

Safety Data Sheet



Revision Date 2022-12-25

Revision Number 5

1. Identification

Product identifier

Product Name Human Aorta Protein Medley

Other means of identification

Product Code 635310

UN number or ID number UN3287

Synonyms No information available

Recommended use of the chemical and restrictions on use

Identified uses No information available

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier

USA:

Takara Bio USA, Inc.

2560 Orchard Parkway

San Jose, CA 95131, USA

Phone: 800.662.2566/888.251.6618

Web: www.takarabio.com

Emergency telephone number

Emergency telephone In case of emergency, call PERS (Professional Emergency Resource Services) 1-800-633-8253 (US) or 801-629-0667 (international).

2. Hazard(s) identification

Product Classification Data

Acute toxicity - Oral	Category 2
Acute toxicity - Dermal	Category 4

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Fatal if swallowed

Harmful in contact with skin

**Appearance** Blue**Physical state** Liquid**Odor** Characteristic**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Wear protective gloves/protective clothing

Precautionary Statements - Response

Specific treatment is urgent (see Section 4 on this label)
 Specific treatment (see supplemental first aid instructions on this label)
 IF ON SKIN: Wash with plenty of water and soap
 Call a POISON CENTER or doctor if you feel unwell
 Take off contaminated clothing and wash it before reuse
 IF SWALLOWED: Immediately call a POISON CENTER or doctor
 Rinse mouth

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Unknown acute toxicity

20.9355 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
 10.9355 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

Other information

Toxic to aquatic life with long lasting effects. Harmful to aquatic life.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No	Weight-%	Trade secret
Glycerol, Nuclease Free	56-81-5	10 - 20	*
2-Mercaptoethanol	60-24-2	5 - 10	*
Sodium dodecyl sulphate	151-21-3	1 - 5	*

4. First-aid measures

Description of first aid measures**General advice**

Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.

	Consult a physician.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Get immediate medical advice/attention. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.
Specific hazards arising from the chemical	No information available.
Explosion Data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment 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

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required.
Other information	Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.

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.

Conditions for safe storage, including any incompatibilities

Storage Conditions Store locked up. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

8. Exposure controls/personal protection

Control parameters**Exposure Limits**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Glycerol, Nuclease Free 56-81-5	-	TWA: 15 mg/m ³ TWA: 5 mg/m ³ (vacated) TWA: 10 mg/m ³ (vacated) TWA: 5 mg/m ³	-

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand protection Wear suitable gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

General hygiene considerations Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance Blue
Color Blue
Odor Characteristic
Odor Threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point/boiling range (°C)	No data available	None known
Flash point	No data available	Open cup

Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	248 °C / 478.4 °F	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic Viscosity	No data available	None known

Other information

Explosive properties	No information available
Oxidizing properties	No information available
Softening point	No information available
Molecular weight	No information available
VOC content	No information available
Liquid Density	No information available
Bulk Density	No information available

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to Avoid	None known based on information supplied.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

11. Toxicological information

Information on 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 be absorbed through the skin in harmful amounts. Harmful in contact with skin. (based on components).
Ingestion	Specific test data for the substance or mixture is not available. Fatal if swallowed. (based on components).

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	No information available.
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Acute toxicity**Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	18.00 mg/kg
ATEmix (dermal)	1,600.60 mg/kg
ATEmix (inhalation-dust/mist)	14.80 mg/l

Unknown acute toxicity

20.9355 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
10.9355 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Glycerol, Nuclease Free 56-81-5	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 2.75 mg/L (Rat) 4 h
2-Mercaptoethanol 60-24-2	= 244 mg/kg (Rat)	112 - 224 mg/kg (Rabbit)	-
Sodium dodecyl sulphate 151-21-3	= 1288 mg/kg (Rat)	= 200 mg/kg (Rabbit)	> 3900 mg/m ³ (Rat) 1 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Respiratory or skin sensitization	No information available.
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.
Target organ effects	Kidney, Respiratory system, Eyes, Skin.
Aspiration hazard	No information available.
Other adverse effects	No information available.
Interactive effects	No information available.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects. Harmful to aquatic life.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea

Glycerol, Nuclease Free 56-81-5	-	LC50: 51 - 57mL/L (96h, Oncorhynchus mykiss)	-	-
2-Mercaptoethanol 60-24-2	EC50: =12mg/L (72h, Desmodesmus subspicatus)	-	-	EC50: =1.52mg/L (48h, Daphnia magna)
Sodium dodecyl sulphate 151-21-3	EC50: =53mg/L (72h, Desmodesmus subspicatus) EC50: 30 - 100mg/L (96h, Desmodesmus subspicatus) EC50: =117mg/L (96h, Pseudokirchneriella subcapitata) EC50: 3.59 - 15.6mg/L (96h, Pseudokirchneriella subcapitata)	LC50: 15 - 18.9mg/L (96h, Pimephales promelas) LC50: 8 - 12.5mg/L (96h, Pimephales promelas) LC50: 22.1 - 22.8mg/L (96h, Pimephales promelas) LC50: 4.3 - 8.5mg/L (96h, Oncorhynchus mykiss) LC50: =4.62mg/L (96h, Oncorhynchus mykiss) LC50: =4.2mg/L (96h, Oncorhynchus mykiss) LC50: =7.97mg/L (96h, Brachydanio rerio) LC50: 9.9 - 20.1mg/L (96h, Brachydanio rerio) LC50: 4.06 - 5.75mg/L (96h, Lepomis macrochirus) LC50: 4.2 - 4.8mg/L (96h, Lepomis macrochirus) LC50: =4.5mg/L (96h, Lepomis macrochirus) LC50: 5.8 - 7.5mg/L (96h, Pimephales promelas) LC50: 10.2 - 22.5mg/L (96h, Pimephales promelas) LC50: 6.2 - 9.6mg/L (96h, Pimephales promelas) LC50: 13.5 - 18.3mg/L (96h, Poecilia reticulata) LC50: 10.8 - 16.6mg/L (96h, Poecilia reticulata) LC50: =1.31mg/L (96h, Cyprinus carpio)	-	EC50: =1.8mg/L (48h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Glycerol, Nuclease Free 56-81-5	-1.75
2-Mercaptoethanol 60-24-2	-0.056
Sodium dodecyl sulphate 151-21-3	1.6

Other adverse effects No information available.

