

Printing date 01/31/2022

Revision date 01/31/2022

Page 1/7

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



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)



· HMIS-ratings (scale 0 - 4)

HEALTHImage: OFIREImage: OREACTIVITYReactivity = 0

(Contd. on page 2)

US

Printing date 01/31/2022

Revision date 01/31/2022

Trade name: Precoated (Mouse Anti-Rabbit IgG) ELISA 96-Well Strip 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.
- \cdot 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.

(Contd. on page 3)

Printing date 01/31/2022

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

(Contd. on page 4)

Printing date 01/31/2022

Revision date 01/31/2022

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

(Contd. from page 3)

9 Physical and chemical prope	9 Physical and chemical properties		
Information on basic physical and	chemical properties		
· General Information			
· Appearance:			
Form:	PLATE		
Color:	According to product specification		
· Odor: · Odor threshold:	Characteristic Not determined.		
		_	
· pH-value:	Not applicable.		
Change in condition			
Melting point/Melting range:	Undetermined.		
Boiling point/Boiling range:	Undetermined.		
· Flash point:	Not applicable.		
Flammability (solid, gaseous):	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:	Soluble.		
· Partition coefficient (n-octanol/wat	er): Not determined.		
· Viscosity:			
Dynamic:	Not applicable.		
Kinematic:	Not applicable.		
VOC content:	0.00 %		
Solids content:	100.0 %		
· Other information	No further relevant information available.		

10 Stability and reactivity

· Reactivity No further relevant information available.

- · Chemical stability
- Thermal decomposition / conditions to be avoided:
- No decomposition if used according to specifications.
- Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.

(Contd. on page 5)

Printing date 01/31/2022

Revision date 01/31/2022

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

(Contd. from page 4)

· 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.

(Contd. on page 6)

US

Printing date 01/31/2022

Revision date 01/31/2022

(Contd. from page 5)

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

· Recommended cleansing agent: Water, if necessary with cleansing agents.

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 MARPOL73/78 and the IBC Code 	x II of 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.

(Contd. on page 7)

Printing date 01/31/2022

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

(Contd. from page 6)

- 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.



Printing date 01/31/2022

Revision date 01/31/2022

Page 1/7

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



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)



· HMIS-ratings (scale 0 - 4)

HEALTHImage: OFIREImage: OREACTIVITYReactivity = 0

(Contd. on page 2)

US

Printing date 01/31/2022

Revision date 01/31/2022

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.
- \cdot 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.

(Contd. on page 3)

Printing date 01/31/2022

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.

(Contd. on page 4)

Printing date 01/31/2022

Revision date 01/31/2022

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

(Contd. from page 3)

9 Physical and chemical prope	9 Physical and chemical properties		
· Information on basic physical and	chemical properties		
· General Information			
· Appearance:			
Form:	PLATE		
Color:	According to product specification		
· Odor: · Odor threshold:	Characteristic Not determined.		
		_	
· pH-value:	Not applicable.		
Change in condition			
Melting point/Melting range:	Undetermined.		
Boiling point/Boiling range:	Undetermined.		
· Flash point:	Not applicable.		
• Flammability (solid, gaseous):	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:	Soluble.		
· Partition coefficient (n-octanol/wat	er): Not determined.		
· Viscosity:			
Dynamic:	Not applicable.		
Kinematic:	Not applicable.		
VOC content:	0.00 %		
Solids content:	100.0 %		
[·] Other information	No further relevant information available.		

10 Stability and reactivity

· Reactivity No further relevant information available.

- · Chemical stability
- Thermal decomposition / conditions to be avoided:
- No decomposition if used according to specifications.
- Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.

(Contd. on page 5)

Printing date 01/31/2022

Revision date 01/31/2022

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

(Contd. from page 4)

· 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.

(Contd. on page 6)

US

Printing date 01/31/2022

Revision date 01/31/2022

(Contd. from page 5)

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

· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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 MARPOL73/78 and the IBC Code 	x II of 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.

(Contd. on page 7)

Printing date 01/31/2022

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

(Contd. from page 6)

- 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.



Printing date 01/14/2022

Revision date 01/14/2022

Page 1/7

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)

0 0 Health = 0 Fire = 1 Reactivity = 0

(Contd. on page 2)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Polysorbate 20

(Contd. from page 1)

· HMIS-ratings (scale 0 - 4)



· 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).

(Contd. on page 3)

⁻ US

Printing date 01/14/2022

Revision date 01/14/2022

(Contd. from page 2)

Trade name: Polysorbate 20

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.

(Contd. on page 4)

US

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Polysorbate 20

(Contd. from page 3)

9 Physical and chemical prope	erties
· 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/wat	ter): 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

(Contd. on page 5)

US

Printing date 01/14/2022

Revision date 01/14/2022

(Contd. from page 4)

Trade name: Polysorbate 20

· Hazardous decomposition products: carbon oxides

11 Toxicological information

Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification	ion:
---	------

- 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.

(Contd. on page 6)

US -

Printing date 01/14/2022

Revision date 01/14/2022

(Contd. from page 5)

Trade name: Polysorbate 20

· Uncleaned packagings:

• **Recommendation:** Disposal must be made according to official regulations.

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 MARPOL73/78 and the IBC Code	x II of 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): 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

(Contd. on page 7)

US

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Polysorbate 20

(Contd. from page 6) 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 * Data compared to the previous version altered.



Printing date 01/14/2022

Revision date 01/14/2022

Page 1/9

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



· Signal word Warning

- · Hazard statements
- H315 Causes skin irritation.

H319 Causes serious eye irritation.

(Contd. on page 2)

ÚS

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Tracer Dye

		(Contd. from page 1)
· Precautionary s		
P264 P280	Wash thoroughly after handling. 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+P33	8 If in eyes: Rinse cautiously with water for several minutes	s. 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 • Classification sy	If eye irritation persists: Get medical advice/attention.	
· NFPA ratings (se		
	lth = 2	
Fire	•	
Rea	ctivity = 0	
· HMIS-ratings (se	cale 0 - 4)	
HEALTH 2 He	alth = 2	
	e = 0	
	activity = 0	
· Other hazards		
· Results of PBT a	and vPvB assessment	
• PBT: Not applica		
· vPvB: Not applic	able.	
3 Composition	information on ingredients	
	die m	
 CAS No. Descrip EIA Tracer Dye 	otion	
	cterization: Mixtures	
	ture of the substances listed below with nonhazardous add	litions
· Dangerous com		
CAS: 1310-73-2	Sodium hydroxide	0.5%
RTECS: WB4900		
· Other ingredien		
CAS: 7732-18-5	Water	99.25%
RTECS: ZC0110		
CAS: 25956-17-6	FD&C red dye <u>40</u>	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.

(Contd. on page 3)

Printing date 01/14/2022

Revision date 01/14/2022

(Contd. from page 2)

Trade name: ELISA Tracer Dye

- 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:

· PAC-2:

1310-73-2 Sodium hydroxide

1310-73-2 Sodium hydroxide

0.5 mg/m³

5 mg/m³

50 mg/m³

· PAC-3:

1310-73-2 Sodium hydroxide

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)

- US

Printing date 01/14/2022

Revision date 01/14/2022

(Contd. from page 3)

Trade name: ELISA Tracer Dye

- · 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/m³
- REL Ceiling limit value: 2 mg/m³
- TLV Ceiling limit value: 2 mg/m³

• 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

(Contd. on page 5)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Tracer Dye

(Contd. from page 4)

Information on basic physical and	chemical properties
General Information	
Appearance:	
Form:	Liquid
Color:	Red
Odor:	Characteristic
Structural Formula	H2O
Molecular Weight	18 g/mol
Odor threshold: Formulation	Not determined.
	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/cm³ (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/wat	er): Not determined.
Viscosity:	
Dynamic at 20 °C (68 °F):	0.952 mPas
Kinematic:	Not determined.
Solvent content:	
Water:	99.3 %
VOC content:	
	0.0 g/l / 0.00 lb/gal
Solids content:	0.5 %
Other information	No further relevant information available.

(Contd. on page 6)

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.

