

Safety Data Sheet

acc. to OSHA HCS

Printing date 02/20/2021

Revision date 02/20/2021

1 Identification

- **Product identifier**
- **Trade name: Ki-67 Rabbit Monoclonal Antibody**
- **Synonym** Antigen Ki-67; Marker of Proliferation Ki-67
- **Article number:** 32309
- **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 RTECS: MA8050000 | Glycerol | 50.0% |
| CAS: 9048-46-8 RTECS: MT6446000 | Albumin, bovine | 1.0% |

- **Other ingredients**

| | | |
|-------------------------------------|----------------------------------|---------|
| CAS: 7732-18-5 RTECS: ZC0110000 | Water | 47.914% |
| CAS: 7647-14-5 RTECS: VZ4725000 | Sodium chloride | 0.85% |
| CAS: 7558-79-4 RTECS: WC4500000 | Sodium phosphate, Dibasic | 0.106% |
| CAS: 26628-22-8 RTECS: VY8050000 | Sodium azide | 0.09% |
| CAS: 7778-77-0 RTECS: TC6615500 | Potassium phosphate, Monobasic | 0.03% |
| | Ki-67 Rabbit Monoclonal Antibody | 0.01% |

4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed**
May cause anemia, cough, CNS depression, drowsiness, headache, heart damage, lassitude (weakness, exhaustion), liver damage, narcosis, reproductive effects, teratogenic effects.
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

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

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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 ³ |
| 26628-22-8 | Sodium azide | 0.026 mg/m ³ |
| 7778-77-0 | Potassium phosphate, Monobasic | 9.6 mg/m ³ |

· PAC-2:

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

· PAC-3:

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

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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| | |
|---|---|
| · 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): | 0.99795–1.00205 g/cm ³ (8.32789–8.36211 lbs/gal) |
| · Bulk density: | 998–1,002 kg/m ³ |
| · 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: | |
| Organic solvents: | 50.0 % |
| Water: | 47.9 % |
| VOC content: | 0.00 % |
| | 0.0 g/l / 0.00 lb/gal |
| Solids content: | 2.1 % |
| · 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 | 50,000 mg/kg |
|------|------|--------------|

56-81-5 Glycerol

| | | |
|--------------------|------------|---------------------|
| 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) |
| 9048-46-8 Albumin, bovine | | |
| | Intraperitoneal TDLO | 0.2 pph (mouse) |
| 26628-22-8 Sodium azide | | |
| Oral | LDLO | 27 mg/kg (rat) |
| | TDLO | 3 ml/kg (wmn) |
| | LD50 | 27 mg/kg (rat) |
| | Subcutaneous LD50 | 45,100 µg/kg (rat) |
| Dermal | LD50 | 50 mg/kg (rat) |
| | | 20 mg/kg (rabbit) |
| Inhalative | LC50 | 37 mg/m ³ (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 02/20/2021 / -

· Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

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TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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

US