



## Safety Data Sheet acc. to OSHA HCS

Printing date 01/31/2022

Revision date 01/31/2022

### 1 Identification

- **Product identifier**
- **Trade name:** Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Strip Plate
- **Article number:** 400004
- **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**  
The substance 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 = 0  
Reactivity = 0

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



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

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Trade name: Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Strip Plate

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- **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**  
Precoated (Mouse Anti-Rabbit IgG) EIA 96-Well Plate

## 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:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Pick up mechanically.
- **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:

Substance is not listed.

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Trade name: Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Strip Plate

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· **PAC-2:**

Substance is not listed.

· **PAC-3:**

Substance is not listed.

## 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:** Not required.
- **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.
- **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.
- **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:** Not required.

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Trade name: Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Strip Plate

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## 9 Physical and chemical properties

|  |   |
|--|---|
| · <b>Information on basic physical and chemical properties</b> |   |
| · <b>General Information</b>                                   |   |
| · <b>Appearance:</b>   |   |
| Form:  | PLATE   |
| Color:   | According to product specification            |
| · <b>Odor:</b>   | Characteristic                                |
| · <b>Odor threshold:</b>                                       | Not determined.                               |
| · <b>pH-value:</b>   | Not applicable.                               |
| · <b>Change in condition</b>                                   |   |
| Melting point/Melting range:                                   | Undetermined.                                 |
| Boiling point/Boiling range:                                   | Undetermined.                                 |
| · <b>Flash point:</b>  | Not applicable.                               |
| · <b>Flammability (solid, gaseous):</b>                        | Product is not flammable.                     |
| · <b>Decomposition temperature:</b>                            | Not determined.                               |
| · <b>Auto igniting:</b>  | Not determined.                               |
| · <b>Danger of explosion:</b>                                  | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                                     |   |
| Lower:   | Not determined.                               |
| Upper:   | 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>  |   |
| Dynamic:   | Not applicable.                               |
| Kinematic:   | Not applicable.                               |
| VOC content:   | 0.00 %  |
| Solids content:  | 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.

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**Trade name: Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Strip Plate**

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- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

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

- **Additional toxicological information:**

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.

The substance is not subject to classification.

- **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 (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.

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Trade name: Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Strip Plate

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· 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
- Environmental hazards: Not applicable.
- Special precautions for user Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.
- UN "Model Regulation": 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):

Substance is not listed.

### · 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.

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**Trade name: Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Strip Plate**

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- **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** 01/31/2022 / -

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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)

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



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### 1 Identification

- **Product identifier**
- **Trade name:** Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Solid Plate
- **Article number:** 400006
- **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**  
The substance 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 = 0  
Reactivity = 0

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



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

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Trade name: **Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Solid Plate**

(Contd. from page 1)

- **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**  
Precoated (Mouse Anti-Rabbit IgG) EIA 96-Well Plate

### 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:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Pick up mechanically.
- **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:**

Substance is not listed.

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Trade name: Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Solid Plate

(Contd. from page 2)

· **PAC-2:**

Substance is not listed.

· **PAC-3:**

Substance is not listed.

## 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:** Not required.
- **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.
- **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.
- **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:** Not required.

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Revision date 01/31/2022

Trade name: Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Solid Plate

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## 9 Physical and chemical properties

|  |   |
|--|---|
| · <b>Information on basic physical and chemical properties</b> |   |
| · <b>General Information</b>                                   |   |
| · <b>Appearance:</b>   |   |
| Form:  | PLATE   |
| Color:   | According to product specification            |
| · <b>Odor:</b>   | Characteristic                                |
| · <b>Odor threshold:</b>                                       | Not determined.                               |
| · <b>pH-value:</b>   | Not applicable.                               |
| · <b>Change in condition</b>                                   |   |
| Melting point/Melting range:                                   | Undetermined.                                 |
| Boiling point/Boiling range:                                   | Undetermined.                                 |
| · <b>Flash point:</b>  | Not applicable.                               |
| · <b>Flammability (solid, gaseous):</b>                        | Product is not flammable.                     |
| · <b>Decomposition temperature:</b>                            | Not determined.                               |
| · <b>Auto igniting:</b>  | Not determined.                               |
| · <b>Danger of explosion:</b>                                  | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                                     |   |
| Lower:   | Not determined.                               |
| Upper:   | 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>  |   |
| Dynamic:   | Not applicable.                               |
| Kinematic:   | Not applicable.                               |
| VOC content:   | 0.00 %  |
| Solids content:  | 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.

(Contd. on page 5)

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Trade name: Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Solid Plate

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- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

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

- **Additional toxicological information:**

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.

The substance is not subject to classification.

- **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 (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.

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Trade name: Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Solid Plate

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· 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
- Environmental hazards: Not applicable.
- Special precautions for user Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.
- UN "Model Regulation": 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):

Substance is not listed.

### · 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.

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Trade name: Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Solid Plate

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- **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** 01/31/2022 / -

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

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)

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

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

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## Safety Data Sheet

acc. to OSHA HCS

Printing date 01/14/2022

Revision date 01/14/2022

### 1 Identification

- **Product identifier**
- **Trade name:** Polysorbate 20
- **Article number:** 400035
- **CAS Number:**  
9005-64-5
- **NLP Number:**  
500-018-3
- **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**  
The substance 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

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Trade name: Polysorbate 20

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## · 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.

## 3 Composition/information on ingredients

- Chemical characterization: Substances
- CAS No. Description  
9005-64-5 Polysorbate 20
- Identification number(s)
- NLP Number: 500-018-3

## 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: 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).

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- **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:** Substance is not listed.
- **PAC-2:** Substance is not listed.
- **PAC-3:** Substance is not listed.

## 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**
- **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:** Not required.
- **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.
- **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.
- **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.

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## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

|                 |                 |
|-----------------|-----------------|
| Form:           | Liquid          |
| Color:          | Not determined. |
| Odor:           | Characteristic  |
| Odor threshold: | Not determined. |

· pH-value: Not determined.

#### · Change in condition

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

· Flash point: 275 °C (527 °F)

· Flammability (solid, gaseous): Not applicable.

· Decomposition temperature: Not determined.

· Auto igniting: Not determined.

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

#### · Explosion limits:

|        |                 |
|--------|-----------------|
| Lower: | Not determined. |
| Upper: | Not determined. |

· Vapor pressure: Not determined.

· Density: Not determined.

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

#### · Solubility in / Miscibility with

Water: Not determined.

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

#### · Viscosity:

|            |                 |
|------------|-----------------|
| Dynamic:   | Not determined. |
| Kinematic: | Not determined. |

· 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: strong oxidizing agents

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· **Hazardous decomposition products:** carbon oxides

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## 11 Toxicological information

· **Information on toxicological effects**· **Acute toxicity:**· **LD/LC50 values that are relevant for classification:**

|      |                      |                    |
|------|----------------------|--------------------|
| Oral | LD50                 | >33 g/kg (mouse)   |
|      | LD50                 | 36,700 µL/kg (rat) |
|      | Intraperitoneal LD50 | 3,850 mg/kg (rat)  |
|      | Intraperitoneal LD50 | 3,850 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:**

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.

The substance is not subject to classification.

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

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 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):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is not listed.
- **TSCA (Toxic Substances Control Act):** ACTIVE
- **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

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**Trade name: Polysorbate 20**

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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** 01/14/2022 / -
- **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
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - 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.**

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/14/2021

Revision date 04/14/2021

## 1 Identification

- **Product identifier**
- **Trade name:** Methoxylamine hydrochloride
- **Article number:** 400036
- **CAS Number:**  
593-56-6
- **EC number:**  
209-798-7
- **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**



GHS08 Health hazard

|           |  |
|-----------|--|
| Carc. 2   | H351 Suspected of causing cancer.                                    |
| STOT RE 1 | H372 Causes damage to organs through prolonged or repeated exposure. |



GHS05 Corrosion

|            |                                 |
|------------|---------------------------------|
| Eye Dam. 1 | H318 Causes serious eye damage. |
|------------|---------------------------------|



GHS09 Environment

|                 |                                  |
|-----------------|----------------------------------|
| Aquatic Acute 1 | H400 Very toxic to aquatic life. |
|-----------------|----------------------------------|



GHS07

|               |                                    |
|---------------|------------------------------------|
| Acute Tox. 4  | H302 Harmful if swallowed.         |
| Acute Tox. 4  | H312 Harmful in contact with skin. |
| Skin Irrit. 2 | H315 Causes skin irritation.       |

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Trade name: Methoxylamine hydrochloride

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

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· **Label elements**

· **GHS label elements**

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

· **Hazard pictograms**



GHS05 GHS07 GHS08 GHS09

· **Signal word** Danger

· **Hazard statements**

H302+H312 Harmful if swallowed or in contact with skin.

H315 Causes skin irritation.

H318 Causes serious eye damage.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H412 Harmful to aquatic life with long lasting effects.

· **Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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

Wash thoroughly after handling.

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

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

Avoid release to the environment.

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

If swallowed: Call a poison center/doctor if you feel unwell.

If on skin: Wash with plenty of water.

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

Immediately call a poison center/doctor.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

Rinse mouth.

Take off contaminated clothing and wash it before reuse.

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

Wash contaminated clothing before reuse.

Collect spillage.

Store locked up.

