

## Safety Data Sheet acc. to OSHA HCS

Printing date 10/30/2020

Revision date 10/30/2020

### 1 Identification

- **Product identifier**
- **Trade name: Phospholipase C  $\beta$ 2 Polyclonal Antibody**
- **Synonym**  
1-Phosphatidylinositol 4,5-bisphosphate Phosphodiesterase  $\beta$ 2; Phosphoinositide Phospholipase C  $\beta$ 2
- **Article number:** 29290
- **Application of the substance / the mixture** For research use only, not for human or veterinary 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**  
The product is not classified, according to the Globally Harmonized System (GHS).

- **Label elements**
- **GHS label elements** None
- **Hazard pictograms** None
- **Signal word** None
- **Hazard statements** None
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 0  
Fire = 1  
Reactivity = 0

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



HEALTH 0 Health = 0  
FIRE 1 Fire = 1  
REACTIVITY 0 Reactivity = 0

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

US

(Contd. on page 2)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 10/30/2020

Revision date 10/30/2020

**Trade name: Phospholipase C  $\beta$ 2 Polyclonal Antibody**

(Contd. from page 1)

### 3 Composition/information on ingredients

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

- **Dangerous components:**

CAS: 56-81-5 RTECS: MA8050000	Glycerol	50.0%
----------------------------------	----------	-------

- **Other ingredients**

CAS: 7732-18-5 RTECS: ZC0110000	Water	48.86%
CAS: 7647-14-5 RTECS: VZ4725000	Sodium chloride	0.88%
CAS: 7365-45-9 RTECS: TL6809000	HEPES, free acid	0.24%
CAS: 9048-46-8 RTECS: MT6446000	Albumin, bovine	0.01%
	Phospholipase C $\beta$ 2 Polyclonal Antibody	0.01%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **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**  
May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.  
No further relevant information available.
- **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** 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** Not required.
- **Environmental precautions:**  
Dilute with plenty of water.

(Contd. on page 3)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 10/30/2020

Revision date 10/30/2020

**Trade name: Phospholipase C  $\beta$ 2 Polyclonal Antibody**

(Contd. from page 2)

- 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).
- **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:**

56-81-5	Glycerol	45 mg/m <sup>3</sup>
7365-45-9	HEPES, free acid	30 mg/m <sup>3</sup>

· **PAC-2:**

56-81-5	Glycerol	180 mg/m <sup>3</sup>
7365-45-9	HEPES, free acid	330 mg/m <sup>3</sup>

· **PAC-3:**

56-81-5	Glycerol	1,100 mg/m <sup>3</sup>
7365-45-9	HEPES, free acid	2,000 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**  
Keep container tightly closed.  
Store in accordance with information listed on the product insert.
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **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:****56-81-5 Glycerol**

PEL	Long-term value: 15* 5** mg/m <sup>3</sup> mist; *total dust **respirable fraction
TLV	TLV withdrawn-insufficient data human occup. exp.

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.

(Contd. on page 4)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 10/30/2020

Revision date 10/30/2020

**Trade name: Phospholipase C  $\beta$ 2 Polyclonal Antibody**

(Contd. from page 3)

- **Protection of hands:**  
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:** Goggles recommended during refilling.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
  - **General Information**
  - **Appearance:**
    - **Form:** Liquid
    - **Color:** According to product specification
  - **Odor:** Characteristic
  - **Storage Buffer** 10 mM HEPES, pH 7.5, with 150 mM sodium chloride, 100  $\mu$ g/ml BSA, and 50% glycerol
  - **Odor threshold:** Not determined.
  - **Formulation** 100  $\mu$ l of affinity-purified polyclonal antibody from pooled serum
- |   |   |
|---|---|
| · <b>pH-value at 20 °C (68 °F):</b>       | 7.5   |
| · <b>Change in condition</b>              |   |
| · <b>Melting point/Melting range:</b>     | Undetermined.                                 |
| · <b>Boiling point/Boiling range:</b>     | 100 °C (212 °F)                               |
| · <b>Flash point:</b>                     | 199 °C (390.2 °F)                             |
| · <b>Flammability (solid, gaseous):</b>   | Not applicable.                               |
| · <b>Decomposition temperature:</b>       | Not determined.                               |
| · <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 at 20 °C (68 °F):</b> | 23 hPa (17.3 mm Hg)                           |
| · <b>Density:</b>                         | Not determined.                               |
| · <b>Relative density</b>                 | Not determined.                               |
| · <b>Vapor density</b>                    | Not determined.                               |
| · <b>Evaporation rate</b>                 | Not determined.                               |

(Contd. on page 5)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 10/30/2020

Revision date 10/30/2020

Trade name: Phospholipase C  $\beta$ 2 Polyclonal Antibody

(Contd. from page 4)

- |   |  |
|---|--|
| <b>· Solubility in / Miscibility with Water:</b>  | Fully miscible.                            |
| <b>· Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| <b>· Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | Not determined.                            |
| <b>Kinematic:</b>                                 | Not determined.                            |
| <b>· Solvent content:</b>                         |  |
| <b>Organic solvents:</b>                          | 50.0 %                                     |
| <b>Water:</b>                                     | 48.9 %                                     |
| <b>VOC content:</b>                               | 0.00 %<br>0.0 g/l / 0.00 lb/gal            |
| <b>Solids content:</b>                            | 1.2 %                                      |
| <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:**

### 56-81-5 Glycerol

Oral	LD50	12,600 mg/kg (rat)
Irritation of skin	Irritation	500 mg/24h (rabbit)
Irritation of eyes	Irritation	500 mg/24h (rabbit)
	Intraperitoneal LD50	4,420 mg/kg (rat)
	Subcutaneous LD50	100 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

(Contd. on page 6)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/30/2020

Revision date 10/30/2020

Trade name: Phospholipase C  $\beta$ 2 Polyclonal Antibody

(Contd. from page 5)

- **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.

- **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:** Smaller quantities can be disposed of with household waste.

- **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** not regulated

- **UN proper shipping name**

- **DOT, IMDG, IATA** not regulated

- **Transport hazard class(es)**

- **DOT, ADN, IMDG, IATA**

- **Class** not regulated

- **Packing group**

- **DOT, IMDG, IATA** not regulated

(Contd. on page 7)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/30/2020

Revision date 10/30/2020

**Trade name: Phospholipase C  $\beta$ 2 Polyclonal Antibody**

(Contd. from page 6)

- |  |                 |
|--|-----------------|
| <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**
- **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):**

56-81-5	Glycerol	ACTIVE
7732-18-5	Water	ACTIVE
7647-14-5	Sodium chloride	ACTIVE
7365-45-9	HEPES, free acid	ACTIVE
9048-46-8	Albumin, bovine	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:**

None of the ingredients is listed.

**· Carcinogenic categories**

**· EPA (Environmental Protection Agency)**

None of the ingredients is listed.

**· TLV (Threshold Limit Value established by ACGIH)**

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.

US

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/30/2020

Revision date 10/30/2020

**Trade name: Phospholipase C  $\beta$ 2 Polyclonal Antibody**

(Contd. from page 7)

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

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

· **Contact:** -

· **Date of preparation / last revision** 10/30/2020 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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

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

US