

SAFETY DATA SHEET

Revision Date 02-Apr-2024

Revision Number 3

1. Identification

Product Name HRP-Streptavidin, 1.25mg/mL

Cat No. : M20203

Synonyms No information available

Recommended Use Laboratory chemicals.

Uses advised against Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company

Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757

Emergency Telephone Number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Sensitization

Category 1

Label Elements

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

Skin

IF ON SKIN: Wash with plenty of soap and water

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

Wash contaminated clothing before reuse

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

3. Composition/Information on Ingredients

Component	CAS No	Weight %
Water	7732-18-5	98.8182
Sodium chloride	7647-14-5	0.7982
Streptavidin-horseradish peroxidase	N/A	0.125
Sodium phosphate dibasic	7558-79-4	0.1137
Dihydrogen potassium phosphate	7778-77-0	0.0249
Potassium chloride	7447-40-7	0.02
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	55965-84-9	0.0038
2-Methyl-3-isothiazolone	2682-20-4	0.0013

4. First-aid measures

General Advice

If symptoms persist, call a physician.

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects

None reasonably foreseeable. . May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Notes to Physician

Treat symptomatically

5. Fire-fighting measures

Unsuitable Extinguishing Media No information available

Flash Point Not applicable
Method - No information available

Autoignition Temperature No information available

Explosion Limits

Upper No data available

Lower No data available

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Specific Hazards Arising from the Chemical

None reasonably foreseeable.

Hazardous Combustion Products

None known.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health
2

Flammability
0

Instability
0

Physical hazards
N/A

6. Accidental release measures

Personal Precautions

Ensure adequate ventilation. Use personal protective equipment as required.

Environmental Precautions

Should not be released into the environment.

Methods for Containment and Clean Up Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

7. Handling and storage

Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Storage.

Keep containers tightly closed in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if

exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended Filter type: Particulates filter conforming to EN 143.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	No information available
Odor	No information available
Odor Threshold	No information available
pH	No information available
Melting Point/Range	No data available
Boiling Point/Range	No information available
Flash Point	Not applicable
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	No information available
Vapor Density	No information available
Specific Gravity	No information available
Solubility	miscible
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	No information available
Decomposition Temperature	No information available
Viscosity	No information available

10. Stability and reactivity

Reactive Hazard	None known, based on information available
Stability	Stable under normal conditions.
Conditions to Avoid	Incompatible products.
Incompatible Materials	Strong oxidizing agents
Hazardous Decomposition Products	None under normal use conditions
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Oral LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Dermal LD50

Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg.

Vapor LC50

Based on ATE data, the classification criteria are not met. ATE > 20 mg/l.

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	-	-	-
Sodium chloride	LD50 = 3 g/kg (Rat)	LD50 > 10000 mg/kg (Rabbit)	LC50 > 42 mg/L (Rat) 1 h
Sodium phosphate dibasic	LD50 = 17 g/kg (Rat)	Not listed	Not listed

Dihydrogen potassium phosphate	LD50 = 3200 mg/kg (Rat)	LD50 > 4640 mg/kg (Rabbit)	LC50 > 0.83 mg/L (Rat) 4 h
Potassium chloride	LD50 = 2600 mg/kg (Rat)	Not listed	Not listed
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	LD50 = 53 mg/kg (Rat)	LD50 = 87.12 mg/kg (Rabbit)	Not listed
2-Methyl-3-isothiazolone	LD50 = 120 mg/kg (Rat) LD50 232 - 249 mg/kg (Rat)	LD50 = 200 mg/kg (Rabbit)	LC50 = 0.11 mg/L (Rat) 4 h

Toxicologically Synergistic Products No information available

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

Irritation No information available

Sensitization May cause sensitization by skin contact

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed
Sodium chloride	7647-14-5	Not listed	Not listed	Not listed	Not listed	Not listed
Streptavidin-horseradish peroxidase	N/A	Not listed	Not listed	Not listed	Not listed	Not listed
Sodium phosphate dibasic	7558-79-4	Not listed	Not listed	Not listed	Not listed	Not listed
Dihydrogen potassium phosphate	7778-77-0	Not listed	Not listed	Not listed	Not listed	Not listed
Potassium chloride	7447-40-7	Not listed	Not listed	Not listed	Not listed	Not listed
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	55965-84-9	Not listed	Not listed	Not listed	Not listed	Not listed
2-Methyl-3-isothiazolone	2682-20-4	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects No information available

Reproductive Effects No information available.

Developmental Effects No information available.

Teratogenicity No information available.

STOT - single exposure None known

STOT - repeated exposure None known

Aspiration hazard No information available

Symptoms / effects, both acute and delayed Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
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Sodium chloride	Not listed	Pimephals prome: LC50: 7650 mg/L/96h	Not listed	EC50: 1000 mg/L/48h
Potassium chloride	EC50: 2500 mg/L/72h	Lepomis macrochirus: LC50: 1060 mg/L /96h Pimephales promelas: LC50: 750 - 1020 mg/L /96h	Not listed	EC50: 825 mg/L/48h
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	Not listed	Not listed	EC50 = 5.7 mg/L 16 h	Not listed
2-Methyl-3-isothiazolone	Not listed	LC50: 0.07 mg/L/96h (Oncorhynchus mykiss)	Not listed	EC50: 0.18 mg/L/48h

Persistence and Degradability Miscible with water Persistence is unlikely based on information available.

