

# Safety Data Sheet

Rb antibody

Cat#: orb766208

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## 1. IDENTIFICATION

### 1.1 GHS Product identifier

Product name: Rb antibody

Catalog No.: orb766208

### 1.2 Recommended use of the chemical and restrictions on use

Identified uses: For research use only

Uses advised against: no data available

## 2. HAZARD IDENTIFICATION

### 2.1 Classification of the substance or mixture

Not classified.

### 2.2 GHS Label elements, including precautionary statements

Pictogram(s): No symbol.

Signal word: No signal word

Hazard statement(s): none

Precautionary statement(s):

Prevention: none

Response: none

Storage: none

Disposal: none

### 2.3 Other hazards which do not result in classification

no data available

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

not applicable

### 3.2 Mixtures

Chemical name	Common names and synonyms	CAS number	EC number	% [weight]
Glycerol	Glycerin	56-81-5	200-289-5	50%
Water	Water	7732-18-5	231-791-2	48.045%
Albumins, blood serum	Bovine albumin	9048-46-8	232-936-2	1%
Sodium chloride	Sodium chloride	7647-14-5	231-598-3	0.80%
Phosphoric acid, sodium salt, hydrate (1:2:12)	disodium hydrogen phosphate	10039-32-4	600-088-6	0.115%
Potassium chloride	Potassium chloride	7447-40-7	231-211-8	0.02%
Potassium dihydrogen orthophosphate	Potassium dihydrogen phosphate	7778-77-0	231-913-4	0.02%

## 4. FIRST-AID MEASURES

### 4.1 Description of necessary first-aid measures

#### Following inhalation

Fresh air, rest.

#### Following skin contact

Rinse skin with plenty of water or shower. Rinse skin with plenty of water or shower.

#### Following eye contact

First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then refer for medical attention.

#### Following ingestion

Rinse mouth. Rinse mouth.

### 4.2 Most important symptoms/effects, acute and delayed

no data available

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

no data available

## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing media

Use dry chemical, carbon dioxide or alcohol-resistant foam.

### 5.2 Specific hazards arising from the chemical

no data available

### **5.3 Special protective actions for fire-fighters**

Use water spray, alcohol-resistant foam, dry powder, carbon dioxide. In case of fire: keep drums, etc., cool by spraying with water.

## **6. ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Ventilation. Collect leaking and spilled liquid in covered containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

### **6.2 Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

### **6.3 Methods and materials for containment and cleaning up**

Avoid breathing vapor. Place spillage in appropriately labelled container for disposal.

## **7. HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

Handling in a well-ventilated place. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### **7.2 Conditions for safe storage, including any incompatibilities**

Separated from strong oxidants. Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1 Control parameters**

#### **Occupational Exposure limit values**

pure CAS 56-81-5: MAK: (inhalable fraction): 200 mg/m<sup>3</sup>; peak limitation category: I(2);  
pregnancy risk group: C

### **8.2 Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk- elimination area.

### **8.3 Individual protection measures, such as personal protective equipment (PPE)**

#### **Eye/face protection**

Wear safety goggles.

#### **Skin protection**

Handle with gloves.

### Respiratory protection

Ensure adequate ventilation.