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

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Trade name: Methoxylamine hydrochloride

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## · HMIS-ratings (scale 0 - 4)

HEALTH 3

Health = \*3

FIRE 0

Fire = 0

REACTIVITY 0

Reactivity = 0

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

## 3 Composition/information on ingredients

- Chemical characterization: Substances
- CAS No. Description  
593-56-6 Methoxylamine hydrochloride
- Identification number(s)
- EC number: 209-798-7

## 4 First-aid measures

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

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Trade name: Methoxylamine hydrochloride

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### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
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.
- **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:** Substance is not listed.
  - **PAC-2:** Substance is not listed.
  - **PAC-3:** Substance is not listed.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Thorough dedusting.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **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:** Not required.
- **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: Methoxylamine hydrochloride

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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.

## 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:

Solid

Color:

Not determined.

#### Odor:

Characteristic

#### Structural Formula

CH<sub>5</sub>NO · HCl

#### Molecular Weight

83.5 g/mol

#### Odor threshold:

Not determined.

#### pH-value:

Not applicable.

#### Change in condition

Melting point/Melting range:

148 °C (298.4 °F)

Boiling point/Boiling range:

Undetermined.

#### Flash point:

Not applicable.

#### Flammability (solid, gaseous):

Product is not flammable.

#### Decomposition temperature:

Not determined.

#### Auto igniting:

Not determined.

#### 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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Trade name: Methoxylamine hydrochloride

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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>  | Not determined.                            |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| · <b>Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | Not applicable.                            |
| <b>Kinematic:</b>                                 | Not applicable.                            |
| <b>SOLUBILITY</b>                                 | H2O; DMSO; MeOH                            |
| · <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:** acid anhydrides, strong oxidizing agents
- **Hazardous decomposition products:** carbon oxides, hydrogen chloride, nitrogen oxides

## 11 Toxicological information

- **RTECS Number** NC3980000
- **Information on toxicological effects**
- **Acute toxicity:**
- **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 skin contact.
- **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.

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- **Ecotoxicological effects:**
- **Remark:**  
Very toxic for fish  
Harmful to fish
- **Additional ecological information:**
- **General notes:**  
Water hazard class 3 (Assessment by list): extremely hazardous for water  
Do not allow product to reach ground water, water course or sewage system, even in small quantities.  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
Danger to drinking water if even extremely small quantities leak into the ground.  
Very toxic for aquatic organisms  
Harmful to aquatic organisms
- **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.

## 14 Transport information

- |   |  |
|---|--|
| · <b>UN-Number</b>  | UN3261   |
| · <b>DOT, IMDG, IATA</b>  |  |
| · <b>UN proper shipping name</b>  | Corrosive solid, acidic, organic, n.o.s. (Methoxylamine hydrochloride) |
| · <b>DOT, IATA</b>  | CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (Methoxylamine hydrochloride) |
| · <b>IMDG</b>   |  |
| · <b>Transport hazard class(es)</b>   |  |
| · <b>DOT</b>  |  |
|  |  |
| · <b>Class</b>  | 8 Corrosive substances   |
| · <b>Label</b>  | 8  |

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Trade name: Methoxylamine hydrochloride

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· **IMDG, IATA**

· **Class** 8 Corrosive substances  
 · **Label** 8

· **Packing group**  
 · **DOT, IMDG, IATA** II

· **Environmental hazards:** Environmentally hazardous substance, solid

· **Special precautions for user** Warning: Corrosive substances  
 · **Hazard identification number (Kemler code):** 80  
 · **EMS Number:** F-A,S-B  
 · **Segregation groups** Acids  
 · **Stowage Category** B

· **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: 15 kg  
 On cargo aircraft only: 50 kg

· **IMDG**  
 · **Limited quantities (LQ)** 1 kg  
 · **Excepted quantities (EQ)** Code: E2  
 Maximum net quantity per inner packaging: 30 g  
 Maximum net quantity per outer packaging: 500 g

· **IATA**

· **Remarks:** When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.

· **UN "Model Regulation":** UN 3261 CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (METHOXYLAMINE HYDROCHLORIDE), 8, II, ENVIRONMENTALLY HAZARDOUS

## 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):** ACTIVE
- **Hazardous Air Pollutants** Substance is not listed.

(Contd. on page 9)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 04/14/2021

Revision date 04/14/2021

Trade name: Methoxylamine hydrochloride

(Contd. from page 8)

- **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

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** 04/14/2021 / -
- **Abbreviations and acronyms:**
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety & Health
  - TLV: Threshold Limit Value
  - PEL: Permissible Exposure Limit
  - REL: Recommended Exposure Limit
  - Acute Tox. 4: Acute toxicity – Category 4
  - Skin Irrit. 2: Skin corrosion/irritation – Category 2
  - Eye Dam. 1: Serious eye damage/eye irritation – Category 1
  - Skin Sens. 1: Skin sensitisation – Category 1
  - Carc. 2: Carcinogenicity – Category 2
  - STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
  - Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
  - Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/14/2021

Revision date 04/14/2021

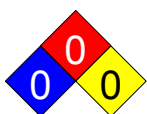
## 1 Identification

- **Product identifier**
- **Trade name:** Sodium Acetate
- **Synonym** Acetic acid, sodium salt
- **Article number:** 400037
- **CAS Number:**  
127-09-3
- **EC number:**  
204-823-8
- **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 substance 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 = 0  
Reactivity = 0

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



Health = 1  
Fire = 0  
Reactivity = 0

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

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# Safety Data Sheet

acc. to OSHA HCS

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Trade name: Sodium Acetate

· **vPvB:** Not applicable.

(Contd. from page 1)

## 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
127-09-3 Sodium Acetate
- **Identification number(s)**
- **EC number:** 204-823-8

## 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:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Pick up mechanically.
- **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:** 11 mg/m<sup>3</sup>
- **PAC-2:** 120 mg/m<sup>3</sup>

(Contd. on page 3)

US



# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/14/2021

Revision date 04/14/2021

Trade name: Sodium Acetate

· PAC-3: 700 mg/m<sup>3</sup>

(Contd. from page 2)

## 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**
- **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:** Not required.
- **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.
- **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.
- **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:** Not required.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
- **Form:** Solid
- **Color:** Not determined.
- **Odor:** Characteristic
- **Structural Formula** C<sub>2</sub>H<sub>3</sub>NaO<sub>2</sub>
- **Molecular Weight** 82 g/mol

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/14/2021

Revision date 04/14/2021

Trade name: Sodium Acetate

(Contd. from page 3)

|  |   |
|--|---|
| · Odor threshold:                          | Not determined.                               |
| · pH-value:                                | 7.5–9   |
| · Change in condition                      |   |
| Melting point/Melting range:               | Undetermined.                                 |
| Boiling point/Boiling range:               | Undetermined.                                 |
| · Flash point:                             | Not applicable.                               |
| · Flammability (solid, gaseous):           | Product is not flammable.                     |
| · Decomposition temperature:               | Not determined.                               |
| · Auto igniting:                           | Not determined.                               |
| · Danger of explosion:                     | Product does not present an explosion hazard. |
| · Explosion limits:                        |   |
| Lower:                                     | Not determined.                               |
| Upper:                                     | Not determined.                               |
| · Vapor pressure:                          | Not applicable.                               |
| · Density:                                 | Not determined.                               |
| · Relative density                         | Not determined.                               |
| · Vapor density                            | Not applicable.                               |
| · Evaporation rate                         | Not applicable.                               |
| · Solubility in / Miscibility with         |   |
| Water at 20 °C (68 °F):                    | 1.19 g/l                                      |
| · Partition coefficient (n-octanol/water): | Not determined.                               |
| · Viscosity:                               |   |
| Dynamic:                                   | Not applicable.                               |
| Kinematic:                                 | Not applicable.                               |
| SOLUBILITY                                 | EtOH; H2O                                     |
| · 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:** strong oxidizing agents
- **Hazardous decomposition products:** carbon oxides, sodium oxidees

## 11 Toxicological information

- **RTECS Number** AJ4300010

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US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/14/2021

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Trade name: Sodium Acetate

(Contd. from page 4)

- **Information on toxicological effects**

- **Acute toxicity:**

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

|      |                      |                     |
|------|----------------------|---------------------|
| Oral | LD50                 | 6,891 mg/kg (mouse) |
|      |                      | 3,530 mg/kg (rat)   |
|      | Intraperitoneal TDLO | 50 mg/kg (rat)      |
|      | Subcutaneous LD50    | 3,200 mg/kg (mouse) |

- **Primary irritant effect:**

- **on the skin:** No irritant effect.

- **on the eye:** No irritating effect.

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

- **Additional toxicological information:**

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.

The substance is not subject to classification.

- **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:** 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.