· LD/L	C50 values that are	relevant for classification:	
1310	-73-2 Sodium hydrox	kide	
Oral	LDLO	1.57 mg/kg (hmn)	
	LD50	2,000 mg/kg (rat)	
		TDLO	44 mg/ <mark>kg (</mark> ra
		LDLO	1.57 mg/kg (hr
• on th • on th • Sens • Addi The	ne eye: Irritating effect sitization: No sensitiz itional toxicological i product shows the fo	and mucous membranes. ing effects known.	ethods for
• on th • on th • Sens • Addi The	ary irritant effect: ne skin: Irritant to skin ne eye: Irritating effect sitization: No sensitiz itional toxicological i product shows the fo arations:	and mucous membranes. t. ing effects known. nformation:	ethods for
 on the on the Sense Addia The prepara Irrita 	ary irritant effect: ne skin: Irritant to skin ne eye: Irritating effect sitization: No sensitiz itional toxicological i product shows the fo arations:	and mucous membranes. t. ing effects known. nformation:	ethods for
 on the on the Sense Addia The prepara Irritan Carce 	ary irritant effect: ne skin: Irritant to skin ne eye: Irritating effect sitization: No sensitiz itional toxicological i product shows the fo arations: nt sinogenic categories	and mucous membranes. t. ing effects known. nformation:	ethods for
• on th • on th • Sens • Addi The prepa Irrita • Carco • IARC	ary irritant effect: ne skin: Irritant to skin ne eye: Irritating effect sitization: No sensitiz itional toxicological i product shows the fo arations: nt sinogenic categories	and mucous membranes. ing effects known. nformation: ollowing dangers according to internally approved calculation me cy for Research on Cancer)	ethods for
 on the sense Sense Addia The preparent Irrital Carce IARCE 	ary irritant effect: ne skin: Irritant to skin ne eye: Irritating effect sitization: No sensitiz itional toxicological i product shows the for arations: nt sinogenic categories C (International Agen	and mucous membranes. ing effects known. nformation: ollowing dangers according to internally approved calculation me cy for Research on Cancer) isted.	ethods for

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.

(Contd. on page 7)

US

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Tracer Dye

(Contd. from page 6)

- · 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.

UN-Number DOT, IMDG, IATA	UN1824
UN proper shipping name DOT, IATA IMDG	Sodium hydroxide solution SODIUM HYDROXIDE SOLUTION
Transport hazard class(es)	
DOT	
CORROSIVE 8	
Class	8 Corrosive substances
Label	8
IMDG, IATA	
Class	8 Corrosive substances
Label	8
Packing group DOT, IMDG, IATA	III
Environmental hazards:	Not applicable.
	Warning: Corrosive substances 80 F-A,S-B Alkalis

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Tracer Dye

	(Contd. from page 7
 Stowage Category Segregation Code 	A SG35 Stow "separated from" SGG1-acids
 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	Not applicable.
· Transport/Additional information:	
· DOT · Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
 IMDG Limited quantities (LQ) Excepted quantities (EQ) 	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· 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 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):	Ī
All components have the value ACTIVE.	
· Hazardous Air Pollutants	٦
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:	٦
None of the ingredients is listed.	
(Contd. on page	9) US

Printing date 01/14/2022

Revision date 01/14/2022

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 & 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.



Printing date 02/11/2022

Revision date 02/11/2022

Page 1/8

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/CĂNADA: 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



- · 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.

(Contd. on page 2)

US

Printing date 02/11/2022

Revision date 02/11/2022

Trade name: ELISA Antiserum Dye

		(Contd. from page 1)
P280	Wear protective gloves/protective clothing/eye protection/face protection.	
	B IF exposed or concerned: Get medical advice/attention.	
P405	Store locked up.	
P501	Dispose of contents/container in accordance with local/regional/nation regulations.	onal/international
Classificat	ion system:	
· NFPA ratin	igs (scale 0 - 4)	
	Health = 0	
	Fire = 0	
	Reactivity = 0	
• HMIS-ratin	gs (scale 0 - 4)	
HEALTH	• Health = 0	
FIRE	$\overline{\mathbf{O}}$ Fire = 0	
REACTIVITY	Reactivity = 0	
· Other haza		
	PBT and vPvB assessment	
• PBT: Not a	• •	
• vPvB: Not	аррисаріе.	
2.0		

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 compon	ents:	
CAS: 72-57-1 RTECS: QJ6475000	Trypan blue reagent	0.1%
· Other ingredients		
CAS: 7732-18-5 RTECS: ZC0110000	Water	99.65%
CAS: 7647-14-5 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.

(Contd. on page 3)

US

Printing date 02/11/2022

Revision date 02/11/2022

Trade name: ELISA Antiserum Dye

• 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
- 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.

(Contd. on page 4)

(Contd. from page 2)

Printing date 02/11/2022

Revision date 02/11/2022

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

Information on basic physica	al and chemical properties	
General Information		
Appearance:		
Form:	Liquid	
Color:	Blue	
Odor:	Characteristic	
Structural Formula	H2O	

Printing date 02/11/2022

Revision date 02/11/2022

Trade name: ELISA Antiserum Dye

	(Contd. from page 4)
 Molecular Weight Odor threshold: Formulation 	18 g/mol Not determined. A solution in 0.85% in sodium chloride
· pH-value:	Not applicable.
 Change in condition Melting point/Melting range: Boiling point/Boiling range: 	0 °C (32 °F) 100 °C (212 °F)
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Decomposition temperature:	247 °C
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits: Upper:	Not determined.
· Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
 Density at 20 °C (68 °F): Vapor density Evaporation rate 	1 g/cm³ (8.345 lbs/gal) Not applicable. Not determined.
 Solubility in / Miscibility with Water: 	Fully miscible.
Partition coefficient (n-octanol/water)	Not determined.
 Viscosity: Dynamic at 20 °C (68 °F): Kinematic: 	0.952 mPas Not applicable.
 Solvent content: Water: VOC content: 	99.7 % 0.00 % 0.0 g/l / 0.00 lb/gal
Solids content:	0.4 %
· 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.

(Contd. on page 6)

US

Printing date 02/11/2022

Revision date 02/11/2022

Trade name: ELISA Antiserum Dye

(Contd. from page 5)

	C50 values that are r	elevant for classification:
72-5	7-1 Trypan blue reage	ent
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)
on the Sense Addi		fect. ng effects known.
on the Sense Addi The prepa	ne eye: No irritating eff sitization: No sensitizi tional toxicological i	fect. ng effects known. nformation:
on the Sense Addi The prepa	ne eye: No irritating eff sitization: No sensitizi tional toxicological in product shows the fo arations: inogenic categories	fect. ng effects known. nformation:
on the Sense Addi The prepared Carce	ne eye: No irritating eff sitization: No sensitizi tional toxicological in product shows the fo arations: inogenic categories	fect. ng effects known. nformation: Illowing dangers according to internally approved calculation methods cy for Research on Cancer)
on the Sense Addi The prepared Carce IARC 72-5	tie eye: No irritating eff sitization: No sensitizi tional toxicological in product shows the fo arations: inogenic categories (International Agene	fect. ng effects known. nformation: Ilowing dangers according to internally approved calculation methods cy for Research on Cancer)

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.

(Contd. on page 7)

US

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.

UN-Number DOT, IMDG, IATA	not regulated
UN proper shipping name DOT, ADN, 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 MARPOL73/78 and the IBC Code	II of Not applicable.
UN "Model Regulation":	not regulated

15 Regulatory information

 $^{\cdot}$ Safety, health and environmental regulations/legislation specific for the substance or mixture $^{\cdot}$ 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.

(Contd. on page 8)

US

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 & 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.



Printing date 01/14/2022

Revision date 01/14/2022

Page 1/10

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 e	xposure.
GHS05 Corrosion	
Eye Dam. 1 H318 Causes serious eye damage.	
GHS07	
•	(Contd. on page 2)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Ellmans Reagent

	(Contd. from page 1)
Skin Irrit. 2 H	l315 Causes skin irritation.
	1335 May cause respiratory irritation.
Label element	
GHS label eler	
	classified and labeled according to the Globally Harmonized System (GHS).
• Hazard pictog	rams
	$\wedge \wedge \wedge$
GHS05 GHS	06 GHS07 GHS08
611505 6115	
· Signal word Da	anger
· Hazard-dotorm	nining components of labeling:
Potassium pho	
Acetylthiocholin	
Sodium chloride	
	sphate, Monobasic
· Hazard statem	
H301+H311 To	xic if swallowed or in contact with skin.
	auses skin irritation.
H318 Ca	auses serious eye damage.
	ay cause respiratory irritation.
	ay cause damage to organs through prolonged or repeated exposure.
• Precautionary	
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 P330	Specific treatment (see on this label). 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.
	338 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
0	regulations.
Classification	
• NFPA ratings ((scale v - 4)
He He	ealth = 3
	re = 0
	eactivity = 0
▼ ∨	(Control on march 2)
	(Contd. on page 3)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Ellmans Reagent

(Contd. from page 2)

· HMIS-ratings (scale 0 - 4)



· 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 RTECS: TC5580000	Potassium phosphate dibasic	45.2%
CAS: 7647-14-5 RTECS: VZ4725000	Sodium chloride	29.7%
CAS: 7778-77-0 RTECS: TC6615500	Potassium phosphate, Monobasic	10.9%
CAS: 1866-15-5 RTECS: FZ9865000	Acetylthiocholine (iodide)	7.4%
CAS: 69-78-3 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.