### Thermal hazards

no data available

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	Transparent liquid.
<b>Colour</b>	Colourless.
<b>Odour</b>	Weak odour.
<b>Melting point/freezing point</b>	pure CAS 56-81-5: 18°C; pure CAS 7732-18-5: 0 °C; pure CAS 7647-14-5: 801 °C. Atm. press.: 1 atm.; pure CAS 10039-32-4: 35°C; pure CAS 7447-40-7: 770-773°C; pure CAS 7778-77-0: 253°C
<b>Boiling point or initial boiling point and boiling range</b>	pure CAS 56-81-5: 290°C; pure CAS 7732-18-5: 100°C(lit.); pure CAS 7647-14-5: 1465°C/1 atm(lit.); pure CAS 10039-32-4: 158°C at 760 mmHg; pure CAS 7447-40-7: 146°C; pure CAS 7778-77-0: > 449.85°C. Atm. press.: Pa.
<b>Flammability</b>	non flammable
<b>Lower and upper explosion limit/flammability limit</b>	no data available
<b>Flash point</b>	no data available
<b>Auto-ignition temperature</b>	pure CAS 56-81-5: 393°C
<b>Decomposition temperature</b>	no data available
<b>pH</b>	pure CAS 7447-40-7: 7. Remarks: Temperature and concentration not reported.; pure CAS 7778-77-0: Between 4,2 and 4,8 (1 % solution)
<b>Kinematic viscosity</b>	pure CAS 56-81-5: dynamic viscosity (in mPa s) = 1 412. Temperature: 20°C.; dynamic viscosity (in mPa s) = 612. Temperature: 30.0°C.; dynamic viscosity (in mPa s) = 14.8. Temperature: 100.0°C.
<b>Solubility</b>	pure CAS 56-81-5: Solubility in water: miscible; pure CAS 7647-14-5: In water: 317 g/L. Temperature: 20 °C. pH: >= 7 - <= 10. Remarks: At 1 vol%.; pure CAS 10039-32-4: In water: 218 g/L (20 °C); pure CAS 7447-40-7: Solubility in water at 20°C: good ; pure CAS 7778-77-0: Solubility in water, g/100ml: 22
<b>Partition coefficient n-octanol/water</b>	pure CAS 56-81-5: -1.76
<b>Vapour pressure</b>	pure CAS 56-81-5: 0.01 Pa(25°C); pure CAS 7732-18-5: 3 mm Hg ( 37 °C); pure CAS 7647-14-5: 1 mm Hg ( 865 °C); pure CAS 7778-77-0: 4.5 fPa. Temperature: 25 °C.
<b>Density and/or relative density</b>	pure CAS 56-81-5: 1.26; pure CAS 7732-18-5: 1.000g/mL at 3.98°C(lit.); pure CAS 7647-14-5: 2.16. Temperature: 25 °C.; pure CAS 10039-32-4: 1.52 g/cm3; pure CAS 7447-40-7: 1.98 g/cm3; pure CAS 7778-77-0: 2.34 g/cm3
<b>Relative vapour density</b>	pure CAS 56-81-5: 3.1 (vs air); pure CAS 7732-18-5: <1 (vs air)
<b>Particle characteristics</b>	not applicable

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No hazardous reactions are known under conditions of normal use.

#### 10.4 Conditions to avoid

Avoid high temperatures and direct sunlight.

#### 10.5 Incompatible materials

Strong oxidants.

#### 10.6 Hazardous decomposition products

No hazardous decomposition products if stored and handled as prescribed/indicated.

### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

- Oral: pure CAS 56-81-5: LD50 Rat oral 12.6 g/kg; pure CAS 7447-40-7: LD50 - rat (female) - ca. 3 020 mg/kg bw. Remarks: Death occurred in less than 2 hours after dosing due to respiratory failure and prostration was the most common pre-mortem clinical sign.; pure CAS 7778-77-0: LD50 Mouse oral 2820 mg/kg bw
- Inhalation: pure CAS 56-81-5: LC50 Rat inhalation > 570 mg/cu m/ 1 hr
- Dermal: pure CAS 7778-77-0: LD50 - rat (male/female) - > 2 000 mg/kg bw.

#### Skin corrosion/irritation

no data available

#### Serious eye damage/irritation

no data available

#### Respiratory or skin sensitization

no data available

#### Germ cell mutagenicity

no data available

#### Carcinogenicity

no data available

#### Reproductive toxicity

no data available

#### STOT-single exposure

pure CAS 7447-40-7: The substance is irritating to the eyes and respiratory tract. Ingestion of large amounts could cause effects on the cardiovascular system. This may result in cardiac dysrhythmia.; pure CAS 7778-77-0: The substance is irritating to the eyes, skin and respiratory tract.

#### STOT-repeated exposure

no data available

### Aspiration hazard

pure CAS 56-81-5: Evaporation at 20°C is negligible; a nuisance-causing concentration of airborne particles can, however, be reached quickly on spraying.;pure CAS 7447-40-7: Evaporation at 20°C is negligible; a nuisance-causing concentration of airborne particles can, however, be reached quickly when dispersed, especially if powdered.;pure CAS 7778-77-0: A harmful concentration of airborne particles can be reached quickly when dispersed, especially if powdered.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

· Toxicity to fish: pure CAS 56-81-5: LC50 - *Oncorhynchus mykiss* (previous name: *Salmo gairdneri*) - 54 000 mg/L - 96 h.;pure CAS 7647-14-5: LC50 - *Lepomis macrochirus* - 5 840 mg/L - 96 h.;pure CAS 7447-40-7: LC50 - *Pimephales promelas* - 880 mg/L - 96

h.;pure CAS 7778-77-0: LC50 - *Oncorhynchus mykiss* (previous name: *Salmo gairdneri*) - > 100 mg/L - 96 h. Remarks:Potassium.

