

SAFETY DATA SHEET (SDS)

TrailBio[®] CHIR-99021 Monohydrochloride

1. Identification

Product Name: TrailBio[®] CHIR-99021 monohydrochloride

Synonyms: Laduviglusib (monohydrochloride); CT99021 (monohydrochloride)

Product Code: TB59771, TB54925

CAS No.: 1797989-42-4

Molecular Formula: C₂₂H₁₉Cl₃N₈

Molecular Weight: 501.80 g/mol

Product Use: For Research Use Only (RUO). Laboratory chemical; manufacture of substances.

Uses Advised Against: Any use other than the identified research use.

Distributed by: Trailhead Biosystems Inc.

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SDSs are available at the following website: www.trailbio.com

Company Phone Number: +1 (216) 490-3304

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2. Hazard(s) Identification

Classification (OSHA HCS 2024, GHS Rev. 7; 29 CFR 1910.1200)

Acute toxicity, oral – Category 4, H302

Skin corrosion/irritation – Category 2, H315

Serious eye damage/eye irritation – Category 2A, H319

Specific target organ toxicity, single exposure; Respiratory tract irritation – Category 3, H335

Hazards not otherwise classified (HNOC)

None.

GHS Label Elements



Pictogram:

Signal Word: Warning

Hazard Statements

H302 – Harmful if swallowed

H315 – Causes skin irritation

H319 – Causes serious eye irritation

H335 – May cause respiratory irritation

Precautionary Statements – Prevention

P261 – Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 – Wash hands thoroughly after handling.

P270 – Do not eat, drink or smoke when using this product.

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

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P280 – Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements – Response

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

P304+P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position 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.

P330 – Rinse mouth.

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

Precautionary Statements – Storage

P403+P233 – Store in a well-ventilated place. Keep container tightly closed.

P405 – Store locked up.

Precautionary Statements – Disposal

P501 – Dispose of contents/container in accordance with local regulations.

3. Composition/Information on Ingredients

Substance

Chemical Name: CHIR-99021 (monohydrochloride)

Synonyms: Laduviglusib (monohydrochloride); CT99021 (monohydrochloride)

CAS No.: 1797989-42-4

Molecular Formula: C₂₂H₁₉Cl₃N₈

Molecular Weight: 501.80 g/mol

Single substance supplied at ≥ 98% (as supplied). See Section 2 for hazard classification.

4. First-Aid Measures

Description of first-aid measures

Eye Contact

Where Diphoterine® is not available, rinse eyes immediately with copious amounts of water for at least 20 minutes. Protect the uninjured eye. Remove contact lenses if present and easy to do. Continue rinsing and seek immediate medical attention. [NOTE: Diphoterine® is a branded emergency decontaminant solution – confirm availability at site or remove reference per Trailhead labeling policy]

Skin Contact

Where Diphoterine® is not available, wash immediately with plenty of water and soap. Remove contaminated clothing immediately. Seek medical attention.

Inhalation

Remove person to fresh air and keep comfortable for breathing. Call a poison centre or physician if unwell. If breathing is irregular or stopped, administer artificial respiration.

Ingestion

If accidentally swallowed, rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do not induce vomiting.

Most important symptoms/effects, acute and delayed

No known symptoms or effects. See Section 2 for hazard classification.

Indication of immediate medical attention and special treatment needed

No special immediate treatment required. Treat symptomatically.

5. Fire-Fighting Measures

Suitable Extinguishing Media

Carbon dioxide (CO₂), alcohol-resistant foam, dry chemical powder, or water spray.

Unsuitable Extinguishing Media

None known.

Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating gases and vapours. Under fire conditions may decompose and emit toxic fumes.

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. Remove undamaged containers from fire area if safe to do so.

6. Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures

Use full personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist, or gas. Ensure adequate ventilation. Keep personnel away from spill/leak. Refer to protective measures listed in Section 8.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains, waterways, or sewer systems. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up**Methods for Containment**

Prevent further leakage or spillage if safe to do so.

Remove all sources of ignition.

Methods for Cleaning Up

Absorb spilled material with an inert absorbent (e.g.

sand, silica gel, vermiculite) before transferring into an airtight container. Dispose of appropriately according to local regulations.

7. Handling and Storage

Precautions for safe handling

Wear appropriate personal protective equipment. Use only under a chemical fume hood. Keep away from heat, sparks, open flames, and hot surfaces. Take measures to prevent build-up of electrostatic charge. Ensure adequate exhaust ventilation, especially if dust, aerosol, or fumes will be generated. Avoid contact with skin, eyes, and clothing. Handle in accordance with good industrial hygiene and safety practice.

Protections against explosions and fire

Where possible, use anti-static and spark-proof equipment when handling.