(Contd. on page 4)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Ellmans Reagent

(Contd. from page 3)

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
- 67-56-1During 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/m³
7778-77-0 Potassium phosphate, Monobasic	9.6 mg/m³
PAC-2:	
7758-11-4 Potassium phosphate dibasic	140 mg/m³
7778-77-0 Potassium phosphate, Monobasic	110 mg/m³
PAC-3:	
7758-11-4 Potassium phosphate dibasic	830 mg/m³
7778-77-0 Potassium phosphate, Monobasic	630 mg/m³

7 Handling and storage

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

(Contd. on page 5)

US

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Ellmans Reagent

• 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

(Contd. from page 4)

(Contd. on page 6)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Ellmans Reagent

(Contd. from page 5)

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: Boiling point/Boiling range:	Undetermined. 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 Evaporation rate 	Not applicable. Not applicable.		
· Solubility in / Miscibility with		-	
Water:	Soluble.		
· Partition coefficient (n-octanol/wat	ter): 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.

(Contd. on page 7)

⁻US

Printing date 01/14/2022

Revision date 01/14/2022

(Contd. from page 6)

Trade name: Ellmans Reagent

- 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	· 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 Sodiu	um chloride					
Oral	LDLO	1,000 mg/kg (man)				
	TDLO	650 ml/kg (man)				
	LD50	4,000 mg/kg (mouse)				
		3,000 mg/kg (rat)				
	LD50	4 g/kg (mouse)				
Inhalative	LC50	320 mg/m³ (mouse)				
	TCLO	0.63 mg/m³ (hmn)				
	LCLO	29,300 mg/m³/7h (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 Potas	ssium phosphate, Mo	onobasic				
Oral	LDLO	4,640 mg/kg (rat)				
-	(iodide)					
Oral	LD50	100 mg/kg (rat)				
69-78-3 DTNB						
		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 toxic 	· Additional toxicological information:					
The product shows the following dangers according to internally approved calculation methods for						
preparations:	preparations: Toxic					
Irritant						
		(Contd. on page 8)				

(Contd. on page 8)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Ellmans Reagent

(Contd. from page 7)

- · 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

not regulated

- · UN proper shipping name
- · DOT, IMDG, IATA

(Contd. on page 9)

js –

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Ellmans Reagent

		(Contd. from page 8)
· 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 Anne MARPOL73/78 and the IBC Code 	ex II of 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.	
· 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.	
(Contd. on p	age 10)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Ellmans Reagent

(Contd. from page 9)

• 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.



Printing date 01/14/2022

Revision date 01/14/2022

Page 1/11

1 Identification

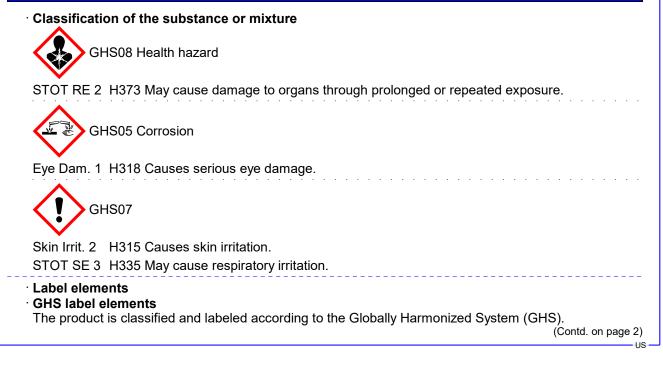
- · Product identifier
- · Trade name: ELISA Buffer Concentrate (10X)
- Article number: 400060
- Application of the substance / the mixture This product is for research use - Not for human or veterinary diagnostic or therapeutic use.

· 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



Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Buffer Concentrate (10X)

· Hazard pictogra	(Contd. from page 1)	-
	\mathbf{A}	
GHS05 GHS0	7 GHS08	
· Signal word Da	nder	
-		
	ning components of labeling:	
Potassium phos	phate dibasic	
Sodium chloride		
Potassium phos	phate, Monobasic	
Hazard stateme	ents	
H315 Causes sk	in irritation.	
H318 Causes se	rious eye damage.	
	e respiratory irritation.	
	a damage to organs through prolonged or repeated exposure.	
· Precautionary		
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+P3	38 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 s		
• NFPA ratings (s		
Ni i A latings (s		
He He	alth = 3	
	activity = 0	
	addivity o	
· HMIS-ratings (s	cale 0 - 4)	
HEALTH *3 He	ealth = *3	
	re = 0	

· Other hazards

· Results of PBT and vPvB assessment

· **PBT:** Not applicable.

REACTIVITY 0 Reactivity = 0

· vPvB: Not applicable.

(Contd. on page 3)

Revision date 01/14/2022

Trade name: ELISA Buffer Concentrate (10X)

(Contd. from page 2)

· Chemical characteri		ione	
· Dangerous compon	of the substances listed below with nonhazardous addit ents:		
CAS: 7647-14-5 RTECS: VZ4725000	Sodium chloride	23.4%	
CAS: 7758-11-4 RTECS: TC5580000	Potassium phosphate dibasic	13.3%	
CAS: 7778-77-0 RTECS: TC6615500	Potassium phosphate, Monobasic	3.21%	
CAS: 9048-46-8 RTECS: AY9296000	Albumin, bovine	1.0%	
CAS: 26628-22-8 RTECS: VY8050000	Sodium azide	0.1%	
Other ingredients			
CAS: 7732-18-5 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

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

(Contd. on page 4)

US -

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Buffer Concentrate (10X)

· Advice for firefighters

• **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

Mount respin Wear protect Environmen Dilute with p Do not allow Methods ar Absorb with Use neutrali Dispose con	taminated material as waste according to item 13.	sawdust).
	quate ventilation.	
	o other sections	
	7 for information on safe handling.	
	8 for information on personal protection equipment. 13 for disposal information.	
	Action Criteria for Chemicals	
· PAC-1:		
	Potassium phosphate dibasic	13 mg/m³
7778-77-0	Potassium phosphate, Monobasic	9.6 mg/m ³
26628-22-8	Sodium azide	0.026 mg/m ³
· PAC-2:		
7758-11-4	Potassium phosphate dibasic	140 mg/m³
7778-77-0	Potassium phosphate, Monobasic	110 mg/m ³
26628-22-8	Sodium azide	0.29 mg/m ³
· PAC-3:		
7758-11-4	Potassium phosphate dibasic	830 mg/m ³
7778-77-0	Potassium phosphate, Monobasic	630 mg/m³
26628-22-8	Sodium azide	5.3 mg/m ³

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.