· Toxicity to daphnia and other aquatic invertebrates: pure CAS 56-81-5: LC50 - *Daphnia magna* - 1 955 mg/L - 48 h.;pure CAS 7647- 14-5: LC50 - *Daphnia magna* - 874 mg/L - 48. Remarks:Complete immobilisation and no response to gentle agitation.;pure CAS 7447- 40-7: EC50 - see below - >= 440 - <= 880 mg/L - 48 h.;pure CAS 7778-77-0: EC50 - *Daphnia magna* - > 100 mg/L - 48 h.

Remarks:Phosphate.

· Toxicity to algae: pure CAS 56-81-5: EC3 - *Scenedesmus quadricauda* - > 10 000 mg/L - 8 d.;pure CAS 7647-14-5: EC50 - *Nitzschia* sp. - 2 430 mg/L - 120 h.;pure CAS 7447-40-7: EC50 - *Desmodesmus subspicatus* (previous name: *Scenedesmus subspicatus*) - > 100 mg/L - 72 h.;pure CAS 7778-77-0: EC50 - *Desmodesmus subspicatus* (previous name: *Scenedesmus subspicatus*) - > 100 mg/L - 72 h.

· Toxicity to microorganisms: pure CAS 56-81-5: Toxicity Threshold - *Pseudomonas putida* - > 10 000 mg/L - 16 h.;pure CAS 7647-14- 5: NOEC - activated sludge - 5 000 - 8 000 mg/L. Remarks:Respiration rate.;pure CAS 7447-40-7: EC50 - activated sludge, domestic - > 1 000 mg/L - 3 h. Remarks:Respiration rate.;pure CAS 7778-77-0: EC50 - activated sludge of a predominantly domestic sewage - > 1 000 mg/L - 3 h. Remarks:Respiration rate.

### 12.2 Persistence and degradability

AEROBIC: Glycerin, present at 100 mg/L, reached 63% of its theoretical BOD in 2 weeks using an activated sludge inoculum at 30 mg/L in the Japanese MITI test( 1). Biodegradation rate constants of 0.258/day and 0.200/day in respirometric test systems employing activated sludge have also been reported, corresponding to 68% and 78% degradation, respectively(2).

### 12.3 Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for glycerin(SRC), using a log Kow of-1.76( 1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

### 12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of glycerin can be estimated to be 1(SRC). According to a classification scheme(2), this estimated Koc value suggests that glycerin is expected to have very high mobility in soil.

### 12.5 Other adverse effects

no data available

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Disposal methods

#### Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

#### Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

## 14. TRANSPORT INFORMATION

### 14.1 UN Number

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.

### 14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods.

IMDG: Not dangerous goods.

IATA: Not dangerous goods.

### 14.3 Transport hazard class(es)

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.

### 14.4 Packing group, if applicable

ADR/RID: Not dangerous goods. IMDG: Not dangerous goods. IATA: Not dangerous goods.

### 14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

## 15 REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
Glycerol	Glycerin	56-81-5	200-289-5
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.
Chemical name	Common names and synonyms	CAS number	EC number
Water	Water	7732-18-5	231-791-2
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.
Chemical name	Common names and synonyms	CAS number	EC number
Albumins, blood serum	Bovine albumin	9048-46-8	232-936-2
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Not Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.
Chemical name	Common names and synonyms	CAS number	EC number
Sodium chloride	Sodium chloride	7647-14-5	231-598-3
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.



New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.
Chemical name	Common names and synonyms	CAS number	EC number
Phosphoric acid, sodium salt, hydrate (1:2:12)	disodium hydrogen phosphate	10039-32-4	600-088-6
European Inventory of Existing Commercial Chemical Substances (EINECS)			Not Listed.
EC Inventory			Not Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Not Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Not Listed.
Chemical name	Common names and synonyms	CAS number	EC number
Potassium chloride	Potassium chloride	7447-40-7	231-211-8
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.
Chemical name	Common names and synonyms	CAS number	EC number
Potassium dihydrogenorthophosphate	Potassium dihydrogen phosphate	7778-77-0	231-913-4
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.
Korea Existing Chemicals List (KECL)			Listed.

## 16. OTHER INFORMATION

### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods

- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

## References

- IPCS - The International Chemical Safety Cards (ICSC), website:  
<http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:  
<http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

*Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We shall not be held liable for any damage resulting from handling or from contact with the above product.*

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