

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture
 Name : HypoThermosol® FRS

1.2. Other means of identification

Synonyms : HTS-FRS

1.3. Recommended use of the chemical and restrictions on use

Recommended use : Hypothermic storage of biological material.
 Restrictions on use : Any use not specified.

1.4. Supplier's details

BioLife Solutions, LLC
 3303 Monte Villa Parkway
 Suite 310
 Bothell, WA 98021 United States of America
 Tel.: +1 (425) 402-1400 (Monday - Friday, 8:00 am - 5:00 pm Pacific)
 Email: info@biolifesolutions.com

1.5. Emergency phone number

Emergency number : +1 (866) 424-6543 (Monday - Friday, 8:00 am - 5:00 pm Pacific)

Country/Area	Organisation/Company	Address	Emergency number	Comment
Australia	NSW Poisons Information Centre The Children's Hospital at Westmead	Locked Bag 4001 NSW 2145	13 11 26	

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

GHS classification

Skin corrosion/irritation, Category 2 H315 Causes skin irritation.
 Serious eye damage/eye irritation, Category 2 H319 Causes serious eye irritation.
 Full text of H-statements: see section 16

2.2. Label elements

GHS labelling

Hazard pictograms (GHS) :



Signal word (GHS) : Warning
 Hazard statements (GHS) : H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 Precautionary statements (GHS) : P264 - Wash hands, forearms and face thoroughly after handling.
 P280 - Wear protective gloves, protective clothing, eye protection, face protection, and hearing protection.
 P302+P352 - If on skin: Wash with plenty of water.
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P332+P313 - If skin irritation occurs: Get medical advice or attention.
 P337+P313 - If eye irritation persists: Get medical advice or attention.
 P362+P364 - Take off contaminated clothing and wash it before reuse.

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2.3. Hazards associated with known or reasonably anticipated uses

No additional information available.

2.4. Hazards not otherwise classified

No additional information available.

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS classification
Sodium hydroxide	CAS-No.: 1310-73-2	0.1 - 1	Met. Corr. 1, H290 Skin Corr. 1A, H314 Eye Dam. 1, H318
Potassium hydroxide	CAS-No.: 1310-58-3	< 0.2	Acute Tox. 4 (Oral), H302 Skin Corr. 1, H314

Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Wash skin with plenty of water. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
First-aid measures after eye contact	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Call a poison center or a doctor if you feel unwell.

4.2. Most important symptoms/effects, acute and delayed

Potential adverse human health effects and symptoms	: Causes skin irritation. Causes eye irritation.
Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Treatment	: Treat symptomatically.
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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: The product is not flammable.
Explosion hazard	: Product is not explosive.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

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5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Stop leak if safe to do so. Absorb spillage to prevent material damage. Notify authorities if product enters sewers or public waters.

For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.
Emergency procedures : Evacuate unnecessary personnel. Ventilate spillage area.

For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : Evacuate unnecessary personnel. Stop leak if safe to do so. Ventilate area.

Environmental precautions : Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.2. Methods and materials for containment and cleaning up

For containment : Stop leak without risks if possible. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Absorb spilled material with sand or earth.
Methods for cleaning up : Take up liquid spill into absorbent material. Collect spillage. Store away from other materials.
Other information : Dispose of materials or solid residues at an authorized site.

For further information refer to section 13, See Section 8, Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear personal protective equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including incompatibilities

Storage conditions : Store refrigerated.
Incompatible materials : Strong acids, strong bases, strong oxidizers. Strong reducing agents. Halogenated organic and mineral acids. Halides. Metal salts. Zinc. Steel. Some plastics. Acid chlorides. Maleic anhydride. Water reactive materials.
Storage temperature : 2 – 8 °C
Specific end uses : Low temperature storage of biological material.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Sodium hydroxide (1310-73-2)	
ACGIH® - Threshold Limit Values	
Local name	Sodium hydroxide
ACGIH® TLV® C	2 mg/m ³

