

Classified as hazardous in accordance with the criteria of EPA New Zealand

Section 1 - Identification

Product Identifier

Product Name Human IVL / Involucrin Protein (Recombinant His + T7)

Recommended Use Laboratory chemicals.
Uses advised against No Information available

Product Code M20240

Address Thermo Fisher Scientific New Zealand Ltd

244 Bush Road, Albany, Auckland, New Zealand

Emergency Tel. CHEMTREC®

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Section 2 - Hazard(s) Identification

Classification under Work Safe New Zealand

Classified as hazardous in accordance with the criteria of EPA New Zealand

GHS Classification

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Acute Inhalation Toxicity - Dusts and MistsCategory 4Skin Corrosion/IrritationCategory 2Serious Eye Damage/Eye IrritationCategory 2Skin SensitizationCategory 1

Environmental hazards

Chronic aquatic toxicity Category 3

Label Elements

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Signal Word Warning

Hazard Statements

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H332 - Harmful if inhaled

H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements

Prevention

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area

P272 - Contaminated work clothing should not be allowed out of the workplace

P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P312 - Call a POISON CENTER or doctor if you feel unwell

P362 + P364 - Take off contaminated clothing and wash it before reuse

Storage

P403 - Store in a well-ventilated place

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards which do not result in classification

Section 3 - Composition and Information on Ingredients

Component	CAS No	Weight %
.alphaD-Glucopyranoside, .alphaD-glucopyranosyl	99-20-7	44.5
Sodium chloride	7647-14-5	8.0
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with	55965-84-9	1.6688
2-methyl-3(2H)-isothiazolone		
2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-	3483-12-3	1.5
Sodium phosphate dibasic	7558-79-4	1.0
2-Methyl-3-isothiazolone	2682-20-4	0.5562
Sodium phosphate, monobasic	7558-80-7	0.5

Section 4 - First Aid Measures

Description of first aid measures

General Advice If symptoms persist, call a physician.

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symptoms occur.

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.

Ingestion Clean mouth with water and drink afterwards plenty of water. Get medical attention if

symptoms occur.

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.

First Aid Facilities Eyewash, safety shower and washroom.

Most important symptoms and

effects

Inhalation

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

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

pain, muscle pain or flushing

Notes to Physician Treat symptomatically.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

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

Extinguishing media which must not be used for safety reasons

No information available.

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO2), Sulfur oxides, Sodium oxides, Hydrogen chloride, Oxides of phosphorus.

Special protective equipment and precautions for fire fighters

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

Section 6 - Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

Environmental Precautions

Should not be released into the environment. See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage. Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

Precautions to prevent secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

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Section 7 - Handling and Storage

Precautions for Safe Handling

Advice on safe handling

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

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place.

Incompatible Materials

Oxidizing agent.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Control parameters

Exposure limits

The product does not contain any hazardous materials with occupational exposure limits established.

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Individual protection measures, such as personal protective equipment

Eye Protection Goggles (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial

applications)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	AUS/NZ Standard	Glove comments
Nitrile rubber, Neoprene,	See manufacturers	-	AS/NZS 2161	(minimum requirement)
Natural rubber, PVC.	recommendations			

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

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Repiratory Protection Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or

other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use

Solid

and maintenance of repiratory protective devices

Recommended Filter type: Particulates filter conforming to EN 143 (or AUS/NZ equivalent)

Particle filtering: EN149:2001 (or AUS/NZ equivalent) Recommended half mask:-

When RPE is used a face piece Fit Test should be conducted

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

Environmental exposure controls Prevent product from entering drains.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State Lyophilized Solid

Appearance

Odor No information available **Odor Threshold** No data available Not applicable

Melting Point/Range No data available **Softening Point** No data available **Boiling Point/Range** Not applicable Flammability (liquid) Not applicable

Flammability (solid,gas) No information available

No data available **Explosion Limits**

Flash Point Not applicable Method - No information available

Autoignition Temperature No data available **Decomposition Temperature** No data available

Viscosity Not applicable Solid Insoluble

Water Solubility

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component log Pow .alpha.-D-Glucopyranoside,

.alpha.-D-glucopyranosyl

Mixture, 3(2H)-isothiazolone. >=-0.32 - <=0.7

5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone

2-Methyl-3-isothiazolone -0.26

-0.34 -0.28

Vapor Pressure No data available **Density / Specific Gravity** No data available **Bulk Density** No data available **Vapor Density** Not applicable

Solid No data available

Particle characteristics

Other information

Evaporation Rate Not applicable - Solid

Section 10 - Stability and Reactivity

Reactivity None known, based on information available

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Stability Stable under normal conditions.

Sensitivity to Mechanical Impact No information available

Sensitivity to Static Discharge No information available

Hazardous PolymerizationNo information available.