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

Component	log Pow
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	0.7
2-Methyl-3-isothiazolone	-0.26

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT Not regulated
TDG Not regulated
IATA Not regulated
IMDG/IMO Not regulated

15. Regulatory information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
Water	7732-18-5	X	ACTIVE	-
Sodium chloride	7647-14-5	X	ACTIVE	-
Streptavidin-horseradish peroxidase	N/A	-	-	-
Sodium phosphate dibasic	7558-79-4	X	ACTIVE	-
Dihydrogen potassium phosphate	7778-77-0	X	ACTIVE	-
Potassium chloride	7447-40-7	X	ACTIVE	-
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	55965-84-9	-	-	-
2-Methyl-3-isothiazolone	2682-20-4	X	ACTIVE	PMN;SP

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

PMN - Indicates a commenced PMN substance

SP - Indicates a substance that is identified in a proposed SNUR

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)

Not applicable

TSCA 12(b) - Notices of Export

Not applicable

Component	CAS No	TSCA 12(b) - Notices of Export
2-Methyl-3-isothiazolone	2682-20-4	Section 5

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Water	7732-18-5	X	-	231-791-2	X	X		X	X	KE-35400
Sodium chloride	7647-14-5	X	-	231-598-3	X	X	X	X	X	KE-31387
Streptavidin-horseradish peroxidase	N/A	-	-	-	-	-		-	-	-
Sodium phosphate dibasic	7558-79-4	X	-	231-448-7	X	X	X	X	X	KE-12344
Dihydrogen potassium phosphate	7778-77-0	X	-	231-913-4	X	X	X	X	X	KE-28622
Potassium chloride	7447-40-7	X	-	231-211-8	X	X	X	X	X	KE-29086
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	55965-84-9	X	-	-	X	X	X	-	X	KE-05738
2-Methyl-3-isothiazolone	2682-20-4	X	-	220-239-6	X	X	X	X	X	KE-24316

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

U.S. 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)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Sodium phosphate dibasic	X	5000 lb	-	-

Clean Air Act

Not applicable

OSHA - Occupational Safety and Health Administration

Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355).

Component	Hazardous Substances RQs	CERCLA Extremely Hazardous Substances RQs	SARA Reportable Quantity (RQ)
Sodium phosphate dibasic	5000 lb	-	5000 lb 2270 kg

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
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Water	-	-	X	-	-
Sodium phosphate dibasic	X	X	X	-	-

U.S. Department of Transportation

Reportable Quantity (RQ): Y
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations**Mexico - Grade**

No information available

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Water	7732-18-5	-	-	-
Sodium chloride	7647-14-5	-	-	-
Streptavidin-horseradish peroxidase	N/A	-	-	-
Sodium phosphate dibasic	7558-79-4	-	-	-
Dihydrogen potassium phosphate	7778-77-0	-	-	-
Potassium chloride	7447-40-7	-	-	-
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	55965-84-9	-	Use restricted. See item 75. (see link for restriction details)	-
2-Methyl-3-isothiazolone	2682-20-4	-	Use restricted. See item 75. (see link for restriction details)	-

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Water	7732-18-5	Listed	Not applicable	Not applicable	Not applicable
Sodium chloride	7647-14-5	Listed	Not applicable	Not applicable	Not applicable
Streptavidin-horseradish peroxidase	N/A	Not applicable	Not applicable	Not applicable	Not applicable
Sodium phosphate dibasic	7558-79-4	Listed	Not applicable	Not applicable	Not applicable
Dihydrogen potassium phosphate	7778-77-0	Listed	Not applicable	Not applicable	Not applicable
Potassium chloride	7447-40-7	Listed	Not applicable	Not applicable	Not applicable
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	55965-84-9	Not applicable	Not applicable	Not applicable	Not applicable
2-Methyl-3-isothiazolone	2682-20-4	Listed	Not applicable	Not applicable	Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Other International Regulations

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Water	7732-18-5	Not applicable	Not applicable	Not applicable	Not applicable
Sodium chloride	7647-14-5	Not applicable	Not applicable	Not applicable	Not applicable
Streptavidin-horseradish peroxidase	N/A	Not applicable	Not applicable	Not applicable	Not applicable
Sodium phosphate dibasic	7558-79-4	Not applicable	Not applicable	Not applicable	Not applicable
Dihydrogen potassium phosphate	7778-77-0	Not applicable	Not applicable	Not applicable	Not applicable
Potassium chloride	7447-40-7	Not applicable	Not applicable	Not applicable	Not applicable
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	55965-84-9	Not applicable	Not applicable	Not applicable	Not applicable
2-Methyl-3-isothiazolone	2682-20-4	Not applicable	Not applicable	Not applicable	Not applicable

16. Other information

Prepared By

Health, Safety and Environmental Department
Email: chem.techinfo@thermofisher.com
www.thermofisher.com

Revision Date

02-Apr-2024

Print Date

02-Apr-2024

Revision Summary

New emergency telephone response service provider.

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 SDS