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Sodium hydroxide (1310-73-2)	
Remark (ACGIH®)	TLV® Basis: Eye, Skin & URT irr
Regulatory reference	ACGIH 2025
Australia - WEL - Workplace Exposure Limits	
Chemical name	Sodium hydroxide
TWA	2 mg/m³ (Peak limitation)
Potassium hydroxide (1310-58-3)	
USA - ACGIH® - Threshold Limit Values	
Local name	Potassium hydroxide
ACGIH® TLV® C	2 mg/m³
Remark (ACGIH®)	TLV® Basis: Eye, Skin & URT irr
Regulatory reference	ACGIH 2025
Australia - WEL - Workplace Exposure Limits	
Chemical name	Potassium hydroxide
TWA	2 mg/m³ (Peak limitation)

8.2. Appropriate engineering controls

Appropriate engineering controls	: Industrial and professional. Perform risk assessment prior to use. Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment. Avoid all unnecessary exposure.

Hand protection:
Wear protective gloves. Wear water impervious gloves. Butyl rubber. Nitrile rubber gloves. VITON gloves.
Eye protection:
Chemical goggles or safety glasses.
Skin and body protection:
Long sleeved protective clothing.
Respiratory protection:
None under normal use. If needed, use an air-purifying respirator with organic vapor cartridges and a dust/mist prefilter.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear
Colour	: Colorless or slightly yellow
Odour	: Odorless
Odour threshold	: No data available
pH	: 7.5 – 7.7

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Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20°C	: No data available
Relative density	: No data available
Solubility	: Soluble in water
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Explosive limits	: No data available
Particle characteristics	: No data available

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions of use.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids, strong bases, strong oxidizers. Strong reducing agents. Halogenated organic and mineral acids. Methyl bromide. Sodium hydride. Halides. Metal salts of oxoacids. Metal salts. Zinc. Steel. Some plastics. Acid chlorides. Boron compounds. Maleic anhydride. Water reactive materials.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

Likely routes of exposure : Skin and eye contact.

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

Potassium hydroxide (1310-58-3)	
LD50 Oral rat	333 mg/kg bodyweight
Skin corrosion/irritation	: Causes skin irritation. pH: 7.5 – 7.7

Sodium hydroxide (1310-73-2)	
pH	14 Source: GESTIS

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Potassium hydroxide (1310-58-3)	
pH	≈ 13.5 Temp.: 25 °C Concentration: 5,611 g/L
Serious eye damage/irritation	: Causes serious eye irritation. pH: 7.5 – 7.7
Sodium hydroxide (1310-73-2)	
pH	14 Source: GESTIS
Potassium hydroxide (1310-58-3)	
pH	≈ 13.5 Temp.: 25 °C Concentration: 5,611 g/L
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Sodium hydroxide (1310-73-2)	
NOAEC (inhalation, rat, gas, 90 days)	50 ppm
Aspiration hazard	: Not classified
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Viscosity, kinematic	No data available
Sodium hydroxide (1310-73-2)	
Viscosity, kinematic	0.119 mm²/s
Potassium hydroxide (1310-58-3)	
Viscosity, kinematic	1.252 mm²/s
Potential adverse human health effects and symptoms	: Causes skin irritation. Causes eye irritation.
Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: None under normal conditions.

SECTION 12: Ecological information

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

Sodium hydroxide (1310-73-2)	
LC50 fish	> 84 mg/l
EC50 crustacea	40.4 mg/l Test organisms (species): Ceriodaphnia sp.
ErC50 algae	240 mg/l

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Potassium hydroxide (1310-58-3)	
LC50 fish	80 mg/l
EC50 crustacea	660 mg/l
ErC50 algae	1337 mg/l

12.2. Persistence and degradability

HypoThermosol® FRS	
Persistence and degradability	Rapidly degradable
Sodium hydroxide (1310-73-2)	
Persistence and degradability	Rapidly degradable
Potassium hydroxide (1310-58-3)	
Persistence and degradability	Rapidly degradable