Hazardous Reactions None under normal processing.

Conditions to Avoid Heat, flames and sparks.

Incompatible Materials Oxidizing agent.

Hazardous Decomposition Products Carbon monoxide (CO). Carbon dioxide (CO₂). Sulfur oxides. Sodium oxides. Hydrogen

chloride. Oxides of phosphorus.

Section 11 - Toxicological Information

Acute Effects

Information on likely routes of exposure

Product Information

InhalationNot an expected route of exposure.EyesAvoid contact with eyes. Irritating to eyes.SkinAvoid contact with skin. May cause irritation.

Ingestion May be harmful if swallowed.

Numerical measures of toxicity

(a) acute toxicity;

Oral Based on available data, the classification criteria are not met

Dermal Based on available data, the classification criteria are not met

Inhalation Category 4

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
.alphaD-Glucopyranoside,	4600 mg/kg (Rat)		
.alphaD-glucopyranosyl			
Sodium chloride	LD50 = 3 g/kg (Rat)	LD50 > 10000 mg/kg (Rabbit)	LC50 > 42 mg/L (Rat) 1 h
Mixture, 3(2H)-isothiazolone,	LD50 = 53 mg/kg (Rat)	LD50 = 87.12 mg/kg (Rabbit)	
5-chloro-2-methyl- with			
2-methyl-3(2H)-isothiazolone			
2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-	400 mg/kg (Rat)		
Sodium phosphate dibasic	LD50 = 17 g/kg (Rat)		
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
Sodium phosphate, monobasic	LD50 = 8290 mg/kg (Rat)	LD50 > 7940 mg/kg (Rabbit)	LC50 > 0.83 mg/L (Rat) 4 h

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

Respiratory No data available

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Skin Sub-category 1A

Sensitization No information available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs No information available.

(j) aspiration hazard; Not applicable

Solid

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.

Section 12 - Ecological Information

Ecotoxicity

Aquatic ecotoxicity Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic

environment. The product contains following substances which are hazardous for the

environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Sodium chloride	Pimephals prome:	EC50: 1000 mg/L/48h		
	LC50: 7650 mg/L/96h	_		
Mixture, 3(2H)-isothiazolone,				EC50 = 5.7 mg/L 16 h
5-chloro-2-methyl- with				
2-methyl-3(2H)-isothiazolone				
2-Methyl-3-isothiazolone	LC50: 0.07 mg/L/96h	EC50: 0.18 mg/L/48h		
	(Oncorhynchus mykiss)	_		

Terrestrial ecotoxicity

Component	Earthworm	Avian	Honeybees
Sodium chloride	Acute toxicity: LC50 0.1 - 1		
	mg/cm2 (Eisenia foetida, 48 h,		
	filter paper)		

Persistence and Degradability

Persistence Insoluble in water.

Degradation in sewage treatment

plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential May have some potential to bioaccumulate

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Component **Bioconcentration factor (BCF)** log Pow .alpha.-D-Glucopyranoside, No data available < 0.3 .alpha.-D-glucopyranosyl Mixture, 3(2H)-isothiazolone, >=-0.32 - <=0.7 54 dimensionless 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone -0.26 No data available 2-Methyl-3-isothiazolone -0.34-0.28

Mobility Spillage unlikely to penetrate soil. Is not likely mobile in the environment due its low water

solubility.

Other adverse effects

Endocrine Disruptor Information Persistent Organic Pollutant Ozone Depletion Potential This product does not contain any known or suspected endocrine disruptors

This product does not contain any known or suspected substance This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste treatment methods

Waste from Residues/Unused

Products

Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point.

Other Information

Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations . Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not

empty into drains. Do not let this chemical enter the environment.

Section 14 - Transport Information

NZS 5433:2020

UN-No UN1759

Proper Shipping Name Corrosive solid, n.o.s.

Technical Shipping Name Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone

Hazard Class 8
Packing Group III

<u>IATA</u>

UN-No UN1759

Proper Shipping Name Corrosive solid, n.o.s.

Technical Shipping Name Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone

Hazard Class 8
Packing Group III

IMDG/IMO

UN-No UN1759

Proper Shipping Name Corrosive solid, n.o.s.

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Technical Shipping Name Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone

Hazard Class 8
Packing Group III

Environmental hazards No hazards identified

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable, packaged goods

Special Precautions No special precautions required. Please refer to the applicable dangerous goods

regulations for additional information.

