Safety Data Sheet

Version No.	**01/EN (HQ)**
Revision	~~01~~ NEW BES 17may24
Revision Date	**14 May 2024**

THR Pro (L-Threonine) 85%
According to Regulation (EU) 2020/878 and
OSHA Hazard Communication Standard

Review and Approval:

Signature of Originator	Print Name	Department	Date
Brenda Schorr	Brenda Schorr	Regulatory Affairs	15May24
	CHUCK RILEY	EHS	16 MAY 24
	NA SEH 29May24		

Signature of Approver | Print Name | Department | Date

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1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifier

Trade name:	THR Pro (L-Threonine)
EC No.:	200-774-1
CAS No.:	72-19-5

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

Use of the substance/ mixture:	Feed additive
Uses advised against:	No information available

1.3 Details of the supplier of the safety data sheet

Company name:	CJ Bio America
Address:	1946 Harvest Avenue Fort Dodge, IA 50501 USA
Information contact no (Tel.)	+1 515-302-8028

1.4 Emergency telephone number

+1 515-574-3179
This number is serviced during office hours only.

Further Information

The substance does not require registration according to Regulation (EC) No 1907/2006 [REACH].

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Not considered hazardous according to OSHA Hazard Communication Standard (29CFR1910.1200)
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]

2.2 Label elements

Labeling according to Regulation (EC) No.1272/2008 [EU-GHS/CLP]

- Hazard pictograms	Not applicable
- Signal word:	Not applicable
- Hazard statements	Not applicable
- Precautionary statements	Not applicable

2.3. Other hazards

No information available

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Chemical characterization : L-threonine 85% and its by-products from fermentation
CAS: 72-15-5

Molecular Weight: 119.12

Formula: $C_4H_9NO_3$

Further Information : No information available

4. FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Immediately relocate to a fresh air environment; rinse mouth with water; if not breathing, give artificial respiration; if breathing becomes difficult, give oxygen and seek medical attention.
Skin contact	Wash with soap and copious amounts of water; if irritation persists, seek medical attention.
Eye contact	Rinse immediately with copious amounts of water for at least 15 minutes; assure adequate flushing by separating eyelids with fingers; if contact lenses are being worn, remove lenses and continue rinsing; seek medical attention.
Ingestion	Rinse mouth with water; seek medical attention.

4.2 Most important symptoms / effects, acute and delayed

Irritation to route of exposure

4.3 Indication of any immediate medical attention and special treatment needed

Notes for the doctor	Treat symptomatically
Special treatment	No data available.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media	Water foam, dry chemical powder, alcohol-resistant foam, carbon dioxide (CO_2).
Unsuitable extinguishing media	Avoid high pressure fire extinguishing media which could cause the formation of a potentially explosive dust-air mixture.

5.2 Special hazards arising from the substance or mixture

hydrogen chloride (HCl), sulphur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO), carbon dioxide (CO2)

5.3 Advice for firefighters

Ensure adequate ventilation; Avoid dust formation in confined areas. Fine dust dispersed in air may ignite; wear self-contained breathing apparatus and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Personal protection equipment: see section 8

Do not touch or tread spilled product.

See protective measures listed in section 7 and 8.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. Cover drains.

Prevent further chemical release if safe to do so.

6.3 Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal. Use approved industrial vacuum cleaner for removal. Sweep up and shovel into suitable containers for disposal

6.4 Reference to other sections

Hazardous combustion product: see section 5. Personal protective equipment: see section 8. Incompatible materials see section 10. Disposal considerations: see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

When using, do not eat, drink or smoke.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources, No smoking.

Provide earthing of containers, equipment, pumps and ventilation facilities.

Avoid generation of dust.

Dust must be exhausted directly at the point of origin.

7.2 Conditions for safe storage, including any incompatibilities

Keep/Store only in original container.

Keep containers dry and tightly closed to avoid moisture absorption and contamination.

Avoid humidity, sunlight and high temperature.

7.3 Specific end uses

Keep away from: oxidizing agent

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Chemical Name	ACGIH TLV	OSHA PEL
Particulates not otherwise regulated	TWA: 10mg/m³ (inhalable) 3mg/m³ (respirable)	TWA: 15mg/m³ (total) 5mg/m³(respirable)

Occupational exposure limits — No data available

Biological limit values — No data available

Exposure limits at intended use — No data available

8.2 Exposure controls

Appropriate engineering controls — Ensure adequate ventilation, especially in confined areas.
Apply technical measures to comply with the occupational exposure limits.

Protective and hygiene measures — Only wear fitting, comfortable and clean protective clothing.
Avoid contact with skin, eyes and clothes.
Wash hands before breaks and after work.
Take off contaminated clothing and wash it before reuse.
Handle in accordance with good industrial hygiene and safety practices.

Eye/face protection — Safety glasses, chemical safety goggles.

Hand protection — Suitable gloves
NBR (Nitrile rubber) DIN EN 374, Butyl caoutchouc (butyl rubber) DIN EN 374
Wear cotton under mitten if possible. Wear suitable protective clothing.