Conditions for safe storage, including any incompatibilities

Keep container tightly sealed in a cool, well-ventilated area. Keep away from direct sunlight and sources of ignition. Protect from moisture.

Recommended storage temperature (solid): 4 °C, sealed storage, away from moisture

Recommended storage temperature (in solvent): –80 °C – 2 years; –20 °C – 1 year (sealed storage, away from moisture)

Shipping: Room temperature if less than 2 weeks.

8. Exposure Controls/Personal Protection

Control parameters

Exposure Guidelines

occupational exposure limit (OEL) values.

This product contains no substances with established

Appropriate engineering controls

Use only under a chemical fume hood ensuring adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation.

Individual protection measures, such as personal protective equipment

Eye/face protection

Safety goggles with side-shields.

Hand protection

Protective (impervious) gloves.

Skin and body protection

Impervious clothing.

Respiratory protection

be generated.

Suitable respirator where dust, aerosol or fume may

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Wash hands before and after use. Do not eat, drink or smoke when using this product.

Environmental exposure controls

Away from drains, water courses, and soil. Clean spillages safely as soon as possible.

Avoid discharge into the environment. Keep product

9. Physical and Chemical Properties

Appearance: Solid

Odor: No data available

Odor Threshold: No data available

pH: No data available

Melting point/freezing point: No data available

Boiling point/boiling 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

Relative Density: No data available

Solubility: No data available

Partition Coefficient (n-octanol/water): No data available

Autoignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available

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Oxidizing properties: No data available

Molecular Weight: 501.80 g/mol

Physical State at 20 °C: Solid

10. Stability and Reactivity

Reactivity

No data available.

Chemical Stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal storage conditions.

Conditions to avoid

Heat, sparks, open flames, sources of ignition. Exposure to moisture.

Incompatible Materials

Strong acids/alkalis, strong oxidising/reducing agents.

Hazardous Decomposition Products

Under fire conditions, may decompose and emit toxic fumes.

11. Toxicological Information

Information on toxicological effects

Acute toxicity (oral)

numerical data available in source SDS.

Classified as Category 4 (H302); no supporting

Skin corrosion/irritation

available in source SDS.

Classified as Category 2 (H315); no supporting data

Serious eye damage/irritation

available in source SDS.

Classified as Category 2A (H319); no supporting data

Respiratory or skin sensitization

No data available.

Germ cell mutagenicity

No data available.

Reproductive Toxicity

No data available.

STOT – single exposure

(H335); no supporting data available in source SDS.

Classified as Category 3, respiratory tract irritation

STOT – repeated exposure

No data available.

Aspiration hazard

No data available.

Target Organ Effects

Respiratory tract; skin; eyes.

Carcinogenicity

No data available. Not listed as a carcinogen by IARC, ACGIH, NTP, or OSHA.

Additional information

This information is based on current knowledge; the chemical, physical, and toxicological properties have not been completely investigated.

12. Ecological Information

Ecotoxicity

No data available.

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and vPvB assessment

PBT/vPvB assessment unavailable as chemical safety assessment not required or not conducted.

Other adverse effects

No data available.

13. Disposal Considerations

Waste treatment methods

Ensure product is disposed of by licensed waste carriers in accordance with prevailing country, federal, state, and local regulations.

Contaminated packaging

Ensure inner packaging is disposed of by licensed waste carriers. Some outer packaging may be recyclable if not contaminated.

14. Transport Information

DOT: Not regulated (Not dangerous goods).

TDG: Not determined

MEX: Not determined

ICAO: Not determined

IATA: Not regulated (Not dangerous goods).

IMDG: Not regulated (Not dangerous goods).

ADR/RID: Not determined

ADN: Not determined

15. Regulatory Information

U.S. Federal Regulations

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313: This material does not contain any chemical components above De Minimis reporting levels under SARA Title III, Section 313.

SARA 311/312 Hazard Categories – Health Hazards: Acute toxicity (oral); Skin corrosion/irritation; Serious eye damage/eye irritation; Specific target organ toxicity (single exposure). Physical Hazards: None known.

US State Regulations

California Proposition 65: This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

Massachusetts Right to Know: No components subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know: No components subject to the Pennsylvania Right to Know Act.

New Jersey Right to Know: No components subject to the New Jersey Right to Know Act.

16. Other Information

Prepared By	Trailhead Biosystems
Preparation Date	2026-06-10
Revision Date	2026-06-10
Revision Note	No information available

Disclaimer: The information provided in this Safety Data Sheet (SDS) is correct to the best of our knowledge. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. This product is For Research Use Only and must be handled only by suitably qualified, experienced personnel in appropriately equipped facilities. The burden of safe use of this material rests with the user. 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.

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