

# Safety Data Sheet

日本

## 1. Product and company identification

**Product name** ActiCHO™ SM, with Poloxamer-188, without Insulin, without L-Glutamine, 5L

**Catalogue Number** SH31029.01

**Product type** Solid.

**Original preparation date** 4/25/2024

**Date of issue/Date of revision** 10/26/2025

**Date of previous issue** 8/1/2025

Relevant identified uses of the substance or mixture and uses advised against

For further manufacturing.

Supplier / Manufacturer

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## 2. Hazards identification

**GHS Classification**

HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE HAZARD - Category 3

HAZARDOUS TO THE AQUATIC ENVIRONMENT - CHRONIC HAZARD - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment:  
44.5%

GHS label elements

**Hazard pictograms**



**Signal word**

No signal word.

**Hazard statements**

Harmful to aquatic life with long lasting effects.

**Precautionary statements**

**General**

Avoid release to the environment.

**Prevention**

Not applicable.

**Response**

Not applicable.

**Storage**

Not applicable.

<b>Disposal</b>	Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Other hazards which do not result in classification</b>	None known.

### 3. Composition/information on ingredients

**Substance/mixture** Mixture

<b>Ingredient name</b>	<b>含有量(%)</b>	<b>Identifiers</b>	<b>Official Gazette notice reference number</b>	
			<b>CSCL</b>	<b>ISHL</b>
sodium chloride	<25.35	CAS: 7647-14-5	1-236	Not available.
potassium chloride	<3.3	CAS: 7447-40-7	1-228	(1)-228
L-serine	<2.8	CAS: 56-45-1	9-1585	Not available.
L-valine	<1.95	CAS: 72-18-4	9-1604	Not available.
sodium selenite	<0.00015	CAS: 10102-18-8	1-507	Not available.

### 4. First aid measures

<b>Inhalation</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Skin contact</b>	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Eye contact</b>	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
<b>Ingestion</b>	Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel.

#### Most important symptoms/effects, acute and delayed

##### Potential acute health effects

<b>Inhalation</b>	No known significant effects or critical hazards.
<b>Skin contact</b>	No known significant effects or critical hazards.
<b>Eye contact</b>	No known significant effects or critical hazards.
<b>Ingestion</b>	No known significant effects or critical hazards.

##### Short term exposure

<b>Potential delayed effects</b>	Not available.
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##### Over-exposure signs/symptoms

<b>Inhalation</b>	No specific data.
<b>Skin contact</b>	No specific data.
<b>Eye contact</b>	No specific data.
<b>Ingestion</b>	No specific data.

<b>Protection of first-aiders</b>	No action shall be taken involving any personal risk or without suitable training.
<b>Notes to physician</b>	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Use an extinguishing agent suitable for the surrounding fire.
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<b>Unsuitable extinguishing media</b>	None known.
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<b>Specific hazards arising from the chemical</b>	This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
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<b>Special protective actions for fire-fighters</b>	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
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<b>Special protective equipment for fire-fighters</b>	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
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## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
<b>Environmental precautions</b>	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

### Methods and materials for containment and cleaning up

<b>Small spill</b>	Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
<b>Large spill</b>	Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

## 7. Handling and storage

### Handling

<b>Protective measures</b>	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
<b>Advice on general occupational hygiene</b>	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

### Storage

<b>Conditions for safe storage</b>	Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
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## 8. Exposure controls/personal protection

<b>Appropriate engineering controls</b>	Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
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### Occupational exposure limits

<b>Ingredient name</b>	<b>Exposure limits</b>
sodium selenite	Japan Society for Occupational Health (Japan, 5/2024) [Selenium and compounds (except SeH2 and SeF6)] OEL-M 8 hours: 0.1 mg/m³ (measured as Se).

### Biological exposure indices

No exposure indices known.

