

## MATERIAL SAFETY DATA SHEET

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Section 1 - Product and Company Information

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Product Name THROMBIN FROM HUMAN PLASMA  
Product Number T8885  
Brand SIAL

Company Sigma-Aldrich  
Address 3050 Spruce Street  
SAINT LOUIS MO 63103 US

Technical Phone: 800-325-5832  
Fax: 800-325-5052  
Emergency Phone: 314-776-6555

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Section 2 - Composition/Information on Ingredient

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Substance Name	CAS #	SARA 313
THROMBIN FROM HUMAN SOURCE	9002-04-4	No

Chemical Family Human source material.  
Synonyms E.C. 3.4.4.13 \* E.C. 3.4.21.5 \* Fibrinogenase \*  
Thrombase \* Thrombin-C \* Thrombofort \* Tropotasin  
RTECS Number: XO8950000

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Section 3 - Hazards Identification

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## EMERGENCY OVERVIEW

Biohazard. Harmful.  
Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation.  
Target organ(s): Vascular system. Handle as if capable of transmitting infectious agents.

## HMIS RATING

HEALTH: 4\*  
FLAMMABILITY: 0  
REACTIVITY: 0

## NFPA RATING

HEALTH: 4  
FLAMMABILITY: 0  
REACTIVITY: 0

\*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

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Section 4 - First Aid Measures

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## ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

## INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

#### DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

#### EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

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### Section 5 - Fire Fighting Measures

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#### FLASH POINT

N/A

#### AUTOIGNITION TEMP

N/A

#### FLAMMABILITY

N/A

#### EXTINGUISHING MEDIA

Suitable: Noncombustible. Use extinguishing media appropriate to surrounding fire conditions.

#### FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.  
Specific Hazard(s): Emits toxic fumes under fire conditions.

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### Section 6 - Accidental Release Measures

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#### PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

#### PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

#### METHODS FOR CLEANING UP

Spilled material should be carefully wiped up or moistened with water and removed. Ventilate area and wash spill site after material pickup is complete.

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### Section 7 - Handling and Storage

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#### HANDLING

User Exposure: Avoid inhalation. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure. Do not use if skin is cut or scratched. Wash thoroughly after handling.

#### STORAGE

Suitable: Keep tightly closed.  
Store at -20°C

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### Section 8 - Exposure Controls / PPE

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#### ENGINEERING CONTROLS

Safety shower and eye bath. Use only in a chemical fume hood.

#### PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

#### GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse.

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#### Section 9 - Physical/Chemical Properties

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Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
Molecular Weight	N/A	
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
SG/Density	N/A	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	N/A	
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	N/A	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A = not available

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#### Section 10 - Stability and Reactivity

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##### STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

##### HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Nature of decomposition products not known.

Section 11 - Toxicological Information

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ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: May be harmful if absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.

Ingestion: May be harmful if swallowed.

SENSITIZATION

Respiratory: May cause allergic respiratory reaction.

TARGET ORGAN(S) OR SYSTEM(S)

Vascular system.

SIGNS AND SYMPTOMS OF EXPOSURE

Involved in clotting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

CONDITIONS AGGRAVATED BY EXPOSURE

May be fatal if enters bloodstream.

TOXICITY DATA

Intraperitoneal

Rat

>40 ML/KG

LD50

Remarks: Lungs, Thorax, or Respiration:Respiratory stimulation.  
Behavioral:Somnolence (general depressed activity).

Subcutaneous

Rat

>40 ML/KG

LD50

Remarks: Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

Skin

Mouse

> 3000 mg/kg

LD50

Remarks: Lungs, Thorax, or Respiration:Dyspnea.  
Behavioral:Somnolence (general depressed activity). Skin and Appendages: Other: Hair.

Intraperitoneal

Mouse

>50 ML/KG

LD50

Remarks: Behavioral:Somnolence (general depressed activity).  
Lungs, Thorax, or Respiration:Respiratory stimulation.

Subcutaneous

Mouse

>50 ML/KG

LD50

Remarks: Nutritional and Gross Metabolic:Weight loss or decreased weight gain.

Intravenous  
Mouse  
7771 UG/KG  
LD50

Remarks: Lungs, Thorax, or Respiration:Other changes.  
Behavioral:Altered sleep time (including change in righting reflex). Kidney, Ureter, Bladder:Other changes.

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#### CHRONIC EXPOSURE - MUTAGEN

Species: Mouse  
Dose: 5 MG/L  
Cell Type: fibroblast  
Mutation test: Morphological transformation.

Species: Chicken  
Dose: 10 MG/L  
Cell Type: Embryo  
Mutation test: Unscheduled DNA synthesis

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#### Section 12 - Ecological Information

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No data available.

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#### Section 13 - Disposal Considerations

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##### APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Disposal should be made in accordance with existing disposal practices employed for infectious waste at your institution. Observe all federal, state, and local environmental regulations.

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#### Section 14 - Transport Information

##### DOT

Proper Shipping Name: None  
Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

##### IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport.

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#### Section 15 - Regulatory Information

##### EU ADDITIONAL CLASSIFICATION

Symbol of Danger: B-Xn  
Indication of Danger: Biohazard. Harmful.  
R: 36/37/38-42  
Risk Statements: Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation.  
S: 22-24-26-36/37  
Safety Statements: Do not breathe dust. Avoid contact with skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves.

##### US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Biohazard. Harmful.  
Risk Statements: Irritating to eyes, respiratory system and skin. May cause sensitization by inhalation.  
Safety Statements: Do not breathe dust. Avoid contact with skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves.  
US Statements: Target organ(s): Vascular system. Handle as if capable of transmitting infectious agents.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No  
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.  
DSL: No  
NDSL: No

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Section 16 - Other Information

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DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.  
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