US

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# Safety Data Sheet

acc. to OSHA HCS



Printing date 04/14/2021

Revision date 04/14/2021

Trade name: Sodium Acetate

(Contd. from page 5)

## 14 Transport information

|  |  |
|--|--|
| · UN-Number  |  |
| · DOT  | NA1993   |
| · IMDG, IATA   | UN1993   |
| · UN proper shipping name  |  |
| · DOT  | Flammable liquids, n.o.s. (Sodium Acetate)               |
| · IMDG   | FLAMMABLE LIQUID, N.O.S. (Sodium Acetate)                |
| · IATA   | Flammable liquid, n.o.s. (Sodium Acetate)                |
| · Transport hazard class(es)   |  |
| · DOT  |  |
|   |  |
| · Class  | 3 Flammable liquids                                      |
| · Label  | 3  |
| · IMDG, IATA   |  |
|  |  |
| · Class  | 3 Flammable liquids                                      |
| · Label  | 3  |
| · Packing group  |  |
| · DOT, IMDG, IATA  | Xi   |
| · Environmental hazards:   | Not applicable.  |
| · Special precautions for user   | Warning: Flammable liquids                               |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code          | Not applicable.  |
| · UN "Model Regulation":   | UN 1993 FLAMMABLE LIQUID, N.O.S. (SODIUM ACETATE), 3, XI |

## 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):** ACTIVE
- **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.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/14/2021

Revision date 04/14/2021

**Trade name: Sodium Acetate**

(Contd. from page 6)

- **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

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** 04/14/2021 / -

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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

US



## Safety Data Sheet acc. to OSHA HCS

Printing date 01/14/2022

Revision date 01/14/2022

### 1 Identification

- **Product identifier**
- **Trade name:** ELISA Tracer Dye
- **Article number:** 400040
- **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**



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 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**



GHS07

- **Signal word** Warning
- **Hazard statements**  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.

(Contd. on page 2)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Tracer Dye

(Contd. from page 1)

## Precautionary statements

- P264 Wash thoroughly after handling.  
 P280 Wear protective gloves / eye protection / face protection.  
 P302+P352 If on skin: Wash with plenty of water.  
 P321 Specific treatment (see on this label).  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P332+P313 If skin irritation occurs: Get medical advice/attention.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P337+P313 If eye irritation persists: Get medical advice/attention.

## Classification system:

### NFPA ratings (scale 0 - 4)



Health = 2  
 Fire = 0  
 Reactivity = 0

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



Health = 2  
 Fire = 0  
 Reactivity = 0

## Other hazards

## Results of PBT and vPvB assessment

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

## 3 Composition/information on ingredients

### CAS No. Description

EIA Tracer Dye

### Chemical characterization: Mixtures

Description: Mixture of the substances listed below with nonhazardous additions.

### Dangerous components:

|                                    |                  |      |
|------------------------------------|------------------|------|
| CAS: 1310-73-2<br>RTECS: WB4900000 | Sodium hydroxide | 0.5% |
|------------------------------------|------------------|------|

### Other ingredients

|                                    |                 |        |
|------------------------------------|-----------------|--------|
| CAS: 7732-18-5<br>RTECS: ZC0110000 | Water           | 99.25% |
| CAS: 25956-17-6                    | FD&C red dye 40 | 0.25%  |

## 4 First-aid measures

### Description of first aid measures

- General information: Immediately remove any clothing soiled by the product.
- 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. If symptoms persist, consult a doctor.
- After swallowing: If symptoms persist consult doctor.

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# Safety Data Sheet

acc. to OSHA HCS

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Trade name: ELISA Tracer Dye

(Contd. from page 2)

- **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.
- **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:

|           |                  |                       |
|-----------|------------------|-----------------------|
| 1310-73-2 | Sodium hydroxide | 0.5 mg/m <sup>3</sup> |
|-----------|------------------|-----------------------|

### · PAC-2:

|           |                  |                     |
|-----------|------------------|---------------------|
| 1310-73-2 | Sodium hydroxide | 5 mg/m <sup>3</sup> |
|-----------|------------------|---------------------|

### · PAC-3:

|           |                  |                      |
|-----------|------------------|----------------------|
| 1310-73-2 | Sodium hydroxide | 50 mg/m <sup>3</sup> |
|-----------|------------------|----------------------|

## 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:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.

(Contd. on page 4)



# Safety Data Sheet

acc. to OSHA HCS

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Trade name: ELISA Tracer Dye

(Contd. from page 3)

- **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:**

### 1310-73-2 Sodium hydroxide

|     |  |
|-----|--|
| PEL | Long-term value: 2 mg/m <sup>3</sup>     |
| REL | Ceiling limit value: 2 mg/m <sup>3</sup> |
| TLV | Ceiling limit value: 2 mg/m <sup>3</sup> |

- **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 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. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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



Tightly sealed goggles

US

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Tracer Dye

(Contd. from page 4)

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

Form:

Liquid

Color:

Red

#### · Odor:

Characteristic

#### · Structural Formula

H<sub>2</sub>O

#### · Molecular Weight

18 g/mol

#### · Odor threshold:

Not determined.

#### · Formulation

A solution in 0.5 M sodium hydroxide

#### · pH-value:

Not determined.

#### · Change in condition

Melting point/Melting range:

0 °C (32 °F)

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.

#### · Vapor pressure at 20 °C (68 °F):

23 hPa (17.3 mm Hg)

#### · Density at 20 °C (68 °F):

1 g/cm<sup>3</sup> (8.345 lbs/gal)

#### · 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 at 20 °C (68 °F):

0.952 mPas

Kinematic:

Not determined.

#### · Solvent content:

Water:

99.3 %

VOC content:

0.00 %

0.0 g/l / 0.00 lb/gal

#### · Solids content:

0.5 %

#### · Other information

No further relevant information available.

US

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Tracer Dye

(Contd. from page 5)

## 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:**

### 1310-73-2 Sodium hydroxide

|      |                      |                   |                  |
|------|----------------------|-------------------|------------------|
| Oral | LDLO                 | 1.57 mg/kg (hmn)  |                  |
|      | LD50                 | 2,000 mg/kg (rat) |                  |
|      |                      | TDLO              | 44 mg/kg (rat)   |
|      |                      | LDLO              | 1.57 mg/kg (hmn) |
|      | Intraperitoneal LD50 | 40 mg/kg (mouse)  |                  |

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **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.

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acc. to OSHA HCS

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Trade name: ELISA Tracer Dye



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- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **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

- |  |   |
|--|---|
| · <b>UN-Number</b>                                   |   |
| · <b>DOT, IMDG, IATA</b>                             | UN1824  |
| · <b>UN proper shipping name</b>                     |   |
| · <b>DOT, IATA</b>                                   | Sodium hydroxide solution   |
| · <b>IMDG</b>  | SODIUM HYDROXIDE SOLUTION   |
| · <b>Transport hazard class(es)</b>                  |   |
| · <b>DOT</b>   |   |
|  |  |
| · <b>Class</b>                                       | 8 Corrosive substances  |
| · <b>Label</b>                                       | 8   |
| · <b>IMDG, IATA</b>                                  |   |
|  |  |
| · <b>Class</b>                                       | 8 Corrosive substances  |
| · <b>Label</b>                                       | 8   |
| · <b>Packing group</b>                               |   |
| · <b>DOT, IMDG, IATA</b>                             | III   |
| · <b>Environmental hazards:</b>                      | Not applicable.   |
| · <b>Special precautions for user</b>                | Warning: Corrosive substances   |
| · <b>Hazard identification number (Kemler code):</b> | 80  |
| · <b>EMS Number:</b>                                 | F-A,S-B   |
| · <b>Segregation groups</b>                          | Alkalis   |

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Trade name: ELISA Tracer Dye

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|  |   |
|--|---|
| · <b>Stowage Category</b>  | A   |
| · <b>Segregation Code</b>  | SG35 Stow "separated from" SGG1-acids   |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.   |
| · <b>Transport/Additional information:</b>                                       |   |
| · <b>DOT</b>   |   |
| · <b>Quantity limitations</b>  | On passenger aircraft/rail: 5 L<br>On cargo aircraft only: 60 L   |
| · <b>IMDG</b>  |   |
| · <b>Limited quantities (LQ)</b>   | 5L  |
| · <b>Excepted quantities (EQ)</b>  | Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml  |
| · <b>IATA</b>  |   |
| · <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 1824 SODIUM HYDROXIDE SOLUTION, 8, III   |

## 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:**

None of the ingredients is listed.

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Trade name: ELISA Tracer Dye

(Contd. from page 8)

- **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** 01/14/2022 / -

- **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 Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

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

US



## Safety Data Sheet acc. to OSHA HCS

Printing date 02/11/2022

Revision date 02/11/2022

### 1 Identification

- **Product identifier**
- **Trade name:** ELISA Antiserum Dye
- **Article number:** 400042
- **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

Carc. 1B H350 May cause cancer.

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



GHS08

- **Signal word** Danger
- **Hazard statements**  
H350 May cause cancer.
- **Precautionary statements**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.

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Trade name: ELISA Antiserum Dye

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- P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 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 = 0  
 Fire = 0  
 Reactivity = 0

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



Health = 0  
 Fire = 0  
 Reactivity = 0

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

## 3 Composition/information on ingredients

- **CAS No. Description**  
EIA Antiserum Dye
- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

### · Dangerous components:

|                                  |                     |      |
|----------------------------------|---------------------|------|
| CAS: 72-57-1<br>RTECS: QJ6475000 | Trypan blue reagent | 0.1% |
|----------------------------------|---------------------|------|

### · Other ingredients

|                                    |                 |        |
|------------------------------------|-----------------|--------|
| CAS: 7732-18-5<br>RTECS: ZC0110000 | Water           | 99.65% |
| CAS: 7647-14-5<br>RTECS: VZ4725000 | Sodium chloride | 0.25%  |

## 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**  
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.

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Trade name: ELISA Antiserum Dye

(Contd. from page 2)

- **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.
- **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:**

None of the ingredients is listed.

- **PAC-2:**

None of the ingredients is listed.

- **PAC-3:**

None of the ingredients is listed.