(Contd. on page 5)

(Contd. from page 3)

⁻ US

Printing date 01/14/2022

Revision date 01/14/2022

(Contd. from page 4)

Trade name: ELISA Buffer Concentrate (10X)

• **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/m³, 0.1* ppm *as HN3; **as NaN3; Skin
- TLV Ceiling limit value: 0.29** mg/m³, 0.11* ppm *as HN3 vapor **as NaN3, 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)

Printing date 01/14/2022

Revision date 01/14/2022

(Contd. from page 5)

US

Trade name: ELISA Buffer Concentrate (10X)

• 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 7 · pH-value at 20 °C (68 °F): · Change in condition Melting point/Melting range: Undetermined. 100 °C (212 °F) **Boiling point/Boiling range:** · 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/cm³ (8.345 lbs/gal) Bulk density: 1,000 kg/m³ · 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: 58.6 % Water: (Contd. on page 7)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Buffer Concentrate (10X)

		(Contd. from page 6)
VOC content:	0.00 % 0.0 g/l / 0.00 lb/gal	
Solids content:	41.4 %	
· 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:

ATE (Acute Tox	icity Estimate)	
Oral	LD50	3,096 mg/kg
7647-14-5 Sodiu	um chloride	
Oral	LDLO	1,000 mg/kg (man)
	TDLO	650 ml/kg (man)
	LD50	4,000 mg/kg (mouse)
		3,000 mg/kg (rat)
	LD50	4 g/kg (mouse)
Inhalative	LC50	320 mg/m ³ (mouse)
	TCLO	0.63 mg/m³ (hmn)
	LCLO	29,300 mg/m³/7h (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 Potas	sium phosphate, Mo	nobasic
Oral	LDLO	4,640 mg/kg (rat)
9048-46-8 Albur	nin, bovine	I.
	Intraperitoneal TDLO	0.2 pph (mouse)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Buffer Concentrate (10X)

		(Contd. from page 7)
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)
Inhalative	LC50	37 mg/m³ (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:

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.

(Contd. on page 9)

US

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Buffer Concentrate (10X)

(Contd. from page 8)

· 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.

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 Anne	ex II of
MARPOL73/78 and the IBC Code	Not applicable.

15 Regulatory information

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

· Sara

 Section 355 (extr 	emely hazardous substances):	
26628-22-8 Sodiu	um azide	
 Section 313 (Spe 	cific toxic chemical listings):	
26628-22-8 Sodiu	um azide	
• TSCA (Toxic Substances Control Act):		
7732-18-5 Wate	۶r	ACTIVE
7647-14-5 Sodiu	um chloride	ACTIVE
7758-11-4 Potas	ssium phosphate dibasic	ACTIVE
7778-77-0 Potas	ssium phosphate, Monobasic	ACTIVE
		(Contd. on page 10)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Buffer Concentrate (10X)

	(Contd. from page
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	A
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	l 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**

(Contd. on page 11)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: ELISA Buffer Concentrate (10X)

(Contd. from page 10)

TLV: Threshold Limit Value PEL: Permissible Exposure Limit REL: Recommended 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.



Printing date 01/14/2022

Revision date 01/14/2022

Page 1/9

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). (Contd. on page 2)
US

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Wash Buffer Concentrate (400X)

· Hazard pictogr	(Contd. from page 1)
GHS05 GHS	77
· Signal word Date	anger
	ining components of labeling:
Potassium phos	
· Hazard statem	sphate, Monobasic
H302 Harmful if	
H315 Causes sl	
H318 Causes se	erious eye damage.
	e respiratory irritation.
 Precautionary 	
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 P302+P352	If swallowed: Call a poison center/doctor if you feel unwell.
P302+P352 P304+P340	If on skin: Wash with plenty of water.
	IF INHALED: Remove person to fresh air and keep comfortable for breathing. 38 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if
F 303 F 33 F F 3	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 s	
• NFPA ratings (scale 0 - 4)



Health = 3 Fire = 0 Reactivity = 0

· HMIS-ratings (scale 0 - 4)

HEALTH *3	Health = *3
	Fire = 0
REACTIVITY 0	Reactivity = 0

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

(Contd. on page 3)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Wash Buffer Concentrate (400X)

(Contd. from page 2)

3 Composition/information on ingredients

· Chemical characterization: Mixtures

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

Dangerous compon	ents:	
CAS: 7758-11-4 RTECS: TC5580000	Potassium phosphate dibasic	53.0%
CAS: 7778-77-0 Potassium phosphate, Monobasic RTECS: TC6615500		12.9%
· Other ingredients		
CAS: 7732-18-5 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.

(Contd. on page 4)

US

830 mg/m³

630 mg/m³

Safety Data Sheet acc. to OSHA HCS

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Wash Buffer Concentrate (400X)	
	ntd. from page 3)
Methods and material for containment and cleaning up:	
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdu Use neutralizing agent.	.st).
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 ³
7778-77-0 Potassium phosphate, Monobasic	9.6 mg/m ³
· PAC-2:	
7758-11-4 Potassium phosphate dibasic	140 mg/m ³
7778-77-0 Potassium phosphate, Monobasic	110 mg/m ³

7758-11-4 Potassium phosphate dibasic 7778-77-0 Potassium phosphate, Monobasic

7 Handling and storage

· Handling:

· PAC-3:

· 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.

(Contd. on page 5)

US

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Wash Buffer Concentrate (400X)

(Contd. from page 4)

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 guality 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 or	n 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: Boiling point/Boiling range: 	Undetermined. 100 °C (212 °F)	
· Flash point:	Not applicable.	
· Flammability (solid, gaseous):	Not applicable.	
 Decomposition temperature: 	Not determined.	
· Auto igniting:	Product is not selfigniting.	
		(Contd. on page 6)

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Wash Buffer Concentrate (400X)

	(Contd. from page 5
· 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):	1.159 g/cm³ (9.67186 lbs/gal)
· Bulk density:	1,159 kg/m³
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Fully miscible.
· Partition coefficient (n-octanol/wat	er): Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Water:	34.1 %
VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gal
Solids content:	65.9 %
· 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 943 mg/kg

7778-77-0 Potassium phosphate, Monobasic

Oral LDLO 4,640 mg/kg (rat)

(Contd. on page 7)

Printing date 01/14/2022

Revision date 01/14/2022

(Contd. from page 6)

Trade name: Wash Buffer Concentrate (400X)

• 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.

(Contd. on page 8)

119

Printing date 01/14/2022

Revision date 01/14/2022

Trade name: Wash Buffer Concentrate (400X)

(Contd. from page 7)

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 MARPOL73/78 and the IBC Code 	k II of 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)

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 & 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.



Printing date 06/13/2022

Revision date 06/13/2022

Page 1/11

1 Identification

- · Product identifier
- · Trade name: 8-Isoprostane Express AChE Tracer
- · Article number: 416360
- **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

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express AChE Tracer

Hazard pictogr	contd. from page
\wedge	
∇	
GHS05 GHS0	07 GHS08
Signal word Da	anger
Hazard-determ	ining components of labeling:
Potassium phos	
Sodium chloride	· }
Albumin, bovine	
Potassium phos	sphate, Monobasic
Hazard statem	ents
H302 Harmful if	swallowed.
H315 Causes sl	kin irritation.
H318 Causes se	erious eye damage.
H335 May cause	e respiratory irritation.
	e 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+P3	38 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses,
	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/internation regulations.
Classification	
NFPA ratings (



· HMIS-ratings (scale 0 - 4)

HEALTH *3	Health = *3
	Fire = 0
REACTIVITY 0	Reactivity = 0

(Contd. on page 3)

Printing date 06/13/2022

Revision date 06/13/2022

(Contd. from page 2)

Trade name: 8-Isoprostane Express AChE Tracer

- · 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 RTECS: VZ47250	Sodium chloride	47.27%
CAS: 7758-11-4 RTECS: TC55800	Potassium phosphate dibasic 00	25.97%
CAS: 9048-46-8 RTECS: AY92960	Albumin, bovine 00	19.54%
CAS: 7778-77-0 RTECS: TC66155	Potassium phosphate, Monobasic	6.29%
CAS: 26628-22-8 RTECS: VY80500	Sodium azide 00	0.2%
· Other ingredients	5	
194491-31-1 EDT	A, tetrasodium salt hydrate	0.72%
8-Isoprostane Express-AChE conjugate 0.01%		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)

US

22

Revision date 06/13/2022

Trade name: 8-Isoprostane Express AChE Tracer

· Special hazards arising from the substance or mixture

67-56-1During 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/m³		
7778-77-0	Potassium phosphate, Monobasic	9.6 mg/m³		
26628-22-8	Sodium azide	0.026 mg/m ³		
• PAC-2:				
7758-11-4	Potassium phosphate dibasic	140 mg/m ³		
7778-77-0	Potassium phosphate, Monobasic	110 mg/m ³		
26628-22-8	Sodium azide	0.29 mg/m ³		
PAC-3:				
7758-11-4	Potassium phosphate dibasic	830 mg/m³		
7778-77-0	Potassium phosphate, Monobasic	630 mg/m³		
26628-22-8	Sodium azide	5.3 mg/m ³		

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)