Skin protection — Wear suitable protective clothing

Respiratory protection — Required when dusts are generated. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Thermal hazards — No data available

Environmental exposure controls — No data available

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Form: Granular powder Color : Brown to Dark Brown
Odor	Characteristic odor and taste
Odor threshold	No data available
pH	3.5 – 7.5
Melting point / Freezing point	Approx. 253 - 257°C (decomposes)
Boiling point and range	No data available
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Bulk density	0.60 to 0.90 g/mL
Solubility	Partially Water soluble
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

9.2 Other information

: MIE (Minimum ignition energy) 1~3 mJ (20 C) (ASTM E2019)

10. STABILITY AND REACTIVITY

10.1 Reactivity	The product is stable under storage at normal ambient temperatures.
10.2 Chemical stability	The product is stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	Possibility of hazardous reactions: oxidizing agent
10.4 Conditions to avoid	Heat, flame and sparks; other sources of ignition Humidity and high temperature.
10.5 Incompatible materials	Strong oxidizing agents
10.6 Hazardous decomposition products	Nitrogen oxides (combustion)

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity	No data available
Skin corrosion/irritation:	No data available
Serious eye damage/irritation	No data available
Respiratory or skin sensitisation	No data available
Germ cell mutagenicity	No data available
mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
STOT-single exposure	No data available
STOT-repeated exposure	No data available
Aspiration hazard	No data available
Endocrine disrupting properties	No data available

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity	No data available
12.2 Persistence and degradability	No data available
12.3 Bioaccumulative potential	No data available
12.4 Mobility in soil	No data available
12.5 Results of PBT and vPvB assessment	No data available
12.6 Endocrine disrupting properties	No data available
12.7 Other adverse effects:	No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	*Directive 2008/98/EC (Waste Framework Directive)*
Properties of waste which render it hazardous	No data available
Disposal operations	No data available
Recovery operations	No data available
Waste codes / waste designations according to EWC / AVV	No data available
Other disposal recommendation	No data available
13.2 Waste from residues / unused products	No data available
13.3 Contaminated packaging	No data available

14. TRANSPORT INFORMATION

14.1 Land transport (US DOT ground)

UN number or ID number	No data available
Proper Shipping Description	No data available
Transport hazard class(es)	No data available
Packing group	No data available
DOT Marine Pollutant	No data available
Reportable Quantity (RQ)	No data available

14.2 Air transport (ICAO-TI / IATA-DGR)

UN number or ID number	No data available
UN proper shipping name	No data available
Transport hazard class(es)	No data available
Packing group	No data available
Special Provisions	No data available
Special precautions for user	No data available

14.3 Sea transport (IMDG)

UN number or ID number	No data available
Proper Shipping Description	No data available
Transport hazard class(es)	No data available
Packing group	No data available
Marine Pollutant	No data available
Special Provisions	No data available
Special precautions for user	No data available

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

Consult IMO regulations before transporting ocean bulk

14.5 Additional information

This information is not intended to convey any special laws or handling requirements/information relating to this product. Shipping classifications may also vary by container volume and may be affected by the region or country where applicable laws and regulations apply. Additional shipping system information may be obtained through authorized sales or customer service representatives. It is the responsibility of the Transport Department to comply with all applicable laws, rules and regulations relating to material transport systems.

15. REGULATORY INFORMATION

15.1 Regulatory information

This safety datasheet complies with the requirements of Regulation (EU) No. 2020/878.

15.2 Chemical Safety Assessment:

We inform you about risks and safety, as written in this document.

16. OTHER INFORMATION

The contents and format of this MSDS/SDS are in accordance with Regulation (EU) 2020/878 and OSHA Hazard Communication Standard.

16.1 Indication of changes

Draft ① 00 ①

This document has been updated from version ~~03~~ to version ~~04~~ under the directive of CJ corporate headquarters in an effort to harmonize the data sheets of all Cj affiliates' products and countries of import, specifically Regulation (EU) 2020/878. This document has been reviewed to ensure continued compliance with OSHA SDS guidelines.

16.2 Abbreviations and acronyms

CLP: Regulation No. 1272/2008 on Classification, Labelling and Packaging of substances and mixtures
EC: European Community
GHS: Globally Harmonized System of Classification and Labeling of Chemicals
SCL: specific concentration limit
ATE: Acute Toxicity Estimate
ECHA: The European Chemicals Agency
IUCLID: International Uniform Chemical Information Database
PBT/vPvB: Bio-accumulative and Toxic / very Persistent and very Bio-accumulative
DOT: U.S. DEPARTMENT OF TRANSPORTATION
ICAO: The International Civil Aviation Organization
IATA: International Air Transport Association
IMDG: International Maritime Dangerous Goods Code

16.3 Key literature references and sources for data

ECHA, IPCS INCHEM, IUCLID, NITE, OECD Screening Information Data Set, SIDS

16.4 Classification for mixtures and used evaluation method according to regulation (EC) 1207/2008 [CLP]

See SECTION 2.1 (classification).

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① no previous version was considered final. BES 17may24