## 7 Handling and storage

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

US

(Contd. on page 4)

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Trade name: ELISA Antiserum Dye

(Contd. from page 3)

## 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.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.
- **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:**

|               |                |
|---------------|----------------|
| <b>Form:</b>  | Liquid         |
| <b>Color:</b> | Blue           |
| <b>Odor:</b>  | Characteristic |
- **Structural Formula**

|                  |
|------------------|
| H <sub>2</sub> O |
|------------------|

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acc. to OSHA HCS

Printing date 02/11/2022

Revision date 02/11/2022

Trade name: ELISA Antiserum Dye

(Contd. from page 4)

|   |   |
|---|---|
| · <b>Molecular Weight</b>                         | 18 g/mol                                      |
| · <b>Odor threshold:</b>                          | Not determined.                               |
| · <b>Formulation</b>                              | A solution in 0.85% in sodium chloride        |
| · <b>pH-value:</b>                                | Not applicable.                               |
| · <b>Change in condition</b>                      |   |
| <b>Melting point/Melting range:</b>               | 0 °C (32 °F)                                  |
| <b>Boiling point/Boiling range:</b>               | 100 °C (212 °F)                               |
| · <b>Flash point:</b>                             | Not applicable.                               |
| · <b>Flammability (solid, gaseous):</b>           | Not applicable.                               |
| · <b>Decomposition temperature:</b>               | 247 °C  |
| · <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>Upper:</b>                                     | Not determined.                               |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 23 hPa (17.3 mm Hg)                           |
| · <b>Density at 20 °C (68 °F):</b>                | 1 g/cm <sup>3</sup> (8.345 lbs/gal)           |
| · <b>Vapor density</b>                            | Not applicable.                               |
| · <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>                  | 0.952 mPas                                    |
| <b>Kinematic:</b>                                 | Not applicable.                               |
| · <b>Solvent content:</b>                         |   |
| <b>Water:</b>                                     | 99.7 %  |
| <b>VOC content:</b>                               | 0.00 %  |
|   | 0.0 g/l / 0.00 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.

— US —

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2022

Revision date 02/11/2022

Trade name: ELISA Antiserum Dye

(Contd. from page 5)

## 11 Toxicological information

- Information on toxicological effects

- Acute toxicity:

- LD/LC50 values that are relevant for classification:

### 72-57-1 Trypan blue reagent

|      |                      |                   |
|------|----------------------|-------------------|
| Oral | LD50                 | 6,200 mg/kg (rat) |
|      | Interperitoneal LDLO | 300 mg/kg (rat)   |
|      | Subcutaneous LD50    | 267 mg/kg (mouse) |
|      | Subcutaneous LDLO    | 300 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 shows the following dangers according to internally approved calculation methods for preparations:

- Carcinogenic categories

- IARC (International Agency for Research on Cancer)

|         |                     |    |
|---------|---------------------|----|
| 72-57-1 | Trypan blue reagent | 2B |
|---------|---------------------|----|

- 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: Not hazardous for water.

- 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.

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US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2022

Revision date 02/11/2022

Trade name: ELISA Antiserum Dye

(Contd. from page 6)

- **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, ADN, 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**
- **Sara**

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

None of the ingredients is listed.

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

72-57-1 Trypan blue reagent

### · **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:**

72-57-1 Trypan blue reagent

#### · **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.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 02/11/2022

Revision date 02/11/2022

Trade name: ELISA Antiserum Dye

(Contd. from page 7)

- **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.

- **National regulations:**

- **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

- **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** 02/11/2022 / -

- **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

Carc. 1B: Carcinogenicity – Category 1B

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

US



## Safety Data Sheet acc. to OSHA HCS

Printing date 01/14/2022

Revision date 01/14/2022

### 1 Identification

- **Product identifier**
- **Trade name:** Ellmans Reagent
- **Article number:** 400050
- **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**



GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.



GHS08 Health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

(Contd. on page 2)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Ellmans Reagent

(Contd. from page 1)

Skin Irrit. 2 H315 Causes skin irritation.  
 STOT SE 3 H335 May cause respiratory irritation.

· **Label elements**

· **GHS label elements**

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

· **Hazard pictograms**



GHS05 GHS06 GHS07 GHS08

· **Signal word** Danger

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

Potassium phosphate dibasic  
 Acetylthiocholine (iodide)  
 Sodium chloride  
 Potassium phosphate, Monobasic

· **Hazard statements**

H301+H311 Toxic if swallowed or in contact with skin.  
 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.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P301+P310 If swallowed: Immediately call a poison center/doctor.  
 P321 Specific treatment (see on this label).  
 P330 Rinse mouth.  
 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.  
 P312 Call a poison center/doctor if you feel unwell.  
 P314 Get medical advice/attention if you feel unwell.  
 P361+P364 Take off immediately all 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

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## · HMIS-ratings (scale 0 - 4)

HEALTH 3

Health = \*3

FIRE 0

Fire = 0

REACTIVITY 0

Reactivity = 0

## · Other hazards

## · Results of PBT and vPvB assessment

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

### · Chemical characterization: Mixtures

· **Description:** Mixture of the substances listed below with nonhazardous additions.

### · Dangerous components:

|                                    |                                |       |
|------------------------------------|--------------------------------|-------|
| CAS: 7758-11-4<br>RTECS: TC5580000 | Potassium phosphate dibasic    | 45.2% |
| CAS: 7647-14-5<br>RTECS: VZ4725000 | Sodium chloride                | 29.7% |
| CAS: 7778-77-0<br>RTECS: TC6615500 | Potassium phosphate, Monobasic | 10.9% |
| CAS: 1866-15-5<br>RTECS: FZ9865000 | Acetylthiocholine (iodide)     | 7.4%  |
| CAS: 69-78-3<br>RTECS: DG9650000   | DTNB                           | 6.8%  |

## 4 First-aid measures

### · Description of first aid measures

### · General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:** 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:** Do not induce vomiting; immediately call for medical help.

### · 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.

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Trade name: Ellmans Reagent

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## 5 Fire-fighting measures

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

## 6 Accidental release measures

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

### · PAC-1:

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7758-11-4 | Potassium phosphate dibasic    | 13 mg/m <sup>3</sup>  |
| 7778-77-0 | Potassium phosphate, Monobasic | 9.6 mg/m <sup>3</sup> |

### · PAC-2:

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7758-11-4 | Potassium phosphate dibasic    | 140 mg/m <sup>3</sup> |
| 7778-77-0 | Potassium phosphate, Monobasic | 110 mg/m <sup>3</sup> |

### · PAC-3:

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7758-11-4 | Potassium phosphate dibasic    | 830 mg/m <sup>3</sup> |
| 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:**
- **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.

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· **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.
- **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

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## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

Form:

Solid

Color:

Yellow

#### · Odor:

Characteristic

#### · Odor threshold:

Not determined.

#### · Formulation

A lyophilized powder

#### · pH-value:

Not applicable.

#### · Change in condition

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

Undetermined.

#### · Flash point:

Not applicable.

#### · Flammability (solid, gaseous):

Not determined.

#### · Decomposition temperature:

Not determined.

#### · Auto igniting:

Product is not selfigniting.

#### · Danger of explosion:

Product does not present an explosion hazard.

#### · Explosion limits:

Lower:

Not determined.

Upper:

Not determined.

#### · Vapor pressure:

Not applicable.

#### · Density:

Not determined.

#### · Relative density

Not determined.

#### · Vapor density

Not applicable.

#### · Evaporation rate

Not applicable.

#### · Solubility in / Miscibility with

Water:

Soluble.

#### · Partition coefficient (n-octanol/water):

Not determined.

#### · Viscosity:

Dynamic:

Not applicable.

Kinematic:

Not applicable.

#### · Solvent content:

VOC content:

0.00 %

Solids content:

100.0 %

#### · Other information

No further relevant information available.

## 10 Stability and reactivity

### · Reactivity

No further relevant information available.

### · Chemical stability

### · Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

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- **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:**

### ATE (Acute Toxicity Estimate)

|        |      |             |
|--------|------|-------------|
| Oral   | LD50 | 608 mg/kg   |
| Dermal | LD50 | 4,054 mg/kg |

### 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) |
| 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)                       |

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

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

### 1866-15-5 Acetylthiocholine (iodide)

|      |      |                 |
|------|------|-----------------|
| Oral | LD50 | 100 mg/kg (rat) |
|------|------|-----------------|

### 69-78-3 DTNB

|  |                      |                     |
|--|----------------------|---------------------|
|  | Intraperitoneal LD50 | 2,080 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:  
Toxic  
Irritant

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- **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 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even extremely 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.

## 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**

not regulated

- **UN proper shipping name**

- **DOT, IMDG, IATA**

not regulated

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- |  |                 |
|--|-----------------|
| · <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.

- **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.

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Trade name: Ellmans Reagent

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· **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** 01/14/2022 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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

US





## Safety Data Sheet acc. to OSHA HCS

Printing date 01/14/2022

Revision date 01/14/2022

### 1 Identification

- **Product identifier**
- **Trade name:** ELISA Buffer Concentrate (10X)
- **Article number:** 400060
- **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

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335 May cause respiratory irritation.