Additional information None known

Section 15 - Regulatory Information

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

National Regulations

There are no applicable tolerable exposure limits or environmental exposure limits according to the EPA Controls for Hazardous Substances

Certified handlers, tracking and controlled substance license requirements

Certified handlers are required for some substances. This includes substances requiring a controlled substance license, and most explosives, vertebrates toxic agents, and certain fumigants. Acutely toxic substances which are a Category 1 or 2, such as pesticides also require Certified handlers. Please check the Health and Safety at Work Act 2015 for further information. Tracking is required for some highly hazardous substances. These substances need to be under the control of an appropriately trained person or appropriately secured. Please check the Health and Safety at Work Act 2015 for further information.

Prohibition or notification/licensing requirements

Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

International Regulations

Ozone Depletion Potential This product does not contain any known or suspected substance

Persistent Organic Pollutant This product does not contain any known or suspected substance

Rotterdam Convention (PIC) Not applicable

Authorisation/Restrictions according to EU REACH

Component	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)
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	-	Use restricted. See item 75. (see link for restriction details)	-
2-Methyl-3-isothiazolone	-	Use restricted. See item 75. (see link for restriction details)	-
Sodium phosphate, monobasic	-	-	-

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

International Inventories

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New Zealand (NZIoC), Australia (AICS), Europe (EINECS/ELINCS/NLP), Korea (KECL), China (IECSC), Taiwan (TCSI), Japan (ISHL), Canada (DSL/NDSL), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	NZIoC	AICS	EINECS	ELINCS	NLP	KECL	IECSC	TCSI
.alphaD-Glucopyranoside,	99-20-7	Х	Х	-	-	-	2004-3-28	X	X
.alphaD-glucopyranosyl							74		
Sodium chloride	7647-14-5	Х	X	-	-	-	KE-31387	X	Х
Mixture, 3(2H)-isothiazolone,	55965-84-9	Х	-	-	-	-	KE-05738	X	Х
5-chloro-2-methyl- with									
2-methyl-3(2H)-isothiazolone									
2,3-Butanediol, 1,4-dimercapto-,	3483-12-3	X	Х	222-468-7	-	-	-	X	X
(R*,R*)-									
Sodium phosphate dibasic	7558-79-4	X	X	-	-	ı	KE-12344	X	X
2-Methyl-3-isothiazolone	2682-20-4	Х	Χ	220-239-6	-	-	KE-24316	Х	Х
Sodium phosphate, monobasic	7558-80-7	Х	Х	-	-	-	KE-31577	X	Х

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	PICCS	ISHL	ENCS
.alphaD-Glucopyranoside, .alphaD-glucopyranosyl	99-20-7	Х	ACTIVE	Х	i	-	Х	Х
Sodium chloride	7647-14-5	Х	ACTIVE	Х	-	Х	Х	Х
Mixture, 3(2H)-isothiazolone, 5-chloro-2-methyl- with 2-methyl-3(2H)-isothiazolone	55965-84-9	-	-	X	1	Х	Х	X
2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-	3483-12-3	Х	ACTIVE	Х	-	X	-	-
Sodium phosphate dibasic	7558-79-4	Х	ACTIVE	Х	-	Х	Х	Х
2-Methyl-3-isothiazolone	2682-20-4	X	ACTIVE	Х	1	X	X	X
Sodium phosphate, monobasic	7558-80-7	X	ACTIVE	X	-	X	X	X

Legend: X - Listed '-' - Not Listed KECL - NIER nu

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

Section 16 - Other Information

This safety data sheet complies with the requirements of the EPA Hazardous Substances (Hazard Classification) Notice 2020 and WorkSafe New Zealand Regulations

Legend

NZIoC - New Zealand Inventory of Chemicals

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

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

IECSC - Chinese Inventory of Existing Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

NZS 5433:2020 - Transport of Dangerous Goods on Land

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

WEL - Workplace Exposure Limit

DNEL - Derived No Effect Level

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

VOC - (Volatile Organic Compound)

AICS - Australian Inventory of Chemical Substances

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

ENCS - Japanese Existing and New Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

CAS - Chemical Abstracts Service

ACGIH - American Conference of Governmental Industrial Hygienists

PNEC - Predicted No Effect Concentration

OECD - Organisation for Economic Co-operation and Development **IMO/IMDG** - International Maritime Organization/International Maritime

Dangerous Goods Code

LC50 - Lethal Concentration 50%

ATE - Acute Toxicity Estimate

RPE - Respiratory Protective Equipment NOEC - No Observed Effect Concentration

BCF - Bioconcentration factor

PBT - Persistent, Bioaccumulative, Toxic

Key literature references and sources for data

HSNO classifications provided in the New Zealand Chemical Classification Information Database (CCID). https://echa.europa.eu/information-on-chemicals

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Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS EPA Guide to classifying hazardous substances in New Zealand EPA - Assigning a product to an existing HSNO approval guide

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards On basis of test data
Health Hazards Calculation method
Environmental hazards Calculation method

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Revision Date 23-Mar-2023 Revision Summary Not applicable

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

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