12.3. Bioaccumulative potential

Sodium hydroxide (1310-73-2)	
Log Pow	-0.3

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Waste disposal recommendations	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Additional information	: Do not re-use empty containers.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA

14.1. UN Number

Not regulated for transport

14.2. UN Proper Shipping Name

Proper Shipping Name (ADR)	: Not regulated
Proper Shipping Name (IMDG)	: Not regulated
Proper Shipping Name (IATA)	: Not regulated

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not regulated

IMDG

Transport hazard class(es) (IMDG) : Not regulated

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IATA

Transport hazard class(es) (IATA) : Not regulated

14.4. Packing group

Packing group (ADR) : Not regulated

Packing group (IMDG) : Not regulated

Packing group (IATA) : Not regulated

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Transport in bulk

Not applicable

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

Not applicable

SECTION 15: Regulatory information

15.1. Australian Inventory of Industrial Chemicals

Name	CAS-No.	CR No.
Sucrose	57-50-1	561
Sodium hydroxide	1310-73-2	6325
Potassium hydroxide	1310-58-3	6321
Potassium chloride	7447-40-7	11055
Potassium bicarbonate	298-14-6	4140
Water	7732-18-5	11271

15.2. International regulations

US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Sodium hydroxide	1310-73-2	Present	Active	
Potassium hydroxide	1310-58-3	Present	Active	

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

CANADA

Sodium hydroxide (1310-73-2)
Listed on the Canadian DSL (Domestic Substances List)
Potassium hydroxide (1310-58-3)
Listed on the Canadian DSL (Domestic Substances List)

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EU-Regulations

Sodium hydroxide (1310-73-2)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Potassium hydroxide (1310-58-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm.

SECTION 16: Other Information

according to Australia WorkSafe GHS 7

Issue date : 3/30/2026

Data sources : Internal Company test data. Manufacturer Information.

Full text of H-statements

H290 May be corrosive to metals

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation

H318 Causes serious eye damage

H319 Causes serious eye irritation

Abbreviations and acronyms

ACGIH American Conference of Governmental Industrial Hygienists

ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ADR European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE Acute Toxicity Estimate

BCF Bioconcentration factor

BLV Biological limit value

BOD Biochemical oxygen demand (BOD)

CAS-No. Chemical Abstract Service number

CLP Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

COD Chemical oxygen demand (COD)

CSA Chemical safety assessment

DMEL Derived Minimal Effect level

DNEL Derived-No Effect Level

EC-No. European Community number

EC50 Median effective concentration

ED Endocrine disruptor

EN European Standard

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Abbreviations and acronyms	
EWC	European waste catalogue
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

Signature Manifest

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Title: HypoThermosol® FRS Safety Data Sheet (Australia)

Effective Date: 06 Oct 2026

All dates and times are in US/Pacific.

HypoThermosol® FRS Safety Data Sheet (Australia)

Collaboration Step

Name/Signature	Title	Date	Meaning/Reason
Michele Haler (MHALER)	Quality Engineer	22 Sep 2026, 12:20:54 PM	Complete

Department Approval

Name/Signature	Title	Date	Meaning/Reason
Matthew Selley (MSELLEY)	Director Aseptic Form & Fill	22 Sep 2026, 12:46:36 PM	Approved

Quality Approval

Name/Signature	Title	Date	Meaning/Reason
Brittany Bentcover (BBENTCOVER)	Director of Quality - Media	25 Sep 2026, 03:20:01 PM	Approved

Training Approval

Name/Signature	Title	Date	Meaning/Reason
Misti Long (MLONG)	QA Specialist I	25 Sep 2026, 03:26:38 PM	Approved

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Notification

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Michele Haler (MHALER)	Quality Engineer	25 Sep 2026, 03:27:30 PM	Email Sent