13. Disposal considerations

Waste treatment 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 informationDOT

UN number or ID number	UN3287
Proper shipping name	Toxic liquid, inorganic, n.o.s.
Transport hazard class(es)	6.1
Packing group	II
Special Provisions	IB2, T11, TP2, TP27
DOT Marine Pollutant	NP
Marine pollutant	2-Mercaptoethanol, Sodium dodecyl sulphate
Description	UN3287, Toxic liquid, inorganic, n.o.s. (Glycerol, Nuclease Free, Protein Medley Tissue), 6.1, II, Marine Pollutant
Emergency Response Guide Number	151

TDG

Notes	Could not find a Marine Pollutant Name.
UN number or ID number	UN3287
UN proper shipping name	Toxic liquid, inorganic, n.o.s.
Transport hazard class(es)	6.1
Packing group	II
Special Provisions	16
Description	UN3287, Toxic liquid, inorganic, n.o.s. (Glycerol, Nuclease Free, Protein Medley Tissue), 6.1, II

MEX

UN number or ID number	UN3287
UN proper shipping name	Toxic liquid, inorganic, n.o.s.
Transport hazard class(es)	6.1
Packing group	II
Technical Name	Glycerol, Nuclease Free, Protein Medley Tissue
Description	UN3287, Toxic liquid, inorganic, n.o.s. (Glycerol, Nuclease Free, Protein Medley Tissue), 6.1, II
Special Provisions	274

ICAO (air)

Notes	Could not find a Marine Pollutant Name.
UN number or ID number	UN3287
UN proper shipping name	Toxic liquid, inorganic, n.o.s.
Transport hazard class(es)	6.1
Packing group	II
Description	UN3287, Toxic liquid, inorganic, n.o.s. (Glycerol, Nuclease Free, Protein Medley Tissue), 6.1, II
Special Provisions	A3, A4, A137

IATA

Notes	Could not find a Marine Pollutant Name.
UN number or ID number	UN3287
UN proper shipping name	Toxic liquid, inorganic, n.o.s.
Transport hazard class(es)	6.1
Packing group	II
Technical Name	Glycerol, Nuclease Free, Protein Medley Tissue
Description	UN3287, Toxic liquid, inorganic, n.o.s. (Glycerol, Nuclease Free, Protein Medley Tissue), 6.1, II

Special Provisions	A3, A4, A137
ERG Code	6L
Notes	Could not find a Marine Pollutant Name.
UN number or ID number	UN3287
UN proper shipping name	Toxic liquid, inorganic, n.o.s.
Transport hazard class(es)	6.1
Packing group	II
EmS-No	F-A, S-A
Special Provisions	274
Marine pollutant	P
Description	UN3287, Toxic liquid, inorganic, n.o.s., 6.1, II, Marine Pollutant

RID

Notes	Could not find a Marine Pollutant Name.
UN number or ID number	UN3287
UN proper shipping name	Toxic liquid, inorganic, n.o.s.
Transport hazard class(es)	6.1
Packing group	II
Classification code	T4
Special Provisions	274
Description	UN3287, Toxic liquid, inorganic, n.o.s. (Glycerol, Nuclease Free, Protein Medley Tissue), 6.1, II, Environmentally Hazardous

ADR

Notes	Could not find a Marine Pollutant Name.
UN number or ID number	UN3287
UN proper shipping name	Toxic liquid, inorganic, n.o.s.
Transport hazard class(es)	6.1
Packing group	II
Classification code	T4
Tunnel restriction code	(D/E)
Special Provisions	274
Description	UN3287, Toxic liquid, inorganic, n.o.s. (Glycerol, Nuclease Free, Protein Medley Tissue), 6.1, II, (D/E), Environmentally Hazardous

ADN

Notes	Could not find a Marine Pollutant Name.
UN number or ID number	UN3287
UN proper shipping name	Toxic liquid, inorganic, n.o.s.
Transport hazard class(es)	6.1
Packing group	II
Classification code	T4
Special Provisions	274, 802
Description	UN3287, Toxic liquid, inorganic, n.o.s. (Glycerol, Nuclease Free, Protein Medley Tissue), 6.1, II, Environmentally Hazardous
Ventilation	VE02
Equipment Requirements	PP, EP, TOX, A

15. Regulatory information

International Inventories

TSCA -.

*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

DSL/NDL -.
EINECS/ELINCS -.
ENCS -.
IECSC -.
KECL -.

PICCS -
AICS -

Legend:

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

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Milli Q H2O 7732-18-5	-	-	X
Glycerol, Nuclease Free 56-81-5	X	X	X
2-Mercaptoethanol 60-24-2	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information				
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<u>NFPA</u>	Health hazards 3	Flammability 1	Instability 0	Special hazards -
<u>HMIS</u>	Health hazards 3	Flammability 1	Physical hazards 0	Personal protection X

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

TWA	Time weighted average	STEL	Short term exposure limit
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Revision Date 2022-12-25
Revision Note No information available.

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.

End of Safety Data Sheet