

Safety Data Sheet

SECTION I: Product and Company Identification

1.1 Product identifiers

Product name: Affinity-Removable Recombinant Trypsin, C-Terminal His-Tagged

Product number: M8100, M8200, M8300, M8500

Brand: MEDNA™

Form: Aqueous liquid (1 mg/mL)

Synonyms: Recombinant His-Tagged Trypsin, C-Terminal His-Tagged Trypsin, Trypsin-His

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

Identified uses: Laboratory reagent; protein digestion; recombinant protein processing; controlled proteolysis; affinity-removable protease workflows; immobilized proteolysis; analytical research.

Uses advised against: For research use only. Not for human or veterinary diagnostic, therapeutic, clinical, food, or household use.

1.3 Details of the supplier of the safety data sheet

Company: MEDNA Scientific

Address: 1551 Corporate Dr. Irving, TX 75038

Telephone: 469-250-4424

Email: support@mednabio.com

SECTION II: Hazards identification

2.1 Classification of the substance or mixture

GHS classification under OSHA Hazard Communication Standard (29 CFR 1910.1200):

- Respiratory sensitization, Category 1 - **H334**

2.2 GHS label elements



Signal word: Danger

Hazard statements



H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements

P261: Avoid breathing dust, mist, or aerosols.

P284: In case of inadequate ventilation, wear respiratory protection.

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

P342 + P311: If experiencing respiratory symptoms: Call a POISON CENTER or physician.

P501: Dispose of contents/container in accordance with applicable regulations.

2.3 Hazards not otherwise classified

Proteolytic enzymes may cause respiratory sensitization, including after repeated or low-level aerosol exposure.

Avoid generating enzyme-containing mist or aerosols.

SECTION III: Composition/information on ingredients

3.1 Hazardous component

Component	Identifier	Classification	Concentration
Recombinant trypsin, C-terminal His-tagged	No specific CAS assigned; trypsin reference CAS 9002-07-7*	Resp. Sens. 1; H334	1 mg/mL (0.1% w/v)

Hazard statement: H334

**No specific CAS number is assigned to the recombinant C-terminal His-tagged form. CAS No. 9002-07-7 is a reference identifier for trypsin.*



3.2 Complete formulation

Aqueous solution, pH 8.0

Component	Concentration
Recombinant C-terminal His-tagged trypsin	1 mg/mL (0.1% w/v)
Tris-Cl	20 mM
Sodium chloride	500 mM
Water	Balance
pH	4.0

No preservative is included.

SECTION IV: First aid measures

4.1 Description of first-aid measures

General advice

First aid responders should protect themselves from exposure.

Provide this Safety Data Sheet to medical personnel when appropriate.

If inhaled

Move the exposed individual to fresh air.

Keep the individual comfortable for breathing.

If coughing, wheezing, shortness of breath, chest tightness, or other respiratory symptoms occur, seek medical attention.

Persons previously sensitized to proteolytic enzymes may react to low airborne concentrations.

In case of skin contact

Remove contaminated clothing.

Wash affected skin thoroughly with soap and water.

Seek medical attention if irritation develops or persists.

In case of eye contact

Immediately rinse with plenty of water for several minutes.

Remove contact lenses if present and easy to do.

Continue rinsing.



Seek medical attention if irritation persists.

If swallowed

Rinse mouth with water.

Do not induce vomiting unless directed by medical personnel.

Seek medical attention if symptoms develop.

4.2 Most important symptoms and effects, both acute and delayed

Potential symptoms include:

- Skin irritation
- Eye irritation
- Respiratory irritation
- Coughing
- Wheezing
- Shortness of breath
- Asthma-like symptoms
- Respiratory allergic response

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Respiratory sensitization or asthma-like symptoms should receive prompt medical evaluation.

SECTION V: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use extinguishing media appropriate for the surrounding fire:

- Water spray
- Foam
- Carbon dioxide
- Dry chemical powder

Unsuitable extinguishing media

No specific restrictions known.



5.2 Special hazards arising from the substance or mixture

The product is not expected to present a significant fire hazard under normal laboratory conditions.

Thermal decomposition of protein material may produce:

- Carbon oxides
- Nitrogen oxides
- Sulfur-containing decomposition products

Hazardous combustion gases or vapors may form in a fire.

5.3 Advice for firefighters

Wear self-contained breathing apparatus and appropriate protective clothing when required by fire conditions.

5.4 Further information

Prevent contaminated firefighting water from entering drains or surface water when practical.

SECTION VI: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid inhalation of dust, mist, or aerosol.

Avoid contact with skin and eyes.

Ensure adequate ventilation.

Wear appropriate personal protective equipment.

Avoid procedures that generate enzyme-containing mist or aerosols.

See Section 8 for personal protective equipment.

6.2 Environmental precautions

Avoid unnecessary release into drains or the environment.

6.3 Methods and materials for containment and cleaning up

Frozen or reconstituted liquid

Absorb spilled material with an appropriate inert absorbent.

Avoid splashing or aerosol generation.

Collect into an appropriate waste container.

Clean the affected surface thoroughly.

6.4 Reference to other sections



For disposal information, see Section 13.

SECTION VII: Handling and storage

7.1 Precautions for safe handling

Avoid inhalation of enzyme-containing mist or aerosols.

Avoid contact with eyes and skin.

Use appropriate laboratory ventilation.

Avoid vigorous mixing or spraying that may generate aerosols.

Keep containers closed when not in use.

Wash hands thoroughly after handling.

Do not eat, drink, or smoke in laboratory work areas.

7.2 Conditions for safe storage, including any incompatibilities

Product storage

Store tightly closed at: **-20°C to -80°C**

Handling after thawing

Prepare single-use aliquots when appropriate.