### Individual protection measures

<b>Respiratory protection</b>	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
<b>Hand protection</b>	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
<b>Eye protection</b>	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
<b>Skin protection</b>	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

<b>Physical state</b>	Solid.
<b>Color</b>	Off-white. Light brown. Light Orange.
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	3 to 4 [Conc. (% w/w): 2.1%]
<b>Melting point/freezing point</b>	Not available.
<b>Boiling point or initial boiling point and boiling range</b>	Not available.
<b>Flash point</b>	Not applicable.
<b>Evaporation rate</b>	Not available.
<b>Flammability</b>	Not available.
<b>Lower and upper explosive (flammable) limits</b>	Not applicable.
<b>Vapor pressure</b>	Not available.
<b>Relative vapor density</b>	Not applicable.
<b>Relative density</b>	Not available.
<b>Solubility in water</b>	Not available.
<b>Partition coefficient: n-octanol/water</b>	Not applicable.
<b>Auto-ignition temperature</b>	Not applicable.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.
<b>Particle characteristics</b>	
<b>Median particle size</b>	Not available.
<b>SADT</b>	Not available.
<b>Viscosity</b>	Dynamic (room temperature): Not available. Kinematic (room temperature): Not available. Kinematic (40°C (104°F)): Not available.
<b>Flow time (ISO 2431)</b>	Not available.
<b>Burning rate</b>	Not available.
<b>Burning time</b>	Not available.

## 10. Stability and reactivity

<b>Reactivity</b>	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	The product is stable.
<b>Possibility of hazardous reactions</b>	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	No specific data.
<b>Incompatible materials</b>	No specific data.
<b>Hazardous decomposition products</b>	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## 11. Toxicological information

### Acute toxicity

<b>Product/ingredient name</b>	<b>Result</b>
potassium chloride	<b>Rat - Male - Oral - LD50</b> 2600 mg/kg <b>Toxic effects:</b> Gastrointestinal - Hypermotility, diarrhea Gastrointestinal - Nausea or vomiting
L-serine	<b>Rat - Oral - LD50</b> 14 g/kg
L-valine	<b>Rat - Oral - LD50</b> 2000 mg/kg
sodium selenite	<b>Rat - Oral - LD50</b> 7 mg/kg <b>Toxic effects:</b> Behavioral - Somnolence (general depressed activity) Lung, Thorax, or Respiration - Dyspnea Gastrointestinal - Hypermotility, diarrhea

**Acute toxicity estimates**

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
HyClone™ ActiCHO™ SM	18230.1	N/A	N/A	N/A	N/A
potassium chloride	2600	N/A	N/A	N/A	N/A
L-serine	14000	N/A	N/A	N/A	N/A
L-valine	2000	N/A	N/A	N/A	N/A
sodium selenite	7	N/A	N/A	N/A	N/A

**Skin corrosion/irritation**

Not available.

**Conclusion/Summary [Product]** Not available.

**Ingredient name**

L-serine  
L-valine

**Conclusion/Summary**

May cause skin irritation.  
May cause skin irritation.

**Serious eye damage/eye irritation**

Not available.

**Conclusion/Summary [Product]** Not available.

**Ingredient name**

L-serine  
L-valine

**Conclusion/Summary**

May cause eye irritation.  
May cause eye irritation.

**Respiratory corrosion/irritation**

Not available.

**Conclusion/Summary [Product]** Not available.

**Respiratory or skin sensitization**

Not available.

**Skin**

**Conclusion/Summary [Product]** Not available.

**Respiratory**

**Conclusion/Summary [Product]** Not available.

**Germ cell mutagenicity**

Not available.

**Conclusion/Summary [Product]** Not available.

**Carcinogenicity**

Not available.

**Conclusion/Summary [Product]** Not available.

**Reproductive toxicity**

Not available.

**Conclusion/Summary [Product]** Not available.

**Specific target organ toxicity (single exposure)****Product/ingredient name**

sodium selenite

**Result**

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (central nervous system (CNS), gastrointestinal tract, heart, kidneys, liver, respiratory organs) - Category 1

**Specific target organ toxicity (repeated exposure)****Product/ingredient name**

sodium selenite

**Result**

SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE)  
 (blood system, central nervous system (CNS), hair, kidneys, liver, nails,  
 reproductive organs (male), skin, teeth) - Category 1

**Aspiration hazard**

Not available.