(Contd. from page 3)

US

Printing date 06/13/2022

Revision date 06/13/2022

(Contd. from page 4)

Trade name: 8-Isoprostane Express AChE Tracer

• 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/m³, 0.1* ppm *as HN3; **as NaN3; Skin
- TLV Ceiling limit value: 0.29** mg/m³, 0.11* ppm *as HN3 vapor **as NaN3, 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

Printing date 06/13/2022

Revision date 06/13/2022

(Contd. from page 5)

Trade name: 8-Isoprostane Express AChE Tracer

· 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: · Odor threshold:	Characteristic Net determined
· Formulation	Not determined. 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 at 20 °C (68 °F):	1.846 g/cm³ (15.40487 lbs/gal)
· Bulk density:	1,846 kg/m³
· Relative density	Not determined.
· Vapor density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with	
Water:	Soluble.
· Partition coefficient (n-octanol/wa	ter): Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
Solvent content:	
VOC content:	0.00 %
Solids content:	100.0 %
	(Contd. on page

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express AChE 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: strong oxidizing agents
- Hazardous decomposition products:

hydrogen chloride gas, phosphorus oxides, potassium oxides, sodium oxides

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 Sodiı	um chloride		
Oral	LDLO	1,000 mg/kg (man)	
	TDLO	650 ml/kg (man)	
	LD50	4,000 mg/kg (mouse)	
		3,000 mg/kg (rat)	
	LD50	4 g/kg (mouse)	
Inhalative	LC50	320 mg/m³ (mouse)	
	TCLO	0.63 mg/m³ (hmn)	
	LCLO	29,300 mg/m³/7h (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 Albui	nin, bovine		
	Intraperitoneal TDLO	0.2 pph (mouse)	
7778-77-0 Potas	ssium phosphate, Mo	nobasic	
Oral	LDLO	4,640 mg/kg (rat)	
26628-22-8 Sod	ium azide		
Oral	LDLO	27 mg/kg (rat)	
	TDLO	3 ml/kg (wmn)	

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express AChE Tracer

		(Contd. from page 7)
	LD50	27 mg/kg (rat)
	Subcutaneous LD50	45,100 μg/kg (rat)
Dermal	LD50	50 mg/kg (rat)
		20 mg/kg (rabbit)
Inhalative	LC50	37 mg/m³ (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)
on the eye: S Sensitization	Irritant to skin and mucou Strong irritant with the dan i: No sensitizing effects ki	ger of severe eye injury. nown.
on the skin: I on the eye: S Sensitization Additional to The product preparations: Harmful Irritant	Irritant to skin and mucou Strong irritant with the dan I: No sensitizing effects ki ixicological information shows the following dan	ger of severe eye injury. nown. :
on the skin: I on the eye: S Sensitization Additional to The product preparations: Harmful Irritant Carcinogenio	Irritant to skin and mucou Strong irritant with the dan I: No sensitizing effects ki ixicological information shows the following dan c categories	ger of severe eye injury. nown. : gers according to internally approved calculation methods fo
on the skin: I on the eye: S Sensitization Additional to The product preparations: Harmful Irritant Carcinogenic IARC (Interna	Irritant to skin and mucou Strong irritant with the dan I: No sensitizing effects kin ixicological information shows the following dan c categories ational Agency for Rese	ger of severe eye injury. nown. : gers according to internally approved calculation methods fo
on the skin: I on the eye: S Sensitization Additional to The product preparations: Harmful Irritant Carcinogenic IARC (Interna None of the in	Irritant to skin and mucou Strong irritant with the dan I: No sensitizing effects kin exicological information shows the following dan c categories ational Agency for Rese agredients is listed.	ger of severe eye injury. nown. : gers according to internally approved calculation methods fo
on the skin: on the eye: S Sensitization Additional to The product preparations: Harmful Irritant Carcinogenic IARC (Interna None of the in	Irritant to skin and mucou Strong irritant with the dan i: No sensitizing effects kin ixicological information shows the following dan c categories ational Agency for Rese ingredients is listed. al Toxicology Program)	ger of severe eye injury. nown. : gers according to internally approved calculation methods fo
on the skin: on the eye: S Sensitization Additional to The product preparations: Harmful Irritant Carcinogenic IARC (Interna None of the in	Irritant to skin and mucou Strong irritant with the dan I: No sensitizing effects kin exicological information shows the following dan c categories ational Agency for Rese agredients is listed.	ger of severe eye injury. nown. : gers according to internally approved calculation methods fo

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.

(Contd. on page 9)

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express AChE 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

r i manoport 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):			
26628-22-8	Sodium azide		
· Section 313	Section 313 (Specific toxic chemical listings):		
26628-22-8	26628-22-8 Sodium azide		
· TSCA (Toxi	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	
	(Contd.	on page 10)	

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express AChE Tracer

(Contd. from page 9)

None of the ingredients is listed.

· Hazardous Air Pollutants

· 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 06/13/2022 / -
- 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**

(Contd. on page 11)

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express AChE 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



Printing date 06/13/2022

Revision date 06/13/2022

Page 1/11

1 Identification

- · Product identifier
- · Trade name: 8-Isoprostane Express ELISA Antiserum
- · Article number: 416362
- **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)

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express ELISA Antiserum

Hererd nietes	(Contd. from page
Hazard pictog	rams
\land	\mathbf{A}
\sim	
GHS05 GHS	07 GHS08
Signal word D	anger
Hazard-determ	nining components of labeling:
Potassium phos	
Sodium chloride	e
Potassium phos	sphate, Monobasic
Albumin, bovine	e
Hazard statem	ents
H302 Harmful i	f swallowed.
H315 Causes s	kin irritation.
H318 Causes s	erious eye damage.
	se respiratory irritation.
	se damage to organs through prolonged or repeated exposure.
Precautionary	
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.
	338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses,
1 000 1 001 11	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 P332+P313	Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
	Store locked up.
P405	
P501	Dispose of contents/container in accordance with local/regional/national/internation
Classification	regulations.
Classification	
NFPA ratings	(scale 0 - 4)
н	ealth = 3
	re = 0
	eactivity = 0
	cuolivity 0
HMIS-ratings (scale 0 - 4)
	-
HEALTH *3 H	lealth = *3
	ire = 0
	Reactivity = 0

(Contd. on page 3)

US

Printing date 06/13/2022

Revision date 06/13/2022

(Contd. from page 2)

Trade name: 8-Isoprostane Express ELISA Antiserum

- · 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 RTECS: VZ4725000	Sodium chloride	57.36%
CAS: 7758-11-4 RTECS: TC5580000	Potassium phosphate dibasic	31.51%
CAS: 7778-77-0 RTECS: TC6615500	Potassium phosphate, Monobasic	7.63%
CAS: 9048-46-8 RTECS: AY9296000	Albumin, bovine	2.37%
CAS: 26628-22-8 RTECS: VY8050000	Sodium azide	0.24%
· Other ingredients		
194491-31-1 EDTA, tetrasodium salt hydrate 0		0.88%
8-Isoprostane Rabbit 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)

US

Printing date 06/13/2022

Revision date 06/13/2022

(Contd. from page 3)

Trade name: 8-Isoprostane Express ELISA Antiserum

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

6 Accidental release measures

Mount respin Wear protect Environmen Methods an Use neutrali Dispose con Ensure adect Reference to See Section	 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. 				
	Action Criteria for Chemicals				
· PAC-1:	· PAC-1:				
7758-11-4	7758-11-4 Potassium phosphate dibasic 13 mg/m ³				
7778-77-0	7778-77-0 Potassium phosphate, Monobasic 9.6 mg/m ³				
26628-22-8	26628-22-8 Sodium azide 0.026 mg/m ³				
· PAC-2:	· PAC-2:				
7758-11-4 Potassium phosphate dibasic 140 mg/m ³					
7778-77-0 Potassium phosphate, Monobasic 110 mg/m ³					
26628-22-8 Sodium azide 0.29 mg/m ³					
PAC-3:					
7758-11-4	Potassium phosphate dibasic	830 mg/m³			
7778-77-0	7778-77-0 Potassium phosphate, Monobasic 630 mg/m ³				
26628-22-8	Sodium azide	5.3 mg/m ³			

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

Printing date 06/13/2022

Revision date 06/13/2022

(Contd. from page 4)

