



## Safety Data Sheet acc. to OSHA HCS

Printing date 07/15/2021

Revision date 07/15/2021

### 1 Identification

- **Product identifier**
- **Trade name: IgG4 (human) EIA Standard**
- **Article number:** 400924, 007355
- **Application of the substance / the mixture**  
This product is for research use - Not for human or veterinary diagnostic or therapeutic use. It is the responsibility of the purchaser to determine suitability for other applications.
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Cayman Chemical Co.  
1180 E. Ellsworth Rd.  
Ann Arbor, MI 48108  
USA
- **Information department:** Product safety department
- **Emergency telephone number:**  
During normal opening times: +1 (734) 971-3335  
US/CANADA: 800-424-9300  
Outside US/CANADA: 703-741-5970

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Sol. 1 H228 Flammable solid.

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



GHS02

- **Signal word** Danger
- **Hazard statements**  
H228 Flammable solid.
- **Precautionary statements**  
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

(Contd. on page 2)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 07/15/2021

Revision date 07/15/2021

**Trade name: IgG4 (human) EIA Standard**

(Contd. from page 1)

- P240 Ground/bond container and receiving equipment.  
 P241 Use explosion-proof electrical/ventilating/lighting/equipment.  
 P280 Wear protective gloves/protective clothing/eye protection/face protection.  
 P370+P378 In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.

- **Classification system:**

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



Health = 1  
 Fire = 0  
 Reactivity = 0

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



Health = 1  
 Fire = 0  
 Reactivity = 0

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

### 3 Composition/information on ingredients

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

- **Dangerous components:**

CAS: 9048-46-8 RTECS: MT6446000	Albumin, bovine	19.54%
CAS: 26628-22-8 RTECS: VY8050000	Sodium azide	0.2%

- **Other ingredients**

CAS: 7647-14-5 RTECS: VZ4725000	Sodium chloride	47.27%
CAS: 7758-11-4 RTECS: TC5580000	Potassium phosphate, dibasic	25.97%
CAS: 7778-77-0 RTECS: TC6615500	Potassium phosphate, Monobasic	6.29%
CAS: 194491-31-1	EDTA, tetrasodium salt, hydrate	0.72%
	HuCAL human IgG4 negative control	0.01%

### 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.

(Contd. on page 3)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 07/15/2021

Revision date 07/15/2021

**Trade name: IgG4 (human) EIA Standard**

(Contd. from page 2)

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

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
Use fire fighting measures that suit the environment.  
A solid water stream may be inefficient.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
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:** Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

- **PAC-1:**

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

- **PAC-2:**

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

- **PAC-3:**

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

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
No special precautions are necessary if used correctly.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Avoid prolonged or repeated exposure.

(Contd. on page 4)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 07/15/2021

Revision date 07/15/2021

**Trade name: IgG4 (human) EIA Standard**

(Contd. from page 3)

- Keep away from sources of ignition.
- Take precautionary measures against static discharge.
- **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:**
- **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 following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
  - At this time, the remaining constituent has no known exposure limits.

### 26628-22-8 Sodium azide

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

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** Wash hands before breaks and at the end of work.
- **Breathing equipment:** Not required.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**
  - The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. 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 5)

US

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 07/15/2021

Revision date 07/15/2021

Trade name: IgG4 (human) EIA Standard

(Contd. from page 4)

· Eye protection: Not required.

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

Form:	Solid
Color:	According to product specification
Odor:	Characteristic
Odor threshold:	Not determined.

pH-value:	Not applicable.
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#### · Change in condition

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

Flash point:	Not applicable.
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Flammability (solid, gaseous):	Not determined.
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Decomposition temperature:	Not determined.
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Auto igniting:	Product is not selfigniting.
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Danger of explosion:	Not determined.
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#### · Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure:	Not applicable.
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Density:	Not determined.
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Relative density	Not determined.
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Vapor density	Not applicable.
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Evaporation rate	Not applicable.
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#### · Solubility in / Miscibility with

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

Dynamic:	Not applicable.
Kinematic:	Not applicable.

#### · Solvent content:

VOC content:	0.00 %
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Other information	No further relevant information available.
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## 10 Stability and reactivity

Reactivity	No further relevant information available.
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(Contd. on page 6)

-US-

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/15/2021

Revision date 07/15/2021

Trade name: IgG4 (human) EIA Standard

(Contd. from page 5)

- **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	2,151 mg/kg
Dermal	LD50	10,000 mg/kg

### 7647-14-5 Sodium chloride

Oral	LDLO	1,000 mg/kg (man)
	TDLO	650 ml/kg (man)
	LD50	4,000 mg/kg (mouse) 3,000 mg/kg (rat)
Inhalative	LD50	4 g/kg (mouse)
	LC50	320 mg/m <sup>3</sup> (mouse)
	TCLO	0.63 mg/m <sup>3</sup> (hmn)
Irritation of skin	LCLO	29,300 mg/m <sup>3</sup> /7h (mouse)
	Irritation	500 mg/24h (rabbit)
Irritation of eyes	Irritation	100 mg/24h (rabbit)
	Intraperitoneal LD50	2,602 mg/kg (mouse)
	Subcutaneous LD50	31.6 mg/kg (rat)
	Intravenous LD50	59.5 mg/kg (rat)
	Data	15 mg/3D (hmn)
	Subcutaneous LD50	3 g/kg (mouse)

