

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/07/2020

Revision date 12/07/2020

## 1 Identification

- **Product identifier**
- **Trade name: IgG Fab (rabbit) Monoclonal Antibody - Biotinylated**
- **Synonym** Immunoglobulin G
- **Article number:** 32358
- **Application of the substance / the mixture** For research use only, not for human or veterinary use.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Cayman Chemical Co.  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108  
USA
- **Information department:** Product safety department
- **Emergency telephone number:**  
During normal opening times: +1 (734) 971-3335  
US/CANADA: 800-424-9300  
Outside US/CANADA: 703-741-5970

## 2 Hazard(s) identification

- **Classification of the substance or mixture**  
The product is not classified, according to the Globally Harmonized System (GHS).

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



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



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

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### 3 Composition/information on ingredients

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

- **Dangerous components:**

|                                    |                 |       |
|------------------------------------|-----------------|-------|
| CAS: 56-81-5<br>RTECS: MA8050000   | Glycerol        | 50.0% |
| CAS: 9048-46-8<br>RTECS: MT6446000 | Albumin, bovine | 1.0%  |

- **Other ingredients**

|                                     |   |         |
|-------------------------------------|---|---------|
| CAS: 7732-18-5<br>RTECS: ZC0110000  | Water   | 47.824% |
| CAS: 7647-14-5<br>RTECS: VZ4725000  | Sodium chloride                                     | 0.85%   |
| CAS: 7558-79-4<br>RTECS: WC4500000  | Sodium phosphate, Dibasic                           | 0.106%  |
|                                     | IgG Fab (rabbit) Monoclonal Antibody - Biotinylated | 0.1%    |
| CAS: 26628-22-8<br>RTECS: VY8050000 | Sodium azide  | 0.09%   |
| CAS: 7778-77-0<br>RTECS: TC6615500  | Potassium phosphate, Monobasic                      | 0.03%   |

### 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.

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## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **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).
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

### · PAC-1:

|            |                                |                         |
|------------|--------------------------------|-------------------------|
| 56-81-5    | Glycerol                       | 45 mg/m <sup>3</sup>    |
| 26628-22-8 | Sodium azide                   | 0.026 mg/m <sup>3</sup> |
| 7778-77-0  | Potassium phosphate, Monobasic | 9.6 mg/m <sup>3</sup>   |

### · PAC-2:

|            |                                |                        |
|------------|--------------------------------|------------------------|
| 56-81-5    | Glycerol                       | 180 mg/m <sup>3</sup>  |
| 26628-22-8 | Sodium azide                   | 0.29 mg/m <sup>3</sup> |
| 7778-77-0  | Potassium phosphate, Monobasic | 110 mg/m <sup>3</sup>  |

### · PAC-3:

|            |                                |                         |
|------------|--------------------------------|-------------------------|
| 56-81-5    | Glycerol                       | 1,100 mg/m <sup>3</sup> |
| 26628-22-8 | Sodium azide                   | 5.3 mg/m <sup>3</sup>   |
| 7778-77-0  | Potassium phosphate, Monobasic | 630 mg/m <sup>3</sup>   |

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** 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:**  
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

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At this time, the remaining constituent has no known exposure limits.

### 56-81-5 Glycerol

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

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
  - **Form:** Liquid
  - **Color:** According to product specification
  - **Odor:** Characteristic
  - **Storage Buffer:** PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
  - **Odor threshold:** Not determined.
  - **Formulation:** 50 µg protein G-affinity purified monoclonal antibody
- **pH-value:** Not determined.
- **Change in condition**
  - **Melting point/Melting range:** Undetermined.
  - **Boiling point/Boiling range:** 100 °C (212 °F)
- **Flash point:** 199 °C (390.2 °F)
- **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.