Trade name: 8-Isoprostane Express ELISA Antiserum

• **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/m³, 0.1* ppm *as HN3; **as NaN3; Skin
- TLV Ceiling limit value: 0.29** mg/m³, 0.11* ppm *as HN3 vapor **as NaN3, 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

Printing date 06/13/2022

Revision date 06/13/2022

(Contd. from page 5)

Trade name: 8-Isoprostane Express ELISA Antiserum

· 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 at 20 °C (68 °F):	1.846 g/cm³ (15.40487 lbs/gal)		
· Bulk density:	1,846 kg/m³		
 Relative density 	Not determined.		
· Vapor density	Not applicable.		
· Evaporation rate	Not applicable.		
· Solubility in / Miscibility with			
Water:	Soluble.		
· Partition coefficient (n-octanol/wa	· 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		

)

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express ELISA Antiserum

(Contd. from page 6)

119

· 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:

hydrogen chloride gas, phosphorus oxides, potassium oxides, sodium oxides

11 Toxicological information

· Information on toxicological effects

• Acute toxicity:

· LD/LC50 values that are relevant for classification:

ATE (Acute Tox Oral	LD50	1,305 mg/kg
	• •	1,000 mg/Ng
7647-14-5 Sodiı		
Oral	LDLO	1,000 mg/kg (man)
	TDLO	650 ml/kg (man)
	LD50	4,000 mg/kg (mouse)
		3,000 mg/kg (rat)
	LD50	4 g/kg (mouse)
Inhalative	LC50	320 mg/m³ (mouse)
	TCLO	0.63 mg/m³ (hmn)
	LCLO	29,300 mg/m³/7h (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 Potas	sium phosphate, Mo	nobasic
Oral	LDLO	4,640 mg/kg (rat)
9048-46-8 Albur	nin, bovine	•
	Intraperitoneal TDLO	0.2 pph (mouse)
26628-22-8 Sod	ium azide	•
Oral	LDLO	27 mg/kg (rat)
	TDLO	3 ml/kg (wmn)

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express ELISA Antiserum

		(Contd. from page 7)	
	LD50	27 mg/kg (rat)	
	Subcutaneous LD50	45,100 μg/kg (rat)	
Dermal	LD50	50 mg/kg (rat)	
		20 mg/kg (rabbit)	
Inhalative	LC50	37 mg/m³ (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)	
 Additional toxic 	Harmful Irritant		
-	· IARC (International Agency for Research on Cancer)		
-	None of the ingredients is listed.		
	· NTP (National Toxicology Program)		
None of the ingre	None of the ingredients is listed.		
· OSHA-Ca (Occupational Safety & Health Administration)			
None of the ingre	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.

(Contd. on page 9)

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane 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

r i manoport 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 o MARPOL73/78 and the IBC Code 	of 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):				
26628-22-8 Sodium azide				
· Section 313	Section 313 (Specific toxic chemical listings):			
26628-22-8	26628-22-8 Sodium azide			
· TSCA (Toxi	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)		

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane 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 06/13/2022 / -
- 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**

(Contd. on page 11)

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane 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



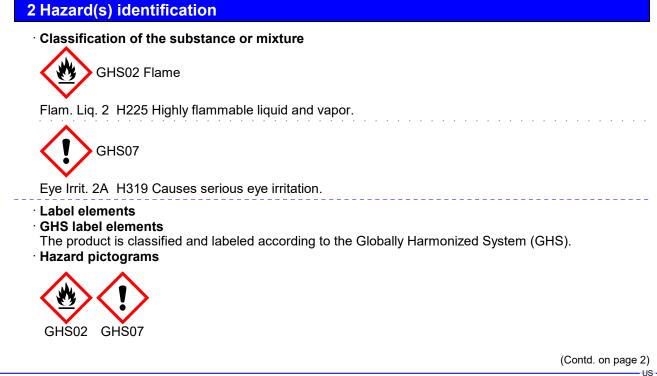
Printing date 06/13/2022

Revision date 06/13/2022

Page 1/10

1 Identification

- Product identifier
- Trade name: 8-Isoprostane Express ELISA Standard
- · Article number: 416364
- · 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/CĂNADA: 800-424-9300 Outside US/CANADA: 703-741-5970



Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express ELISA Standard

RTECS: KQ6300000 Other ingredients	0		(Contd. from page 1
H225 Highly flammable liquid and vapor. H319 Causes serious eye irritation. Precautionary statements P210 Keep away from heat/sparks/open flames/hot surfaces No smoking. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting/equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P264 Wash thoroughly affer handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P303+P361+P338 If in eyes: Rinse catiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing. P370+P378 If eye irritation persists: 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. P501 Dispose of contents/container in accordance with local/regional/national/internation: regulations. Classification system: NFPA ratings (scale 0 - 4) HEALTM 2 Fire = 3 Reactivity = 0 Composition/information on ingredients Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 2415-26-5 [8-iso Prostaglandin F2α [0.001%]			
H319 Causes serious eye irritation. Procautionary statements P210 Keep away from heat/sparks/open flames/hot surfaces No smoking. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting/equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P244 Wash thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P303+P301+P303 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin wit water/shower. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention. P303+P378 In case of fire: Use CO2, powder or water spray to extinguish. P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with local/regional/national/internation: regulations. Classification system: NFA ratings (scale 0 - 4) Health = 2 Fire = 3 Reactivity = 0 Health = 2			
Precautionary statements P210 Keep away from heat/sparks/open flames/hot surfaces No smoking. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting/equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P244 Wash thoroughly after handling. P303+P3351+P3351 ff on skin (or hair): Take off immediately all contaminated clothing. Rinse skin wit water/shower. P303+P3351+P3351 ff on skin (or hair): Take off immediately all contaminated clothing. Rinse skin wit water/shower. P303+P3351+P3361 ff ense: Rinse cautiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing. P305+P376 In case of fire: Use CO2, powder or water spray to extinguish. P304-P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. Classification system: NFPA rating (scale 0 - 4) Health = 2 Fire = 3 Fire = 3 Reactivity = 0 Other hazards Reactivity = 0 Other hazards Reactivity = 0 Othe			
P210 Keep away from heat/sparks/open flames/hot surfaces No smoking. P233 Keep container tightly closed. P240 Ground/bond container and receiving equipment. P241 Use explosion-proof electrical/ventilating/lighting/equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P264 Wash thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P303+P331+P333 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin wit water/shower. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention. P370+P378 In case of fire: Use CO2, powder or water spray to extinguish. P403+P235 Store in a well-vertilated place. Keep cool. P501 Dispose of contents/container in accordance with local/regional/national/internation: regulations. Classification system: NFPA ratings (scale 0 - 4) P401 P P302 Health = 2 Fire = 3 Reactivity = 0 Other hazards Reactivity = 0			
P233 Keep container tightly closed. O 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. P244 Wash thoroughly after handling. P245 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 wit water/shower. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing. P370+P373 If eye irritation persists: Get medical advice/attention. P370+P374 In case of fire: Use CO2, powder or water spray to extinguish. P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with local/regional/national/internation: regulations. Classification system: NFPA ratings (scale 0 - 4) Health = 2 Fire = 3 Reactivity = 0 Hold Particle Other hazards Results of PBT and vPvB assessment PBT: Not applicable. Particle VPvB: Not applicable. Intervisi			Nia ana akinan
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. P244 Wash thoroughly after handling. P284 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. P303+P351+P338 If in eyes. Rinse cautiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention. P303+P325 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with local/regional/national/internation: regulations. Classification system: NFPA ratings (scale 0 - 4) V200 Health = 2 Pire = 3 Reactivity = 0 PMIS-ratings (scale 0 - 4) Health = 2 Pire = 3 Reactivity = 0 Other hazards Reseuts of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. vPvB: Not applicable. 99.9999% Rescivitor of the substan			- No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment. P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P264 Wash thoroughly after handling. P260 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 wit water/shower. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing. P370+P373 If eye irritation persists: Get medical advice/attention. P370+P373 If eyes containes container in accordance with local/regional/national/internation: regulations. P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with local/regional/national/internation: regulations. Classification system: NFPA ratings (scale 0 - 4) MIS-ratings (scale 0 - 4) Health = 2 Pire = 3 Reactivity = 0 MtB-ratings Fire = 3 Reactivity = 0 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. PBT: Not applicable. VervB: Not applicable. VPvV		Cround/band container and reasiving equipment	
P242 Use only non-sparking tools. P243 Take precautionary measures against static discharge. P264 Wash thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin wit water/shower. P303+P361+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention. P303+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with local/regional/national/internationaregulations. Classification system: NFPA ratings (scale 0 - 4) V2300 Health = 2 Fire = 3 Reactivity = 0 HMIS-ratings (scale 0 - 4) Health = 2 VPVE: Not applicable. PBT: Not applicable. VPVB: Not applicable. VPVB: Not applicable. VPVB: Not applicable. Ethanol P3T: Reactivity = 0 Mixtures Composition/information on ingredients Page 99.999% Chemical characterization: Mixtures Page 99.999% PBT: Not applicable. 99.9999% </td <td></td> <td>Ground/bond container and receiving equipment.</td> <td>ont</td>		Ground/bond container and receiving equipment.	ont
P243 Take precautionary measures against static discharge. P264 Wash thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin wit water/shower. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing. P337+P378 In case of fire: Use CO2, powder or water spray to extinguish. P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with local/regional/national/internation: regulations. Classification system: NPPA rating (scale 0 - 4) MEXT P2 Health = 2 Pire = 3 Reactivity = 0 HMIS-ratings (scale 0 - 4) Fire = 3 Peactivity = 0 Post Part Part Part Part Part Part Part Par			ieni.
P264 Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection. P203 P261 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. Protective gloves/protective clothing/eye protection/face protection. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing. P337+P313 P370+P378 In case of fire: Use CO2, powder or water spray to extinguish. P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with local/regional/national/internation: regulations. Classification system: NFPA ratings (scale 0 - 4) Pire = 3 Reactivity = 0 Health = 2 HMIS-ratings (scale 0 - 4) Health = 2 Fire = 3 Reactivity = 0 Other hazards Reactivity = 0 Other hazards Reactivity = 0 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. VPvB: Not applicable. VPvB: Not applicable. Pire = 3 Description: Mixture of the substances listed below with nonhazardous additions.			
P280 Wear protective gloves/protective clothing/eye protection/face protection. P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: 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. P501 Dispose of contents/container in accordance with local/regional/national/internation: regulations. Classification system: NFPA ratings (scale 0 - 4) If eye inflation parts Reactivity = 0 HMIS-ratings (scale 0 - 4) Health = 2 Pire = 3 Reactivity = 0 MHIS-ratings (scale 0 - 4) Health = 2 PIE Store and vPvB assessment PBT: Not applicable. vyvB: Not applicable. vyvB: Not applicable. VPvB: Not applicable. VPvB: Not applicable. 99.9999% RTECS: KQ6300000 get.applicable Other ingredients 99.9999% CAS: 27415-26-5 8-iso Prostaglandin F2α 0.0001%			
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin wit water/shower. P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: 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. P501 Dispose of contents/container in accordance with local/regional/national/internation: regulations. Classification system: NFPA ratings (scale 0 - 4) If eye irritation persists: Fire = 3 Reactivity = 0 Health = 2 Fire = 3 Reactivity = 0 Other hazards Popolable. vvB: Not applicable. vvB: not applicable.			/face protection
present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: 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. P501 Dispose of contents/container in accordance with local/regional/national/internation: regulations. Classification system: NFPA ratings (scale 0 - 4) Health = 2 Fire = 3 Reactivity = 0 HMIS-ratings (scale 0 - 4) HEALTH 2 Health = 2 Fire = 3 Reactivity = 0 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 ethanol 99.9999% Other ingredients CAS: 27415-26-5 8-iso Prostaglandin F2 α 0.0001%		53 If on skin (or hair): Take off immediately all contamina	
P337+P313if eye irritation persists: Get medical advice/attention. In case of fire: Use CO2, powder or water spray to extinguish. P403+P235P370+P378In case of fire: Use CO2, powder or water spray to extinguish. Dispose of contents/container in accordance with local/regional/national/internationaregulations.P501Dispose of contents/container in accordance with local/regional/national/internationaregulations.Classification system: NFPA ratings (scale 0 - 4)Health = 2 Fire = 3 Reactivity = 0HMIS-ratings (scale 0 - 4)Health = 2 Fire = 3 Reactivity = 0HMIS-ratings (scale 0 - 4)Fire = 3 Reactivity = 0HMIS-ratings (scale 0 - 4)Health = 2 Fire = 3 Reactivity = 0MEE3 Results of PBT and vPvB assessment PBT: Not applicable.PBT: Not applicable. vPvB: Not applicable.Mixtures Description: Mixture of the substances listed below with nonhazardous additions.Dangerous components: CAS: 64-17-5 RECS: KQ630000099.9999%Other ingredientsChas contents (Q43) (Q43)CAS: 27415-26-58-iso Prostaglandin F2α0.0001%0.0001%	P305+P351+P3	38 If in eyes: Rinse cautiously with water for several minute	es. Remove contact lenses, i
P370+P378 In case of fire: Use CO2, powder or water spray to extinguish. P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. Classification system: NFPA ratings (scale 0 - 4) Image: Part of the state of	P337+P313		
P403+P235 Store in a well-ventilated place. Keep cool. P501 Dispose of contents/container in accordance with local/regional/national/international regulations. Classification system: NFPA ratings (scale 0 - 4) Image: Participation of the substances is the substances listed below with nonhazardous additions. PHE 3 Price = 3 Reactivity = 0 HMIS-ratings (scale 0 - 4) Health = 2 Price = 3 Reactivity = 0 HMIS-ratings (scale 0 - 4) Health = 2 Price = 3 Reactivity = 0 Other hazards Reactivity = 0 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Composition/information on ingredients Composition: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. 99.9999% Dangerous components: 99.9999% CAS: 64-17-5 ethanol 99.9999% Other ingredients 0.0001%			quish
P501 Dispose of contents/container in accordance with local/regional/national/international regulations. Classification system: NFPA ratings (scale 0 - 4) Image: Signal and Signa			99.011.
Classification system: NFPA ratings (scale 0 - 4) Health = 2 Fire = 3 Reactivity = 0 HMIS-ratings (scale 0 - 4) HEALTH 2 HEALTH 2 HEALTH 2 HEALTH 2 Fire = 3 Reactivity = 0 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. VPvB: Not applicable. Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 RTECS: KQ6300000 Other ingredients CAS: 27415-26-5 8-iso Prostaglandin F2α 0.0001%		Dispose of contents/container in accordance with local/r	egional/national/internationa
Fire = 3 Reactivity = 0 HMIS-ratings (scale 0 - 4) HEALTH 2 HEALTH 2 HEALTH 2 REACTIVITY 0 Reactivity = 0 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Composition/information on ingredients Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 RTECS: KQ6300000 Other ingredients CAS: 27415-26-5 8-iso Prostaglandin F2α			
HMIS-ratings (scale 0 - 4) HEALTH 2 FIRE 3 Reactivity 0 Other hazards Reactivity = 0 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. vPvB: Not applicable. vPvB: Not applicable. Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 ethanol 99.9999% Other ingredients 0.0001% CAS: 27415-26-5 8-iso Prostaglandin F2α 0.0001%			
HEALTH 2 FIRE 3 Reactivity = 0 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. vPvB: Not applicable. vPvB: Not applicable. Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 ethanol RTECS: KQ6300000 99.9999% Other ingredients CAS: 27415-26-5 8-iso Prostaglandin F2α	2 0 Re	activity = 0	
FIRE 3 Fire = 3 Fire = 3 Reactivity = 0 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. vPvB: Not applicable. vPvB: Not applicable. Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 ethanol 99.9999% Other ingredients 0.0001%	HMIS-ratings (scale 0 - 4)	
REACTIVITY ① Reactivity = 0 Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. vPvB: Not applicable. vPvB: Not applicable. Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 ethanol 99.9999% RTECS: KQ6300000 99.9999% Other ingredients 0.0001%	HEALTH 2 H	ealth = 2	
Other hazards Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 ethanol 99.9999% Other ingredients CAS: 27415-26-5 8-iso Prostaglandin F2α	FIRE 3 F	re = 3	
Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 RTECS: KQ6300000 ethanol 99.9999% Other ingredients CAS: 27415-26-5 8-iso Prostaglandin F2α	REACTIVITY 0 R	eactivity = 0	
PBT: Not applicable. vPvB: Not applicable. Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 RTECS: KQ6300000 Other ingredients CAS: 27415-26-5 8-iso Prostaglandin F2α	Other hazards		
vPvB: Not applicable. Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 ethanol 99.9999% RTECS: KQ6300000 99.9999% Other ingredients CAS: 27415-26-5 8-iso Prostaglandin F2α 0.0001%	Results of PBT	and vPvB assessment	
Composition/information on ingredients Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 ethanol 99.9999% RTECS: KQ6300000 99.9999% Other ingredients 0.0001%	PBT: Not applic	able.	
Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 ethanol P9.9999% RTECS: KQ6300000 Other ingredients CAS: 27415-26-5 8-iso Prostaglandin F2α	vPvB: Not appli	cable.	
Chemical characterization: Mixtures Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 ethanol P39.9999% RTECS: KQ6300000 Other ingredients CAS: 27415-26-5 8-iso Prostaglandin F2α			
Description: Mixture of the substances listed below with nonhazardous additions. Dangerous components: CAS: 64-17-5 ethanol 99.9999% RTECS: KQ6300000 ethanol 99.9999% Other ingredients 0.0001%	Composition	/information on ingredients	
CAS: 64-17-5 ethanol 99.9999% RTECS: KQ6300000 90.9999% Other ingredients 0.0001% CAS: 27415-26-5 8-iso Prostaglandin F2α 0.0001%			ditions.
RTECS: KQ6300000 Other ingredients CAS: 27415-26-5 8-iso Prostaglandin F2α 0.0001%	-	nponents:	
CAS: 27415-26-5 8-iso Prostaglandin F2α 0.0001%	••••••		99.9999%
	-		
			0.0001%

