|                                                   |                                            |
|---------------------------------------------------|--------------------------------------------|
| <b>Upper:</b>                                     | Not determined.                            |
| · <b>Vapor pressure:</b>                          | Not applicable.                            |
| · <b>Density:</b>                                 | Not determined.                            |
| · <b>Relative density</b>                         | Not determined.                            |
| · <b>Vapor density</b>                            | Not applicable.                            |
| · <b>Evaporation rate</b>                         | Not applicable.                            |
| · <b>Solubility in / Miscibility with Water:</b>  | Soluble.                                   |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| · <b>Viscosity:</b>                               |                                            |
| <b>Dynamic:</b>                                   | Not applicable.                            |
| <b>Kinematic:</b>                                 | Not applicable.                            |
| · <b>Solvent content:</b>                         |                                            |
| <b>VOC content:</b>                               | 0.00 %                                     |
| <b>Solids content:</b>                            | 100.0 %                                    |
| · <b>Other information</b>                        | 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.
- **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:**

### 7778-77-0 Potassium phosphate, Monobasic

|      |      |                   |
|------|------|-------------------|
| Oral | LDLO | 4,640 mg/kg (rat) |
|------|------|-------------------|

### 7647-14-5 Sodium chloride

|            |      |                                          |
|------------|------|------------------------------------------|
| Oral       | LDLO | 1,000 mg/kg (man)                        |
|            | TDLO | 650 ml/kg (man)                          |
|            | LD50 | 4,000 mg/kg (mouse)<br>3,000 mg/kg (rat) |
| Inhalative | LD50 | 4 g/kg (mouse)                           |
|            | LC50 | 320 mg/m <sup>3</sup> (mouse)            |
|            | TCLO | 0.63 mg/m <sup>3</sup> (hmn)             |
|            | LCLO | 29,300 mg/m <sup>3</sup> /7h (mouse)     |

(Contd. on page 7)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

**Trade name: Cholesterol Assay Esterase**

(Contd. from page 6)

|                    |                            |                     |
|--------------------|----------------------------|---------------------|
| Irritation of skin | Irritation                 | 500 mg/24h (rabbit) |
| Irritation of eyes | Irritation                 | 100 mg/24h (rabbit) |
|                    | Intraperitoneal LD50       | 2,602 mg/kg (mouse) |
|                    | Subcutaneous LD50          | 31.6 mg/kg (rat)    |
|                    | Intravenous LD50           | 59.5 mg/kg (rat)    |
|                    | Data                       | 15 mg/3D (hmn)      |
|                    | Subcutaneous LD50          | 3 g/kg (mouse)      |
|                    | <b>81-25-4 Cholic acid</b> |                     |
| Oral               | LD50                       | 4,950 mg/kg (mouse) |

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.

- **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Irritant

- **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 2 (Self-assessment): hazardous for water  
 Do not allow product to reach ground water, water course or sewage system.  
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
 Danger to drinking water if even small quantities leak into the ground.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

US

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

Trade name: Cholesterol Assay Esterase

(Contd. from page 7)

## 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

- |                                                                                  |                 |
|----------------------------------------------------------------------------------|-----------------|
| · <b>UN-Number</b>                                                               |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>UN proper shipping name</b>                                                 |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>Transport hazard class(es)</b>                                              |                 |
| · <b>DOT, ADN, IMDG, IATA</b>                                                    |                 |
| · <b>Class</b>                                                                   | not regulated   |
| · <b>Packing group</b>                                                           |                 |
| · <b>DOT, IMDG, IATA</b>                                                         | not regulated   |
| · <b>Environmental hazards:</b>                                                  | Not applicable. |
| · <b>Special precautions for user</b>                                            | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>                                                  | not regulated   |

## 15 Regulatory information

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

- **Sara**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

- **Hazardous Air Pollutants**

None of the ingredients is listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

(Contd. on page 9)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/03/2023

Revision date 01/03/2023

**Trade name: Cholesterol Assay Esterase**

(Contd. from page 8)

**· 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** 01/03/2023

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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

Skin Irritation 2: Skin corrosion/irritation – Category 2

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Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2