### 9048-46-8 Albumin, bovine

Intraperitoneal TDLO	0.2 pph (mouse)
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### 26628-22-8 Sodium azide

Oral	LDLO	27 mg/kg (rat)
	TDLO	3 ml/kg (wmn)
	LD50	27 mg/kg (rat)
	Subcutaneous LD50	45,100 µg/kg (rat)
Dermal	LD50	50 mg/kg (rat)
		20 mg/kg (rabbit)
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)

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/15/2021

Revision date 07/15/2021

**Trade name: IgG4 (human) EIA Standard**

(Contd. from page 6)

	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:**

- **Carcinogenic categories**

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

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

US

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS



Printing date 07/15/2021

Revision date 07/15/2021

Trade name: IgG4 (human) EIA Standard

(Contd. from page 7)

## 14 Transport information

<ul style="list-style-type: none"> <li>· UN-Number</li> <li>· DOT, IMDG, IATA</li> </ul>	UN1325
<ul style="list-style-type: none"> <li>· UN proper shipping name</li> <li>· DOT</li> <li>· IMDG</li> <li>· IATA</li> </ul>	Flammable solids, organic, n.o.s. (Methyl acetate) FLAMMABLE SOLID, ORGANIC, N.O.S. (METHYL ACETATE) Flammable solid, organic, n.o.s. (METHYL ACETATE)
<ul style="list-style-type: none"> <li>· Transport hazard class(es)</li> <li>· DOT</li> </ul>	
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	4.1 Flammable solids, self-reactive substances and solid desensitised explosives 4.1
<ul style="list-style-type: none"> <li>· IMDG, IATA</li> </ul>	
<ul style="list-style-type: none"> <li>· Class</li> <li>· Label</li> </ul>	4.1 Flammable solids, self-reactive substances and solid desensitised explosives 4.1
<ul style="list-style-type: none"> <li>· Packing group</li> <li>· DOT, IMDG, IATA</li> </ul>	II
<ul style="list-style-type: none"> <li>· Environmental hazards:</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· Special precautions for user</li> <li>· Hazard identification number (Kemler code):</li> <li>· EMS Number:</li> <li>· Segregation groups</li> <li>· Stowage Category</li> </ul>	Warning: Flammable solids, self-reactive substances and solid desensitised explosives 40 F-A,S-G Azides B
<ul style="list-style-type: none"> <li>· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</li> </ul>	Not applicable.
<ul style="list-style-type: none"> <li>· Transport/Additional information:</li> <li>· DOT</li> <li>· Quantity limitations</li> </ul>	On passenger aircraft/rail: 15 kg On cargo aircraft only: 50 kg
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· Limited quantities (LQ)</li> <li>· Excepted quantities (EQ)</li> </ul>	1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g

(Contd. on page 9)

US



# Safety Data Sheet

acc. to OSHA HCS

Printing date 07/15/2021

Revision date 07/15/2021

Trade name: IgG4 (human) EIA Standard

(Contd. from page 8)

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| <ul style="list-style-type: none"> <li>· <b>IATA</b></li> <li>· <b>Remarks:</b></li> </ul> | <p>When sold in quantities of less than or equal to 1 mL, or 1 g, with an Excepted Quantity Code of E1, E2, E4, or E5, this item meets the De Minimis Quantities exemption, per IATA 2.6.10. Therefore packaging does not have to be labeled as Dangerous Goods/Excepted Quantity.</p> |
| <ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>          | <p>UN 1325 FLAMMABLE SOLID, ORGANIC, N.O.S. (METHYL ACETATE), 4.1, II</p>  |

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

26628-22-8	Sodium azide
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- **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

- **Hazardous Air Pollutants**

None of the ingredients is listed.
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- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.
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- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.
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- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.
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- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.
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- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.
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- **TLV (Threshold Limit Value)**

26628-22-8	Sodium azide	A4
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- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.
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(Contd. on page 10)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 07/15/2021

Revision date 07/15/2021

**Trade name: IgG4 (human) EIA Standard**

(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** 07/15/2021 / -

- **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 EINECS: European Inventory of Existing Commercial Chemical Substances  
 ELINCS: European List of Notified Chemical Substances  
 CAS: Chemical Abstracts Service (division of the American Chemical Society)  
 NFPA: National Fire Protection Association (USA)  
 HMIS: Hazardous Materials Identification System (USA)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 NIOSH: National Institute for Occupational Safety  
 OSHA: Occupational Safety & Health  
 TLV: Threshold Limit Value  
 PEL: Permissible Exposure Limit  
 REL: Recommended Exposure Limit  
 Flam. Sol. 1: Flammable solids – Category 1

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