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

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

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Trade name: ELISA Buffer Concentrate (10X)

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## · Hazard pictograms



GHS05 GHS07 GHS08

## · Signal word Danger

## · Hazard-determining components of labeling:

Potassium phosphate dibasic  
Sodium chloride  
Potassium phosphate, Monobasic

## · 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 protective gloves / 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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Trade name: ELISA Buffer Concentrate (10X)

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## 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

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

- **Dangerous components:**

|                                     |                                |       |
|-------------------------------------|--------------------------------|-------|
| CAS: 7647-14-5<br>RTECS: VZ4725000  | Sodium chloride                | 23.4% |
| CAS: 7758-11-4<br>RTECS: TC5580000  | Potassium phosphate dibasic    | 13.3% |
| CAS: 7778-77-0<br>RTECS: TC6615500  | Potassium phosphate, Monobasic | 3.21% |
| CAS: 9048-46-8<br>RTECS: AY9296000  | Albumin, bovine                | 1.0%  |
| CAS: 26628-22-8<br>RTECS: VY8050000 | Sodium azide                   | 0.1%  |

- **Other ingredients**

|                                    |                                |        |
|------------------------------------|--------------------------------|--------|
| CAS: 7732-18-5<br>RTECS: ZC0110000 | Water                          | 58.61% |
| CAS: 194491-31-1                   | EDTA, tetrasodium salt hydrate | 0.38%  |

## 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**

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**

67-56-1 During heating or in case of fire poisonous gases are produced.

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Trade name: ELISA Buffer Concentrate (10X)

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- **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.  
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:

|            |                                |                         |
|------------|--------------------------------|-------------------------|
| 7758-11-4  | Potassium phosphate dibasic    | 13 mg/m <sup>3</sup>    |
| 7778-77-0  | Potassium phosphate, Monobasic | 9.6 mg/m <sup>3</sup>   |
| 26628-22-8 | Sodium azide                   | 0.026 mg/m <sup>3</sup> |

### · PAC-2:

|            |                                |                        |
|------------|--------------------------------|------------------------|
| 7758-11-4  | Potassium phosphate dibasic    | 140 mg/m <sup>3</sup>  |
| 7778-77-0  | Potassium phosphate, Monobasic | 110 mg/m <sup>3</sup>  |
| 26628-22-8 | Sodium azide                   | 0.29 mg/m <sup>3</sup> |

### · PAC-3:

|            |                                |                       |
|------------|--------------------------------|-----------------------|
| 7758-11-4  | Potassium phosphate dibasic    | 830 mg/m <sup>3</sup> |
| 7778-77-0  | Potassium phosphate, Monobasic | 630 mg/m <sup>3</sup> |
| 26628-22-8 | Sodium azide                   | 5.3 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**  
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:** Keep receptacle tightly sealed.

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Trade name: ELISA Buffer Concentrate (10X)

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· **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 following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

### 26628-22-8 Sodium azide

|     |   |
|-----|---|
| REL | Ceiling limit value: 0.3** mg/m <sup>3</sup> , 0.1* ppm<br>*as HN <sub>3</sub> ; **as NaN <sub>3</sub> ; Skin     |
| TLV | Ceiling limit value: 0.29** mg/m <sup>3</sup> , 0.11* ppm<br>*as HN <sub>3</sub> vapor **as NaN <sub>3</sub> , A4 |

· **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.

· **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.

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Trade name: ELISA Buffer Concentrate (10X)

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## · 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 phosphate solution containing 1% BSA, 4 M sodium chloride, 10 mM EDTA and 0.1% sodium azide

## · pH-value at 20 °C (68 °F):

7

## · 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.

## · Vapor pressure at 20 °C (68 °F):

23 hPa (17.3 mm Hg)

## · Density at 20 °C (68 °F):

1 g/cm<sup>3</sup> (8.345 lbs/gal)

## · Bulk density:

1,000 kg/m<sup>3</sup>

## · 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:

58.6 %

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Trade name: ELISA Buffer Concentrate (10X)

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|                          |  |
|--------------------------|--|
| <b>VOC content:</b>      | 0.00 %<br>0.0 g/l / 0.00 lb/gal            |
| <b>Solids content:</b>   | 41.4 %                                     |
| <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:**

### ATE (Acute Toxicity Estimate)

|      |      |             |
|------|------|-------------|
| Oral | LD50 | 3,096 mg/kg |
|------|------|-------------|

### 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)             |
| Irritation of skin | LCLO                 | 29,300 mg/m <sup>3</sup> /7h (mouse)     |
|                    | Irritation           | 500 mg/24h (rabbit)                      |
|                    | Irritation           | 100 mg/24h (rabbit)                      |
| Irritation of eyes | 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)                           |

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

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

### 9048-46-8 Albumin, bovine

|  |                      |                 |
|--|----------------------|-----------------|
|  | Intraperitoneal TDLO | 0.2 pph (mouse) |
|--|----------------------|-----------------|

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Trade name: ELISA Buffer Concentrate (10X)

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**26628-22-8 Sodium azide**

|            |                      |                            |
|------------|----------------------|----------------------------|
| Oral       | LDLO                 | 27 mg/kg (rat)             |
|            | TDLO                 | 3 ml/kg (wmn)              |
|            | LD50                 | 27 mg/kg (rat)             |
|            | Subcutaneous LD50    | 45,100 µg/kg (rat)         |
| Dermal     | LD50                 | 50 mg/kg (rat)             |
|            |                      | 20 mg/kg (rabbit)          |
|            | LC50                 | 37 mg/m <sup>3</sup> (rat) |
| Inhalative | Subcutaneous LD50    | 45,100 µg/kg (rat)         |
|            | Interperitoneal LDLO | 30 mg/kg (rat)             |
|            | Intraperitoneal LD50 | 28 mg/kg (mouse)           |
|            | Subcutaneous LD50    | 45 mg/kg (rat)             |
|            | Data                 | 5,500 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 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.

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· **Other adverse effects** No further relevant information available.

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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):**

|            |              |
|------------|--------------|
| 26628-22-8 | Sodium azide |
|------------|--------------|

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

|            |              |
|------------|--------------|
| 26628-22-8 | Sodium azide |
|------------|--------------|

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

|           |                                |        |
|-----------|--------------------------------|--------|
| 7732-18-5 | Water                          | ACTIVE |
| 7647-14-5 | Sodium chloride                | ACTIVE |
| 7758-11-4 | Potassium phosphate dibasic    | ACTIVE |
| 7778-77-0 | Potassium phosphate, Monobasic | ACTIVE |

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Trade name: ELISA Buffer Concentrate (10X)

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|            |                 |        |
|------------|-----------------|--------|
| 9048-46-8  | Albumin, bovine | ACTIVE |
| 26628-22-8 | Sodium azide    | 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)**

|            |              |    |
|------------|--------------|----|
| 26628-22-8 | Sodium azide | A4 |
|------------|--------------|----|

· **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** 01/14/2022 / -

· **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

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**Trade name: ELISA Buffer Concentrate (10X)**

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TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

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

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## Safety Data Sheet acc. to OSHA HCS

Printing date 01/14/2022

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### 1 Identification

- **Product identifier**
- **Trade name:** Wash Buffer Concentrate (400X)
- **Article number:** 400062
- **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**



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

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

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Trade name: Wash Buffer Concentrate (400X)

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## · Hazard pictograms



GHS05 GHS07

## · Signal word Danger

## · Hazard-determining components of labeling:

Potassium phosphate dibasic  
Potassium phosphate, Monobasic

## · Hazard statements

H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.

## · Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapors/spray  
P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves / eye protection / face protection.  
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.  
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).  
P330 Rinse mouth.  
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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Trade name: Wash Buffer Concentrate (400X)

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## 3 Composition/information on ingredients

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

- **Dangerous components:**

|                                    |                                |       |
|------------------------------------|--------------------------------|-------|
| CAS: 7758-11-4<br>RTECS: TC5580000 | Potassium phosphate dibasic    | 53.0% |
| CAS: 7778-77-0<br>RTECS: TC6615500 | Potassium phosphate, Monobasic | 12.9% |

- **Other ingredients**

|                                    |       |       |
|------------------------------------|-------|-------|
| CAS: 7732-18-5<br>RTECS: ZC0110000 | Water | 34.1% |
|------------------------------------|-------|-------|

## 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:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.  
No further relevant information available.
- **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**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.

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- **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.

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:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7758-11-4 | Potassium phosphate dibasic    | 13 mg/m <sup>3</sup>  |
| 7778-77-0 | Potassium phosphate, Monobasic | 9.6 mg/m <sup>3</sup> |

- **PAC-2:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7758-11-4 | Potassium phosphate dibasic    | 140 mg/m <sup>3</sup> |
| 7778-77-0 | Potassium phosphate, Monobasic | 110 mg/m <sup>3</sup> |

- **PAC-3:**

|           |                                |                       |
|-----------|--------------------------------|-----------------------|
| 7758-11-4 | Potassium phosphate dibasic    | 830 mg/m <sup>3</sup> |
| 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:** No special measures required.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

• **Requirements to be met by storerooms and receptacles:** No special requirements.

• **Information about storage in one common storage facility:** Not required.

• **Further information about storage conditions:** Keep receptacle tightly sealed.

• **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.

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Trade name: Wash Buffer Concentrate (400X)

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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:

Liquid

Color:

Colorless

- **Odor:**

Characteristic

- **Odor threshold:**

Not determined.

- **Formulation**

Concentrated wash buffer

- **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.