**12. Ecological information****Toxicity****Product/ingredient name**

sodium chloride

**Result****Acute - LC50 - Fresh water**

Fish - Striped bass - *Morone saxatilis* - Larvae  
 1000 mg/l [96 hours]

Effect: Mortality**Chronic - NOEC - Fresh water**

Daphnia - Water flea - *Daphnia pulex*  
 0.314 g/l [21 days]

Effect: Reproduction**Chronic - NOEC - Fresh water**

Fish - Eastern mosquitofish - *Gambusia holbrookii* - Adult  
 100 mg/l [8 weeks]

Effect: Reproduction**Chronic - NOEC - Fresh water**

OECD  
 Aquatic plants - Duckweed - *Lemna minor*  
 6 g/l [96 hours]

Effect: Growth**Acute - EC50 - Fresh water**

Daphnia - Water flea - *Daphnia magna*  
 402.6 mg/l [48 hours]

Effect: Intoxication**Acute - EC50 - Fresh water**

Algae - Green algae - *Selenastrum capricornutum*  
 28.85 mg/dm<sup>3</sup> [72 hours]

Effect: Population**Acute - LC50 - Fresh water**

Crustaceans - Water flea - *Pseudosida ramosa* - Neonate  
Age: ≤24 hours

Effect: Mortality**Acute - EC50 - Fresh water**

ISO  
 Algae - Green algae - *Desmodesmus subspicatus*  
 9.24 g/l [72 hours]

Effect: Population**Acute - LC50 - Fresh water**

Fish - Zebra danio - *Danio rerio*  
 509.65 mg/l [96 hours]

Effect: Mortality**Acute - EC50**

Daphnia  
 83 mg/l [48 hours]

**Acute - NOEC**

Algae  
 1000 mg/l [72 hours]

**LC50**

Fish  
 10000 mg/l [96 hours]

L-serine

**Acute - LC50 - Marine water**

Fish - Grass goby - *Zosterisessor ophiocephalus* - Adult  
Size: 15.6 cm; Weight: 41.7 g  
 0.29 ppm [96 hours]

Effect: Mortality**Acute - LC50 - Fresh water**

Daphnia - Water flea - *Daphnia pulicaria*  
Age: ≤24 hours

Effect: Mortality**Chronic - NOEC - Fresh water**

Daphnia - Water flea - *Daphnia magna*  
Age: <24 hours

Effect: Mortality**Chronic - NOEC - Marine water**

Algae - Green algae - *Dunaliella salina* - Exponential growth phase

L-valine

sodium selenite

Size: 3.8 to 20.3

1 mg/l [4 days]

Effect: Cells**Acute - EC50 - Fresh water**Algae - Green algae - *Scenedesmus acutus var. acutus*

80 µg/l [3 days]

Effect: Population**Chronic - NOEC - Fresh water**Fish - Medaka, high-eyes - *Oryzias latipes* - Juvenile (Fledgling, Hatchling, Weanling)Age: 10 days; Weight: 0.85 mg

3.936 ng/ml [210 days]

Effect: Feeding Behavior**Conclusion/Summary [Product]** Not available.**Ingredient name**

L-serine

L-valine

**Conclusion/Summary**

Naturally occurring substance

Naturally occurring substance

Persistence/degradability**Product/ingredient name**

L-valine

**Result**

82% [28 days]

**Conclusion/Summary [Product]** Not available.**Ingredient name**

L-serine

L-valine

**Conclusion/Summary**

Not expected to bioaccumulate. Naturally occurring substance

Not expected to bioaccumulate. Naturally occurring substance

**Product/ingredient name**

L-valine

**Aquatic half-life****Photolysis****Biodegradability**

Readily

Bioaccumulative potential

<b>Product/ingredient name</b>	<b>LogP<sub>ow</sub></b>	<b>BCF</b>	<b>Potential</b>
L-serine	-3.07	0.609	Low
L-valine	-2.26	0.846	Low
sodium selenite	-	5.8	Low

Mobility in soil**Soil/Water partition coefficient** Not available.**Mobility** Not available.**Hazardous to the ozone layer** Not applicable.**Other adverse effects** No known significant effects or critical hazards.**13. Disposal considerations****Disposal methods**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**14. Transport information****UN****IMDG****IATA****UN number** Not regulated.