(Contd. on page 3)

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express ELISA Standard

(Contd. from page 2)

4 First-aid measures

- · Description of first aid measures
- · General information: Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Immediately rinse with water.
- After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

- After swallowing: If symptoms persist consult doctor.
- · Information for doctor:
- **Most important symptoms and effects, both acute and delayed** May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.
- Indication of any immediate medical attention and special treatment needed No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
- · Suitable extinguishing agents:
- CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- Special hazards arising from the substance or mixture No further relevant information available.
- Advice for firefighters
- · Protective equipment: No special measures required.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away. · Environmental precautions: Dilute with plenty of water. Do not allow to enter sewers/ surface or ground water. Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose contaminated material as waste according to item 13. Ensure adequate ventilation. Reference to other sections See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information. Protective Action Criteria for Chemicals · PAC-1: 64-17-5 ethanol 1,800 ppm · PAC-2: 64-17-5 ethanol 3300* ppm · PAC-3: 64-17-5 ethanol 15000* ppm

(Contd. on page 4)

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express ELISA Standard

(Contd. from page 3)

7 Handling and storage

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

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.

Control parameters

· Components with limit values that require monitoring at the workplace:

64-17-5 ethanol

PEL Long-term value: 1900 mg/m³, 1000 ppm

- REL Long-term value: 1900 mg/m³, 1000 ppm
- TLV Short-term value: 1000 ppm A3

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

- Exposure controls
- · Personal protective equipment:
- General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Wash hands before breaks and at the end of work. Avoid contact with the eyes. Avoid contact with the eyes and skin.

- · Breathing equipment: Not required.
- Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

(Contd. on page 5)

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express ELISA Standard

(Contd. from page 4) 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

General Information	
· Appearance: Form:	Liquid
Color:	Liquid Colorless
· Odor:	Alcohol-like
· Odor threshold:	Not determined.
· Formulation	A solution in ethanol
· pH-value:	Not determined.
· Change in condition	
Melting point/Melting range:	-114.5 °C (-174.1 °F)
Boiling point/Boiling range:	78 °C (172.4 °F)
· Flash point:	13 °C (55.4 °F)
· Flammability (solid, gaseous):	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 %
Upper:	15 Vol %
· Vapor pressure at 20 °C (68 °F):	59 hPa (44.3 mm Hg)
· Density at 20 °C (68 °F):	0.79 g/cm³ (6.59255 lbs/gal)
Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.

- U

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express ELISA Standard

	(Contd. fro	m page 5)
 Solubility in / Miscibility with Water at 20 °C (68 °F): 	1,000 g/l	
· Partition coefficient (n-octanol/w	rater): Not determined.	
 Viscosity: Dynamic at 20 °C (68 °F): Kinematic: 	1.2 mPas Not determined.	
 Solvent content: Organic solvents: VOC content: 	100.0 % 100.00 % 1,000.0 g/l / 8.35 lb/gal	
Solids content:	0.0 %	
· Other information	No further relevant information available.	

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- Thermal decomposition / conditions to be avoided:
- No decomposition if used according to specifications.
- Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: strong oxidizing agents
- · Hazardous decomposition products: carbon monoxide, carbon dioxide

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	TCLO	1,800 (hmn)
	LC50	10 h - 20,000 mg/m³ (rat)
	LD50 Inhalation TCLO	1,800 mg/m³/30m (hmn)
Irritation of skin	TDLO	1,800 mg/kg (wmn)
	Intraperitoneal LD50	280 mg/kg (rat)
Drimon, invitant offact		

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

(Contd. on page 7)

US ·

Printing date 06/13/2022

Revision date 06/13/2022

(Contd. from page 6)

1

Trade name: 8-Isoprostane Express ELISA Standard

• Additional toxicological information:

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

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

64-17-5 ethanol

• NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- Toxicity
- Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · **Bioaccumulative potential** No further relevant information available.
- Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:
- Water hazard class 1 (Self-assessment): slightly hazardous for water

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

- Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- · **vPvB:** Not applicable.
- Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods

• Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

· UN-Number		
DOT, IMDG, IATA	UN1170	
· UN proper shipping name		
DOT	Ethanol solutions	

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express ELISA Standard

	(Contd. from page
· IMDG	ETHANOL SOLUTION (ETHYL ALCOHO SOLUTION)
·IATA	Ethanol solution
Transport hazard class(es)	
DOT	
RAMARE LODO	
Class	3 Flammable liquids
· Label	3
IMDG, IATA	
· Class · Label	3 Flammable liquids 3
Packing group DOT, IMDG, IATA	11
Environmental hazards:	Not applicable.
Special precautions for user	Warning: Flammable liquids
Hazard identification number (Kemler code):	
EMS Number:	F-E,S-D
Stowage Category	A
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
Transport/Additional information:	
DOT	
Quantity limitations	On passenger aircraft/rail: 5 L
	On cargo aircraft only: 60 L
IMDG	
Limited quantities (LQ)	1L
Excepted quantities (EQ)	Code: E2 Maximum pat quantity par inpar packaging: 20 ml
	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
ΙΑΤΑ	
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 Minimi Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled a Dangerous Goods/Excepted Quantity.
	(Contd. on page

US -

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express ELISA Standard

(Contd. from page 8)

· UN "Model Regulation":

UN 1170 ETHANOL SOLUTION (ETHYL ALCOHOL SOLUTION), 3, II

15 Regulatory information

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

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
	ACTIVE
Hazardous Air Pollutants	
None of the ingredients is listed.	
Proposition 65	
Chemicals known to cause cancer:	
None of the ingredients is listed.	
Chemicals known to cause reproductive toxicity for females:	
None of the ingredients is listed.	
Chemicals known to cause reproductive toxicity for males:	
None of the ingredients is listed.	
Chemicals known to cause developmental toxicity:	
64-17-5 ethanol	
Carcinogenic categories	
EPA (Environmental Protection Agency)	
None of the ingredients is listed.	
TLV (Threshold Limit Value)	
64-17-5 ethanol	A3
NIOSH-Ca (National Institute for Occupational Safety and Health)	
None of the ingredients is listed.	
Chemical safety assessment: A Chemical Safety Assessment has not been car	ried 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.

(Contd. on page 10)

⁻ ÚS

Printing date 06/13/2022

Revision date 06/13/2022

Trade name: 8-Isoprostane Express ELISA Standard

	(Contd. from page 9)
Department issuing SDS: Environment protection department.	
Contact: -	
Date of preparation / last revision 06/13/2022 / -	
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	
Flam. Liq. 2: Flammable liquids – Category 2	
Eve Irrit. 2A: Serious eve damage/eve irritation – Category 2A	
Lye int. 2A. Genous eye damage/eye intration - Galegoly ZA	US
	0.