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Trade name: Wash Buffer Concentrate (400X)

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|   |   |
|---|---|
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                        |   |
| Lower:  | Not determined.                               |
| Upper:  | Not determined.                               |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 23 hPa (17.3 mm Hg)                           |
| · <b>Density at 20 °C (68 °F):</b>                | 1.159 g/cm <sup>3</sup> (9.67186 lbs/gal)     |
| · <b>Bulk density:</b>                            | 1,159 kg/m <sup>3</sup>                       |
| · <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>                               |   |
| Dynamic:  | Not determined.                               |
| Kinematic:  | Not determined.                               |
| · <b>Solvent content:</b>                         |   |
| Water:  | 34.1 %  |
| VOC content:                                      | 0.00 %  |
|   | 0.0 g/l / 0.00 lb/gal                         |
| Solids content:                                   | 65.9 %  |
| · <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:**

**ATE (Acute Toxicity Estimate)**

|      |      |           |
|------|------|-----------|
| Oral | LD50 | 943 mg/kg |
|------|------|-----------|

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

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

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Trade name: Wash Buffer Concentrate (400X)

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- **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:  
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 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.

## 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.

US

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Wash Buffer Concentrate (400X)

(Contd. from page 7)

## 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
- **Environmental hazards:** Not applicable.
- **Special precautions for user** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
- **UN "Model Regulation":** 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.

- **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.

(Contd. on page 9)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Wash Buffer Concentrate (400X)

(Contd. from page 8)

- **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** 01/14/2022 / -

- **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

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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

US



## Safety Data Sheet acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

### 1 Identification

- **Product identifier**
- **Trade name:** Prostaglandin D2-MOX-AChE Express Tracer
- **Article number:** 400150
- **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

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335 May cause respiratory irritation.

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

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

(Contd. on page 2)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX-AChE Express Tracer

(Contd. from page 1)

## · Hazard pictograms



GHS05 GHS07 GHS08

## · Signal word Danger

## · Hazard-determining components of labeling:

Potassium phosphate dibasic  
Sodium chloride  
Albumin, bovine  
Potassium phosphate, Monobasic

## · Hazard statements

H302 Harmful if swallowed.  
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.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves / eye protection / face protection.  
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.  
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.  
P330 Rinse mouth.  
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

(Contd. on page 3)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX-AChE Express Tracer

(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: 7647-14-5<br>RTECS: VZ4725000  | Sodium chloride                | 47.27% |
| CAS: 7758-11-4<br>RTECS: TC5580000  | Potassium phosphate dibasic    | 25.97% |
| CAS: 9048-46-8<br>RTECS: AY9296000  | Albumin, bovine                | 19.54% |
| CAS: 7778-77-0<br>RTECS: TC6615500  | Potassium phosphate, Monobasic | 6.29%  |
| CAS: 26628-22-8<br>RTECS: VY8050000 | Sodium azide                   | 0.2%   |

- **Other ingredients**

|             |                                |       |
|-------------|--------------------------------|-------|
| 194491-31-1 | EDTA, tetrasodium salt hydrate | 0.72% |
|             | Prostaglandin D2-MOX AChE      | 0.01% |

## 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:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.  
No further relevant information available.
- **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.

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX-AChE Express Tracer

(Contd. from page 3)

- **Special hazards arising from the substance or mixture**  
67-56-1 During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

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

### · PAC-1:

|            |                                |                         |
|------------|--------------------------------|-------------------------|
| 7758-11-4  | Potassium phosphate dibasic    | 13 mg/m <sup>3</sup>    |
| 7778-77-0  | Potassium phosphate, Monobasic | 9.6 mg/m <sup>3</sup>   |
| 26628-22-8 | Sodium azide                   | 0.026 mg/m <sup>3</sup> |

### · PAC-2:

|            |                                |                        |
|------------|--------------------------------|------------------------|
| 7758-11-4  | Potassium phosphate dibasic    | 140 mg/m <sup>3</sup>  |
| 7778-77-0  | Potassium phosphate, Monobasic | 110 mg/m <sup>3</sup>  |
| 26628-22-8 | Sodium azide                   | 0.29 mg/m <sup>3</sup> |

### · PAC-3:

|            |                                |                       |
|------------|--------------------------------|-----------------------|
| 7758-11-4  | Potassium phosphate dibasic    | 830 mg/m <sup>3</sup> |
| 7778-77-0  | Potassium phosphate, Monobasic | 630 mg/m <sup>3</sup> |
| 26628-22-8 | Sodium azide                   | 5.3 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.

(Contd. on page 5)



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Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX-AChE Express Tracer

(Contd. from page 4)

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

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.  
At this time, the other constituents have no known exposure limits.

### 26628-22-8 Sodium azide

|     |   |
|-----|---|
| REL | Ceiling limit value: 0.3** mg/m <sup>3</sup> , 0.1* ppm<br>*as HN <sub>3</sub> ; **as NaN <sub>3</sub> ; Skin     |
| TLV | Ceiling limit value: 0.29** mg/m <sup>3</sup> , 0.11* ppm<br>*as HN <sub>3</sub> vapor **as NaN <sub>3</sub> , A4 |

- **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.
- **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.

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US

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acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX-AChE Express Tracer

(Contd. from page 5)

## · 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.

## · Formulation

A lyophilized powder

## · pH-value:

Not applicable.

## · Change in condition

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

Undetermined.

## · Flash point:

Not applicable.

## · Flammability (solid, gaseous):

Not determined.

## · Decomposition temperature:

Not determined.

## · Auto igniting:

Product is not selfigniting.

## · Danger of explosion:

Product does not present an explosion hazard.

## · Explosion limits:

Lower:

Not determined.

Upper:

Not determined.

## · Vapor pressure:

Not applicable.

## · Density:

Not determined.

## · Relative density

Not determined.

## · Vapor density

Not applicable.

## · Evaporation rate

Not applicable.

## · Solubility in / Miscibility with

Water:

Soluble.

## · Partition coefficient (n-octanol/water):

Not determined.

## · Viscosity:

Dynamic:

Not applicable.

Kinematic:

Not applicable.

## · Solvent content:

VOC content:

0.00 %

Solids content:

100.0 %

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US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX-AChE Express Tracer

(Contd. from page 6)

## · 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:****ATE (Acute Toxicity Estimate)**

|      |      |             |
|------|------|-------------|
| Oral | LD50 | 1,016 mg/kg |
|------|------|-------------|

**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) |
| 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)                       |

**9048-46-8 Albumin, bovine**

|  |                      |                 |
|--|----------------------|-----------------|
|  | Intraperitoneal TDLO | 0.2 pph (mouse) |
|--|----------------------|-----------------|

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

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

**26628-22-8 Sodium azide**

|      |      |                |
|------|------|----------------|
| Oral | LDLO | 27 mg/kg (rat) |
|      | TDLO | 3 ml/kg (wmn)  |
|      | LD50 | 27 mg/kg (rat) |

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX-AChE Express Tracer

(Contd. from page 7)

|            |                      |                            |
|------------|----------------------|----------------------------|
| Dermal     | Subcutaneous LD50    | 45,100 µg/kg (rat)         |
|            | LD50                 | 50 mg/kg (rat)             |
| Inhalative |                      | 20 mg/kg (rabbit)          |
|            | LC50                 | 37 mg/m <sup>3</sup> (rat) |
|            | Subcutaneous LD50    | 45,100 µg/kg (rat)         |
|            | Interperitoneal LDLO | 30 mg/kg (rat)             |
|            | Intraperitoneal LD50 | 28 mg/kg (mouse)           |
|            | Subcutaneous LD50    | 45 mg/kg (rat)             |
|            | Data                 | 5,500 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:

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 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 9)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX-AChE Express Tracer

(Contd. from page 8)

## 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):**

|            |              |
|------------|--------------|
| 26628-22-8 | Sodium azide |
|------------|--------------|

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

|            |              |
|------------|--------------|
| 26628-22-8 | Sodium azide |
|------------|--------------|

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

|            |                                |        |
|------------|--------------------------------|--------|
| 7647-14-5  | Sodium chloride                | ACTIVE |
| 7758-11-4  | Potassium phosphate dibasic    | ACTIVE |
| 9048-46-8  | Albumin, bovine                | ACTIVE |
| 7778-77-0  | Potassium phosphate, Monobasic | ACTIVE |
| 26628-22-8 | Sodium azide                   | ACTIVE |

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX-AChE Express Tracer

(Contd. from page 9)

- **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)**

26628-22-8 Sodium azide

A4

- **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** 06/08/2022 / -

- **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

(Contd. on page 11)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

**Trade name: Prostaglandin D2-MOX-AChE Express Tracer**

(Contd. from page 10)

Acute Tox. 4: Acute toxicity – Category 4  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

US



## Safety Data Sheet acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

### 1 Identification

- **Product identifier**
- **Trade name:** Prostaglandin D2-MOX Express ELISA Antiserum
- **Article number:** 400152
- **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

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H335 May cause respiratory irritation.