Not regulated.

Not regulated.

**UN proper shipping name** -

-

-

**Transport hazard class (es)** -

-

-

**Packing group** -

-

-

Environmental hazards No.

No.

No.

**Additional information**

<b>Special precautions for user</b>	<b>Transport within user's premises:</b> always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
<b>Transport in bulk according to IMO instruments</b>	Not available.

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**15. Regulatory information****Fire Service Law**

None of the components are listed.

**Fire Service Law - Obstructive materials** Not listed**Industrial Safety and Health Act**

Not applicable.

**Ordinance on the Prevention of the Hazard due to Specified Chemical Substances**

None of the components are listed.

**Organic solvents poisoning prevention** Not applicable.**Substance(s) requiring labelling**

\* Any concentration shown as a range is to protect confidentiality.

**Chemicals requiring notification**

\* Any concentration shown as a range is to protect confidentiality.

**Chemical substances that cause skin disorders, etc. and other chemical substances that must be handled with impermeable protective equipment etc. based on special chemical regulations. (Article 594-2 Paragraph 1 of Ordinance on ISH)**

None of the components are listed.

**Carcinogens based on Article 577-2 of the Ordinance on ISH**

None of the components are listed.

**Mutagen**

None of the components are listed.

**Corrosive liquid** Not listed**ISHL Enforcement Order Appendix 1 - Dangerous Substances** Not applicable.**Harmful Substances Subject to Obtaining Permission for Manufacturing** Not listed**Harmful Substances, Prohibited for Manufacturing** Not listed**Chemical Substances Control Law (CSCL)**

Nickel(II) sulfate	0.00000063	Priority assessment	148
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**Poisonous and Deleterious Substances**

Ingredient name	%	Status	Reference number
sodium selenite	0.000135	Poisonous	1-18

**Pollutant Release and Transfer Registers (PRTR)**

None of the components are listed.

**JSOH Carcinogen**

Not listed

**Law concerning prevention of pollution of the ocean** Not available.

**Road law** Not available.

**List of Specially Controlled Industrial Waste** Not listed

#### International regulations

##### **Chemical Weapon Convention List Schedules I, II & III Chemicals**

Not listed.

##### **Montreal Protocol**

Not listed.

##### **Stockholm Convention on Persistent Organic Pollutants**

Not listed.

##### **Rotterdam Convention on Prior Informed Consent (PIC)**

Not listed.

##### **UNECE Aarhus Protocol on POPs and Heavy Metals**

Not listed.

#### International lists

##### **National inventory**

<b>Japan</b>	<b>Japan inventory (CSCL):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
<b>United States</b>	Not determined.
<b>Canada inventory</b>	Not determined.
<b>China</b>	Not determined.

## 16. Other information

#### History

**Date of printing** 10/25/2025

**Date of issue/Date of revision** 10/26/2025

**Date of previous issue** 8/1/2025

**Version** 1.02

sds\_author@cytiva.com

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available

UN = United Nations

#### Procedure used to derive the classification

<b>Classification</b>	<b>Justification</b>
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HAZARDOUS TO THE AQUATIC ENVIRONMENT - ACUTE Calculation method

HAZARD - Category 3

HAZARDOUS TO THE AQUATIC ENVIRONMENT - CHRONIC Calculation method

HAZARD - Category 3

**References** Not available.

 Indicates information that has changed from previously issued version.

#### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