Avoid repeated freeze-thaw cycles.

7.3 Specific end uses

Laboratory research and protein processing applications as described in Section 1.2.

SECTION VIII: Exposure controls/personal protection

8.1 Control parameters

No product-specific OSHA permissible exposure limit has been established for this recombinant trypsin preparation.

Because proteolytic enzymes can cause respiratory sensitization, airborne exposure should be minimized.

8.2 Exposure controls

Appropriate engineering controls

Use adequate laboratory ventilation.

Use local exhaust ventilation or other appropriate containment when mist or aerosols may be generated.



Avoid procedures that generate enzyme-containing aerosols.

Wash hands and face after working with the product.

Personal protective equipment

Eye/face protection

Wear safety glasses or tightly fitting safety goggles appropriate for laboratory work.

Skin protection

Wear chemical-resistant laboratory gloves.

Nitrile gloves are generally suitable for routine laboratory handling.

Body protection

Wear a laboratory coat or appropriate protective clothing.

Respiratory protection

Respiratory protection is recommended when airborne enzyme powder or aerosol cannot be adequately controlled through engineering controls.

Use appropriately selected and fitted NIOSH-approved respiratory protection in accordance with institutional requirements.

Environmental exposure controls

Avoid unnecessary release into drains.

SECTION IX: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Property	Final liquid product
Appearance	Clear aqueous solution
Color	Colorless
Odor	No data available
Odor threshold	No data available
pH	4.0
Melting/freezing point	Approximately that of an aqueous solution
Initial boiling point	Approximately that of an aqueous solution
Flash point	Not applicable
Evaporation rate	No data available

Property	Final liquid product
Flammability	Not expected to be flammable
Upper/lower explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Density	No data available
Water solubility	Miscible with water
Partition coefficient	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	Not classified as explosive
Oxidizing properties	None expected

9.2 Other safety information

No additional data available.

SECTION X: Stability and reactivity

10.1 Reactivity

No hazardous reactivity is expected under normal laboratory handling conditions.

Finely dispersed dry organic material may present a dust hazard under unusual conditions.

10.2 Chemical stability

The product is expected to remain stable when stored under recommended frozen conditions.

Trypsin may undergo autolysis and loss of enzymatic activity when maintained for extended periods under conditions favorable for proteolysis.

10.3 Possibility of hazardous reactions

No hazardous reactions are known under normal use conditions.

10.4 Conditions to avoid

Avoid:



- Excessive heat
- Repeated freeze-thaw cycles

10.5 Incompatible materials

Strong oxidizing agents.

Materials or reagents that cause protein denaturation or degradation may affect product activity.

10.6 Hazardous decomposition products

In the event of fire, see Section 5.

SECTION XI: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product-specific data are not available.

Skin corrosion/irritation

Not classified for skin irritation based on available mixture information; direct contact may cause irritation.

Prolonged or repeated contact should be avoided.

Serious eye damage/eye irritation

Not classified for eye irritation based on available mixture information; direct contact may cause irritation.

Direct eye exposure should be avoided.

Respiratory or skin sensitization

The mixture is classified as Respiratory Sensitization Category 1 because it contains 0.1% (w/v) trypsin.

Exposure to enzyme-containing mist or aerosol may cause allergy or asthma symptoms or breathing difficulties in susceptible individuals.

Product-specific skin sensitization data are not available.

Germ cell mutagenicity

No product-specific data available.

Carcinogenicity

No product-specific data available.



No known reason to expect the recombinant trypsin protein to be carcinogenic based solely on its intended biochemical function.

Reproductive toxicity

No product-specific data available.

Specific target organ toxicity — single exposure

Not classified for specific target organ toxicity based on available mixture information.

Specific target organ toxicity — repeated exposure

No product-specific data available.

Aspiration hazard

No data available.

11.2 Additional information

The finished mixture has not been tested as a whole. Classification is based on available ingredient information and applicable OSHA HCS mixture criteria.

Handle according to good laboratory hygiene and safety practices.

SECTION XII: Ecological information**12.1 Toxicity**

No product-specific ecological toxicity data available.

12.2 Persistence and degradability

As a protein, trypsin is expected to undergo biological degradation under suitable environmental conditions.

12.3 Bioaccumulative potential

Significant bioaccumulation is not expected for a protein reagent.

12.4 Mobility in soil

No data available.

12.5 PBT and vPvB assessment

No assessment available.

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.



Avoid unnecessary environmental release.

SECTION XIII: Disposal considerations

13.1 Waste treatment methods

Dispose of waste material in accordance with applicable federal, state, local, and institutional regulations.

Do not mix with incompatible waste.

Handle contaminated containers as product waste unless appropriately decontaminated.

Avoid disposal methods that generate airborne enzyme-containing powder.

SECTION XIV: Transport information

DOT (US)

Not expected to be regulated as dangerous goods.

IMDG

Not expected to be regulated as dangerous goods.

IATA

Not expected to be regulated as dangerous goods.

Frozen shipments using dry ice

If used for shipment, dry ice is regulated separately as UN1845, Carbon dioxide, solid.

SECTION XV: Regulatory information

This product is intended for research use only. This Safety Data Sheet is prepared in accordance with the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

The formulation is conservatively classified as Respiratory Sensitization Category 1 because its nominal 0.1% (w/v) trypsin concentration meets the generic 0.1% concentration threshold for a respiratory sensitizer in a solid/liquid mixture.

SECTION XVI: Other information



This Safety Data Sheet is based on currently available information and describes the product for health, safety, and environmental purposes; it is not a warranty of product properties. Users must determine suitability and comply with applicable requirements.

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