Safety Data Sheet

USP40 antibody

Cat#: orb769592

Creation Date: Mar. 15, 2024
Revision Date: Mar. 15, 2024

1. IDENTIFICATION

1.1 GHS Product identifier

Product name: USP40 antibody

Catalog No.: orb769592

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

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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/m3; 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. HYSICAL AND CHEMICAL PROPERTIES

Physical state	Transparent liquid.
Colour	Colourless.
Odour	Weak odour.
Melting point/freezing point	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
Boiling point or initial boiling point and boiling range	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.
Flammability	non flammable
Lower and upper explosion limit/flammability limit	no data available
Flash point	no data available
Auto-ignition temperature	pure CAS 56-81-5: 393°C
Decomposition temperature	no data available
pH	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)
Kinematic viscosity	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.
Solubility	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
Partition coefficient n-octanol/water	pure CAS 56-81-5: -1.76
Vapour pressure	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.
Density and/or relative density	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
Relative vapour density	pure CAS 56-81-5: 3.1 (vs air);pure CAS 7732-18-5: <1 (vs air)
Particle characteristics	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 ifpowdered.;pure CAS 7778-77-0: A harmful concentration of airborne particles can be reached quickly when dispersed, especially ifpowdered.

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 Bioaccumlative 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 ofDangerous Goods by Road

· RID: Regulation concerning the International Carriage ofDangerous 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

· 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/