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

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

(Contd. on page 2)

US



# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX Express ELISA Antiserum

(Contd. from page 1)

## · Hazard pictograms



GHS05 GHS07 GHS08

## · Signal word Danger

## · Hazard-determining components of labeling:

Potassium phosphate dibasic  
Sodium chloride  
Potassium phosphate, Monobasic  
Albumin, bovine

## · Hazard statements

H302 Harmful if swallowed.  
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.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves / eye protection / face protection.  
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.  
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.  
P330 Rinse mouth.  
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

(Contd. on page 3)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX Express ELISA Antiserum

(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: 7647-14-5<br>RTECS: VZ4725000  | Sodium chloride                | 57.36% |
| CAS: 7758-11-4<br>RTECS: TC5580000  | Potassium phosphate dibasic    | 31.51% |
| CAS: 7778-77-0<br>RTECS: TC6615500  | Potassium phosphate, Monobasic | 7.63%  |
| CAS: 9048-46-8<br>RTECS: AY9296000  | Albumin, bovine                | 2.37%  |
| CAS: 26628-22-8<br>RTECS: VY8050000 | Sodium azide                   | 0.24%  |

- **Other ingredients**

|             |  |       |
|-------------|--|-------|
| 194491-31-1 | EDTA, tetrasodium salt hydrate                   | 0.88% |
|             | Prostaglandin D2-MOX Express Polyclonal Antibody | 0.01% |

## 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:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**  
May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.  
No further relevant information available.
- **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.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX Express ELISA Antiserum

(Contd. from page 3)

- **Special hazards arising from the substance or mixture**  
67-56-1 During heating or in case of fire poisonous gases are produced.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

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

### · PAC-1:

|            |                                |                         |
|------------|--------------------------------|-------------------------|
| 7758-11-4  | Potassium phosphate dibasic    | 13 mg/m <sup>3</sup>    |
| 7778-77-0  | Potassium phosphate, Monobasic | 9.6 mg/m <sup>3</sup>   |
| 26628-22-8 | Sodium azide                   | 0.026 mg/m <sup>3</sup> |

### · PAC-2:

|            |                                |                        |
|------------|--------------------------------|------------------------|
| 7758-11-4  | Potassium phosphate dibasic    | 140 mg/m <sup>3</sup>  |
| 7778-77-0  | Potassium phosphate, Monobasic | 110 mg/m <sup>3</sup>  |
| 26628-22-8 | Sodium azide                   | 0.29 mg/m <sup>3</sup> |

### · PAC-3:

|            |                                |                       |
|------------|--------------------------------|-----------------------|
| 7758-11-4  | Potassium phosphate dibasic    | 830 mg/m <sup>3</sup> |
| 7778-77-0  | Potassium phosphate, Monobasic | 630 mg/m <sup>3</sup> |
| 26628-22-8 | Sodium azide                   | 5.3 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.

(Contd. on page 5)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX Express ELISA Antiserum

(Contd. from page 4)

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

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.  
At this time, the other constituents have no known exposure limits.

### 26628-22-8 Sodium azide

|     |   |
|-----|---|
| REL | Ceiling limit value: 0.3** mg/m <sup>3</sup> , 0.1* ppm<br>*as HN <sub>3</sub> ; **as NaN <sub>3</sub> ; Skin     |
| TLV | Ceiling limit value: 0.29** mg/m <sup>3</sup> , 0.11* ppm<br>*as HN <sub>3</sub> vapor **as NaN <sub>3</sub> , A4 |

- **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.
- **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.

(Contd. on page 6)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX Express ELISA Antiserum

(Contd. from page 5)

## · 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.

## · Formulation

A lyophilized powder

## · pH-value:

Not applicable.

## · Change in condition

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

Undetermined.

## · Flash point:

Not applicable.

## · Flammability (solid, gaseous):

Not determined.

## · Decomposition temperature:

Not determined.

## · Auto igniting:

Product is not selfigniting.

## · Danger of explosion:

Product does not present an explosion hazard.

## · Explosion limits:

Lower:

Not determined.

Upper:

Not determined.

## · Vapor pressure:

Not applicable.

## · Density:

Not determined.

## · Relative density

Not determined.

## · Vapor density

Not applicable.

## · Evaporation rate

Not applicable.

## · Solubility in / Miscibility with

Water:

Soluble.

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

## · Viscosity:

Dynamic:

Not applicable.

Kinematic:

Not applicable.

## · Solvent content:

VOC content:

0.00 %

Solids content:

100.0 %

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX Express ELISA Antiserum

(Contd. from page 6)

## · 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:

**ATE (Acute Toxicity Estimate)**

|      |      |             |
|------|------|-------------|
| Oral | LD50 | 1,305 mg/kg |
|------|------|-------------|

**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) |
| 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)                       |

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

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

**9048-46-8 Albumin, bovine**

|  |                      |                 |
|--|----------------------|-----------------|
|  | Intraperitoneal TDLO | 0.2 pph (mouse) |
|--|----------------------|-----------------|

**26628-22-8 Sodium azide**

|      |      |                |
|------|------|----------------|
| Oral | LDLO | 27 mg/kg (rat) |
|      | TDLO | 3 ml/kg (wmn)  |
|      | LD50 | 27 mg/kg (rat) |

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX Express ELISA Antiserum

(Contd. from page 7)

|            |                      |                            |
|------------|----------------------|----------------------------|
| Dermal     | Subcutaneous LD50    | 45,100 µg/kg (rat)         |
|            | LD50                 | 50 mg/kg (rat)             |
| Inhalative |                      | 20 mg/kg (rabbit)          |
|            | LC50                 | 37 mg/m <sup>3</sup> (rat) |
|            | Subcutaneous LD50    | 45,100 µg/kg (rat)         |
|            | Interperitoneal LDLO | 30 mg/kg (rat)             |
|            | Intraperitoneal LD50 | 28 mg/kg (mouse)           |
|            | Subcutaneous LD50    | 45 mg/kg (rat)             |
|            | Data                 | 5,500 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:

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 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 9)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX Express ELISA Antiserum

(Contd. from page 8)

## 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):

|            |              |
|------------|--------------|
| 26628-22-8 | Sodium azide |
|------------|--------------|

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

|            |              |
|------------|--------------|
| 26628-22-8 | Sodium azide |
|------------|--------------|

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

|            |                                |        |
|------------|--------------------------------|--------|
| 7647-14-5  | Sodium chloride                | ACTIVE |
| 7758-11-4  | Potassium phosphate dibasic    | ACTIVE |
| 7778-77-0  | Potassium phosphate, Monobasic | ACTIVE |
| 9048-46-8  | Albumin, bovine                | ACTIVE |
| 26628-22-8 | Sodium azide                   | ACTIVE |

(Contd. on page 10)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

Trade name: Prostaglandin D2-MOX Express ELISA Antiserum

(Contd. from page 9)

- **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)**

26628-22-8 Sodium azide

A4

- **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** 06/08/2022 / -

- **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

(Contd. on page 11)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/08/2022

Revision date 06/08/2022

**Trade name: Prostaglandin D2-MOX Express ELISA Antiserum**

(Contd. from page 10)

Acute Tox. 4: Acute toxicity – Category 4  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

US



## Safety Data Sheet acc. to OSHA HCS

Printing date 10/11/2021

Revision date 10/11/2021

### 1 Identification

- **Product identifier**
- **Trade name:** Prostaglandin D2 ELISA Standard (MOX Kit)
- **Article number:** 412014
- **Application of the substance / the mixture**  
This product is for research use - Not for human or veterinary diagnostic or therapeutic use. It is the responsibility of the purchaser to determine suitability for other applications.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Cayman Chemical Co.  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108  
USA
- **Information department:** Product safety department
- **Emergency telephone number:**  
During normal opening times: +1 (734) 971-3335  
US/CANADA: 800-424-9300  
Outside US/CANADA: 703-741-5970

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Carc. 1A H350 May cause cancer.

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

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

(Contd. on page 2)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/11/2021

Revision date 10/11/2021

Trade name: Prostaglandin D2 ELISA Standard (MOX Kit)

(Contd. from page 1)

## Hazard pictograms



GHS02 GHS08

## Signal word Danger

## Hazard-determining components of labeling:

ethanol

## Hazard statements

H225 Highly flammable liquid and vapor.

H350 May cause cancer.

## Precautionary statements

- P201 Obtain special instructions before use.  
 P202 Do not handle until all safety precautions have been read and understood.  
 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.  
 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.  
 P308+P313 IF exposed or concerned: Get medical advice/attention.  
 P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.  
 P403+P235 Store in a well-ventilated place. Keep cool.  
 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 = 0  
 Fire = 3  
 Reactivity = 0

## HMIS-ratings (scale 0 - 4)



Health = \*0  
 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.

(Contd. on page 3)

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# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/11/2021

Revision date 10/11/2021

Trade name: Prostaglandin D2 ELISA Standard (MOX Kit)

(Contd. from page 2)

**Dangerous components:**

|                                  |         |         |
|----------------------------------|---------|---------|
| CAS: 64-17-5<br>RTECS: KQ6300000 | ethanol | 99.999% |
|----------------------------------|---------|---------|

**Other ingredients**

|                                     |                  |        |
|-------------------------------------|------------------|--------|
| CAS: 41598-07-6<br>RTECS: UK7930000 | Prostaglandin D2 | 0.001% |
|-------------------------------------|------------------|--------|

## 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.
- **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 |
|---------|---------|-----------|

(Contd. on page 4)

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Trade name: Prostaglandin D2 ELISA Standard (MOX Kit)

(Contd. from page 3)

· **PAC-2:**

64-17-5 ethanol

3300\* ppm

· **PAC-3:**

64-17-5 ethanol

15000\* ppm

## 7 Handling and storage

· **Handling:**· **Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

· **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**· **Storage:**· **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 ppmREL 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.

Store protective clothing separately.

· **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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Printing date 10/11/2021

Revision date 10/11/2021

Trade name: Prostaglandin D2 ELISA Standard (MOX Kit)

(Contd. from page 4)

## 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:

Fluid

Color:

Colorless

#### Odor:

Alcohol-like

#### Molecular Weight

381.5 g/mol

#### Odor threshold:

Not determined.

