



Safety Data Sheet

This safety data sheet was created pursuant to the requirements of: The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

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Version : 1

1. IDENTIFICATION

Product identifier

Product Name **Hemoglobin (Hb), monoclonal antibody [23D]**

Other means of identification

Catalog NO **IRM016**

Registration Number(s) No information available

Recommended use of the chemical and restrictions on use

Recommended use For research use only. Not for use in diagnostic procedures

Supplier's details

Manufacturer iReal Biotechnology, Inc.

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2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Skin sensitization	Skin sensitization Category 1A
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GHS Label elements, including precautionary statements



Signal word

Warning

Hazard statements

May cause an allergic skin reaction

Precautionary Statements - Prevention

Avoid breathing dust/fume/gas/mist/vapors/spray

Contaminated work clothing should not be allowed out of the workplace

Wear protective gloves/protective clothing/eye protection/face protection

Skin

IF ON SKIN: Wash with plenty of water and soap

If skin irritation or rash occurs: Get medical advice/attention

Take off contaminated clothing and wash it before reuse

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other hazards which do not result in classification

No information available

General Hazards No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS**Substance**

Not applicable

Mixture

Chemical Name	CAS-No	Weight %
Glycerol (glycerin, glycerine)	56-81-5	20 - <50
Tris	77-86-1	1
BSA	9048-46-8	1
CMIT/MIT 3:1	55965-84-9	0.025 - <0.05

4. FIRST AID MEASURES**Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Remove to fresh air and keep at rest in a position comfortable for breathing.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. May cause an allergic skin reaction. If symptoms persist, call a physician.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel.
Ingestion	Clean mouth with water and afterwards drink plenty of water. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms	Itching. Rashes. Hives. The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.
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Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically. May cause sensitization of susceptible persons.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapors In the event of fire and/or explosion do not breathe fumes May cause sensitization by inhalation and skin contact.

Special protective actions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid contact with the skin and the eyes. For personal protection see section 8.

Environmental precautions

Try to prevent the material from entering drains or water courses. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. After cleaning, flush away traces with water. Prevent product from entering drains.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take Of contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage conditions

Keep out of the reach of children. Keep container tightly closed. Keep containers tightly closed in a cool, well-ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure guidelines

Chemical name	China	Japan Society of Occupational Health	OEL	Australia	Taiwan
CMIT/MIT 3:1 55965-84-9	-	-	TWA: 0.1 mg/m ³	-	-
Glycerol (glycerin, glycerine) 56-81-5	-	-	TWA: 10 mg/m ³	10 mg/m ³	-

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipmen

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

Eye/face protection	Use suitable eye protection
Skin and body protection	Wear suitable protective clothing
Hand protection	Wear suitable gloves. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	Odor	No information available
Color	colorless	Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	No data available	None known
Boiling point / boiling range	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	No data available	
Autoignition temperature	No data available	
Decomposition temperature		
pH	No data available	
pH (as aqueous solution)	No data available	No information available
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Water solubility	No data available	None known
Solubility(ies)	No data available	None known
Partition coefficient	No data available	None known
Vapor pressure	No data available	None known
Relative density	No data available	None known
Bulk density	No data available	
Liquid Density	No data available	
Vapor density	No data available	None known
Particle characteristic		
Particle Size	No data available	
Particle Size Distribution	No data available	

Other information

Oxidizing properties	No information available
Explosive properties	No information available

10. STABILITY AND REACTIVITY

<u>Reactivity</u>	
Reactivity	No information available.
<u>Chemical stability</u>	
Stability	Stable under normal conditions.
<u>Explosion data</u>	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
<u>Possibility of hazardous reactions</u>	
Possibility of hazardous reactions	None under normal processing.
<u>Conditions to avoid</u>	
Conditions to avoid	None known based on information supplied.
<u>Incompatible materials</u>	
Incompatible materials	None known based on information supplied.
<u>Hazardous decomposition products</u>	
Hazardous decomposition products	None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on the likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available.
Eye contact	Specific test data for the substance or mixture is not available.
Skin contact	May cause sensitization by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components).
Ingestion	Specific test data for the substance or mixture is not available.
Symptoms	Itching. Rashes. Hives.

Numerical measures of toxicity

Acute toxicity

Unknown acute toxicity	No information available
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Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glycerol (glycerin, glycerine)	12,600 mg/kg (Rat)	Rabbit - >10,000 mg/kg	
Tris	5900 mg/kg (Rat)		
CMIT/MIT 3:1	53 mg/kg (Rat)		

Delayed and immediate effects and also chronic effects from short and long term exposure

Skin corrosion/irritation	No information available
Serious eye damage/irritation	No information available
Respiratory or skin sensitization	May cause sensitization by skin contact.
Germ cell mutagenicity	No information available
Carcinogenicity	No information available
Reproductive toxicity	No information available

STOT - single exposure	No information available
STOT - repeated exposure	No information available
Aspiration hazard	No information available

12. ECOLOGICAL INFORMATION

Toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Ecotoxicity The environmental impact of this product has not been fully investigated.

Persistence and degradability

No information available.

Bioaccumulative potential

No information available.

Mobility

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

14. TRANSPORT INFORMATION

IMDG	Not regulated
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available
ICAO (air)	Not regulated
IATA	Not regulated
DOT	Not regulated
TDG	Not regulated
Special precautions for user	Special provisions from the regulations relative to the specified mode of transport are noted by numeric code. Refer to the regulations for the full text of special provisions.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

International Inventories

TSCA	Does not comply
DSL/NDSL	Does not comply
EINECS/ELINCS	Does not comply
ENCS	Does not comply
IECSC	Does not comply
KECL	Does not comply
PICCS	Does not comply
AICS	Does not comply

Chemical name	TSCA	DSL	NDSL	EINECS	ELINCS
CMIT/MIT 3:1	-	X	-	-	-

Chemical name	ENCS	IECSC	KECL	PICCS	AICS
CMIT/MIT 3:1	X	X	X	X	-

Legend: X - Listed

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

16. OTHER INFORMATION

Issuing Date	10- Mar- 2023
Revision date	10- Mar- 2023
Revision Note	The symbol (*) in the margin of this SDS indicates that this line has been revised.

Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.