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|   |   |
|---|---|
| · <b>Explosion limits:</b>                        |   |
| <b>Lower:</b>                                     | Not determined.   |
| <b>Upper:</b>                                     | Not determined.   |
| · <b>Vapor pressure at 20 °C (68 °F):</b>         | 23 hPa (17.3 mm Hg)   |
| · <b>Density at 20 °C (68 °F):</b>                | 0.99795–1.00205 g/cm <sup>3</sup> (8.32789–8.36211 lbs/gal) |
| · <b>Bulk density:</b>                            | 998–1,002 kg/m <sup>3</sup>                                 |
| · <b>Relative density</b>                         | Not determined.   |
| · <b>Vapor density</b>                            | Not determined.   |
| · <b>Evaporation rate</b>                         | Not determined.   |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.   |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.   |
| · <b>Viscosity:</b>                               |   |
| <b>Dynamic:</b>                                   | Not determined.   |
| <b>Kinematic:</b>                                 | Not determined.   |
| · <b>Solvent content:</b>                         |   |
| <b>Organic solvents:</b>                          | 50.0 %  |
| <b>Water:</b>                                     | 47.8 %  |
| <b>VOC content:</b>                               | 0.00 %  |
|   | 0.0 g/l / 0.00 lb/gal                                       |
| <b>Solids content:</b>                            | 1.1 %   |
| · <b>Other information</b>                        | No further relevant information available.                  |

## 10 Stability and reactivity

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

## 11 Toxicological information

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

|   |            |                     |
|---|------------|---------------------|
| · <b>LD/LC50 values that are relevant for classification:</b> |            |                     |
| <b>ATE (Acute Toxicity Estimate)</b>                          |            |                     |
| Oral  | LD50       | 50,000 mg/kg        |
| <b>56-81-5 Glycerol</b>                                       |            |                     |
| Oral  | LD50       | 12,600 mg/kg (rat)  |
| Irritation of skin  | Irritation | 500 mg/24h (rabbit) |

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|                                  |                      |                            |
|----------------------------------|----------------------|----------------------------|
| Irritation of eyes               | Irritation           | 500 mg/24h (rabbit)        |
|                                  | Intraperitoneal LD50 | 4,420 mg/kg (rat)          |
|                                  | Subcutaneous LD50    | 100 mg/kg (rat)            |
| <b>9048-46-8 Albumin, bovine</b> |                      |                            |
|                                  | Intraperitoneal TDLO | 0.2 pph (mouse)            |
| <b>26628-22-8 Sodium azide</b>   |                      |                            |
| 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/m <sup>3</sup> (rat) |
|                                  | Subcutaneous LD50    | 45,100 µg/kg (rat)         |
|                                  | Interperitoneal LDLO | 30 mg/kg (rat)             |
|                                  | Intraperitoneal LD50 | 28 mg/kg (mouse)           |
|                                  | Subcutaneous LD50    | 45 mg/kg (rat)             |
|                                  | Data                 | 5,500 mg/kg (mouse)        |

- **Primary irritant effect:**

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

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

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

- **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- **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

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

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

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** not regulated
- **UN proper shipping name**
- **DOT, IMDG, IATA** not regulated
- **Transport hazard class(es)**
- **DOT, ADN, IMDG, IATA**
- **Class** not regulated
- **Packing group**
- **DOT, IMDG, IATA** not regulated
- **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 (Specific toxic chemical listings):**

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

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

|         |          |
|---------|----------|
| 56-81-5 | Glycerol |
|---------|----------|

ACTIVE

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|            |                                |        |
|------------|--------------------------------|--------|
| 7732-18-5  | Water                          | ACTIVE |
| 9048-46-8  | Albumin, bovine                | ACTIVE |
| 7647-14-5  | Sodium chloride                | ACTIVE |
| 7558-79-4  | Sodium phosphate, Dibasic      | ACTIVE |
| 26628-22-8 | Sodium azide                   | ACTIVE |
| 7778-77-0  | Potassium phosphate, Monobasic | ACTIVE |

**· Hazardous Air Pollutants**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

|            |              |    |
|------------|--------------|----|
| 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

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

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

**· Contact:** -

**· Date of preparation / last revision** 12/07/2020 / -

**· Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety &amp; Health

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

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

US