#### 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):

Not applicable.

#### 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 %

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Trade name: Prostaglandin D2 ELISA Standard (MOX Kit)

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|   |  |
|---|--|
| <b>Upper:</b>   | 15 Vol %                                   |
| · <b>Vapor pressure at 20 °C (68 °F):</b>                         | 59 hPa (44.3 mm Hg)                        |
| · <b>Density at 20 °C (68 °F):</b>                                | 0.79 g/cm <sup>3</sup> (6.59255 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 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>  | 100.0 %                                    |
| <b>VOC content:</b>   | 100.00 %                                   |
|   | 1,000.0 g/l / 8.35 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:** strong oxidizing agents
- **Hazardous decomposition products:** carbon dioxide, carbon monoxide

## 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 | LC50/4 h | 5,900 mg/m <sup>3</sup> (rat)        |
|            | LC50     | 20,000 mg/m <sup>3</sup> /10h (rat)  |
|            | TCLO     | 1,800 mg/m <sup>3</sup> /30m (hmn)   |
|            | LCLO     | 29,300 mg/m <sup>3</sup> /7h (mouse) |

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|                    |                      |                                       |
|--------------------|----------------------|---------------------------------------|
|                    | 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)    |
|                    | LC50/4 h             | 20,000 mg/l (rat)                     |
| Irritation of skin | Irritation           | 20 mg/24h (rabbit)                    |
|                    | TDLO                 | 1,800 mg/kg (wmn)                     |
| Irritation of eyes | Irritation           | 500 mg/24h (rabbit)                   |
|                    | Intraperitoneal LD50 | 280 mg/kg (rat)                       |
|                    | Data                 | 500 mg/24h (rabbit)                   |

- **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 shows the following dangers according to internally approved calculation methods for preparations:

- **Carcinogenic categories**

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

64-17-5 ethanol

1

- **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.

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Trade name: Prostaglandin D2 ELISA Standard (MOX Kit)

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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

|   |   |
|---|---|
| · UN-Number   | UN1170                                    |
| · DOT, IMDG, IATA   |   |
| · UN proper shipping name   | Ethanol solutions                         |
| · DOT   | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) |
| · IMDG  | Ethanol solution                          |
| · IATA  |   |
| · Transport hazard class(es)  |   |
| · DOT   |   |
|  |   |
| · Class   | 3 Flammable liquids                       |
| · Label   | 3   |
| · IMDG, IATA  |   |
|  |   |
| · Class   | 3 Flammable liquids                       |
| · Label   | 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.                           |

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Trade name: Prostaglandin D2 ELISA Standard (MOX Kit)

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|  |   |
|--|---|
| · <b>Transport/Additional information:</b> |   |
| · <b>DOT</b>                               |   |
| · <b>Quantity limitations</b>              | On passenger aircraft/rail: 5 L<br>On cargo aircraft only: 60 L   |
| · <b>IMDG</b>                              |   |
| · <b>Limited quantities (LQ)</b>           | 1L  |
| · <b>Excepted quantities (EQ)</b>          | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml   |
| · <b>IATA</b>                              |   |
| · <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**
- **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):**

64-17-5 ethanol

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.

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- **TLV (Threshold Limit Value)**

64-17-5 ethanol

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

None of the ingredients is listed.

- **National regulations:**

- **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

- **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** 10/11/2021 / -

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Carc. 1A: Carcinogenicity – Category 1A

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

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## Safety Data Sheet acc. to OSHA HCS

Printing date 10/11/2021

Revision date 10/11/2021

### 1 Identification

- **Product identifier**
- **Trade name:** Prostaglandin D2-MOX Control
- **Article number:** 412015
- **Application of the substance / the mixture**  
This product is for research use - Not for human or veterinary diagnostic or therapeutic use. It is the responsibility of the purchaser to determine suitability for other applications.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Cayman Chemical Co.  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108  
USA
- **Information department:** Product safety department
- **Emergency telephone number:**  
During normal opening times: +1 (734) 971-3335  
US/CANADA: 800-424-9300  
Outside US/CANADA: 703-741-5970

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Carc. 1A H350 May cause cancer.

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

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

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Trade name: Prostaglandin D2-MOX Control

(Contd. from page 1)

## Hazard pictograms



GHS02 GHS08

## Signal word Danger

## Hazard-determining components of labeling:

ethanol

## Hazard statements

H225 Highly flammable liquid and vapor.

H350 May cause cancer.

## Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

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.

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.

P308+P313 IF exposed or concerned: Get medical advice/attention.

P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.

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

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 = 0

Fire = 3

Reactivity = 0

## HMIS-ratings (scale 0 - 4)



Health = \*0

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.

(Contd. on page 3)

# Safety Data Sheet

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Printing date 10/11/2021

Revision date 10/11/2021

Trade name: Prostaglandin D2-MOX Control

(Contd. from page 2)

**Dangerous components:**

|                  |         |         |
|------------------|---------|---------|
| CAS: 64-17-5     | ethanol | 99.999% |
| RTECS: KQ6300000 |         |         |

**Other ingredients**

|   |        |
|---|--------|
| Prostaglandin D2-MOX Express Control EIA Intermediate | 0.001% |
|---|--------|

## 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.
- **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 |
|---------|---------|-----------|

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Revision date 10/11/2021

Trade name: Prostaglandin D2-MOX Control

(Contd. from page 3)

· **PAC-2:**

64-17-5 ethanol

3300\* ppm

· **PAC-3:**

64-17-5 ethanol

15000\* ppm

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **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.  
Store protective clothing separately.
- **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

Printing date 10/11/2021

Revision date 10/11/2021

Trade name: Prostaglandin D2-MOX Control

(Contd. from page 4)

## 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:

Fluid

Color:

Colorless

#### Odor:

Alcohol-like

#### Molecular Weight

352.5 g/mol

#### Odor threshold:

Not determined.

#### Formulation

50 ng/ml 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):

Not applicable.

#### 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.

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

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Revision date 10/11/2021

Trade name: Prostaglandin D2-MOX Control

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|   |  |
|---|--|
| · <b>Explosion limits:</b>  |  |
| <b>Lower:</b>   | 3.5 Vol %                                  |
| <b>Upper:</b>   | 15 Vol %                                   |
| · <b>Vapor pressure at 20 °C (68 °F):</b>                         | 59 hPa (44.3 mm Hg)                        |
| · <b>Density at 20 °C (68 °F):</b>                                | 0.79 g/cm <sup>3</sup> (6.59255 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 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>  | 100.0 %                                    |
| <b>VOC content:</b>   | 100.00 %                                   |
|   | 1,000.0 g/l / 8.35 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:** strong oxidizing agents
- **Hazardous decomposition products:** carbon dioxide, carbon monoxide

## 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)                   |
|            | TDLO     | 650 (man)                           |
| Dermal     | LD50     | 40,000 mg/kg (rat)                  |
| Inhalative | LC50/4 h | 5,900 mg/m <sup>3</sup> (rat)       |
|            | LC50     | 20,000 mg/m <sup>3</sup> /10h (rat) |

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|                    |                      |                                       |
|--------------------|----------------------|---------------------------------------|
|                    | TCLO                 | 1,800 mg/m <sup>3</sup> /30m (hmn)    |
|                    | LCLO                 | 29,300 mg/m <sup>3</sup> /7h (mouse)  |
|                    | 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)    |
|                    | LC50/4 h             | 20,000 mg/l (rat)                     |
| Irritation of skin | Irritation           | 20 mg/24h (rabbit)                    |
|                    | TDLO                 | 1,800 mg/kg (wmn)                     |
| Irritation of eyes | Irritation           | 500 mg/24h (rabbit)                   |
|                    | Intraperitoneal LD50 | 280 mg/kg (rat)                       |
|                    | Data                 | 500 mg/24h (rabbit)                   |

- **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 shows the following dangers according to internally approved calculation methods for preparations:

- **Carcinogenic categories**

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

64-17-5 ethanol

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- **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.

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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

|   |   |
|---|---|
| · UN-Number   | UN1170                                    |
| · DOT, IMDG, IATA   |   |
| · UN proper shipping name   | Ethanol solutions                         |
| · DOT   | ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION) |
| · IMDG  | Ethanol solution                          |
| · IATA  |   |
| · Transport hazard class(es)  |   |
| · DOT   |   |
|  |   |
| · Class   | 3 Flammable liquids                       |
| · Label   | 3   |
| · IMDG, IATA  |   |
|  |   |
| · Class   | 3 Flammable liquids                       |
| · Label   | 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.                           |

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|  |   |
|--|---|
| · <b>Transport/Additional information:</b> |   |
| · <b>DOT</b>                               |   |
| · <b>Quantity limitations</b>              | On passenger aircraft/rail: 5 L<br>On cargo aircraft only: 60 L   |
| · <b>IMDG</b>                              |   |
| · <b>Limited quantities (LQ)</b>           | 1L  |
| · <b>Excepted quantities (EQ)</b>          | Code: E2<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 500 ml   |
| · <b>IATA</b>                              |   |
| · <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**
- **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):**

64-17-5 ethanol

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:**

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- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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- **TLV (Threshold Limit Value)**

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

None of the ingredients is listed.

- **National regulations:**

- **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

- **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** 10/11/2021 / -

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety &amp; Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Carc. 1A: Carcinogenicity – Category 1A