

**Material Safety Data Sheet**  
**Bovine Thrombin 200/500****Section 1 - Chemical Product and Company Identification****MSDS Name:**

Bovine Thrombin 200/500

**Catalog Numbers:**

100601, 100606, 176297, 200601, 200606, 206689, 23176297, 23306291, 23306291DEM, 250601, 250606, 300606, 306291, CMS176297, CMS306291, PH100601

**Synonyms:**

Fibrinogen Reagent (Bovine) .

**Company Identification:**Fisher Diagnostics  
Fisher Scientific Company LLC  
8365 Valley Pike  
Middletown, VA 22645-0307**Company Phone Number:**

(800) 528-0494

**Emergency Phone Number:**

(800) 528-0494

**CHEMTREC Phone Number:**

800-424-9300

**CHEMTREC (International):**

703-527-3887

**Section 2 - Composition, Information on Ingredients**

CAS#	Chemical Name:	Percent	EINECS/ ELINCS
77-86-1	Tris (hydroxymethyl) aminomethane	1.49%	201-064-4
Not available	BSA Fraction V	0.9%	Not available
7647-14-5	Sodium chloride	0.89%	231-598-3
9002-04-4	Bovine Thrombin	0.8-1.2%	232-648-7
10043-52-4	Calcium chloride	0.144 %	233-140-8

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**Bovine Thrombin 200/500****Section 3 - Hazards Identification****EMERGENCY OVERVIEW**

*Appearance: clear, colorless liquid*

*Caution! Each unit of source material used in the preparation of this product has been tested by an FDA licensed method and found non-reactive for HBsAg and negative for antibodies to HIV and HCV. However, no known test method can offer complete assurance that products derived from human blood will not transmit hepatitis, AIDS, or other infectious diseases. This product, like all materials of human origin, should be handled as potentially infectious biological material. Causes eye irritation. May be absorbed through intact skin. May cause skin irritation. May cause respiratory and digestive tract irritation.*

*Target Organs: none.*

**Potential Health Effects****Eye:**

Causes eye irritation. Contact may cause transient eye irritation.

**Skin:**

Low hazard for usual industrial handling. May be absorbed through the skin.

**Ingestion:**

Ingestion of large amounts may cause gastrointestinal irritation. Low hazard for usual industrial handling.

**Inhalation:**

May cause respiratory tract irritation.

**Chronic:**

No information found.

**Section 4 - First Aid Measures****Eyes:**

Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

**Skin:**

Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

**Ingestion:**

If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

**Inhalation:**

Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:**

Treat symptomatically and supportively.

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**Bovine Thrombin 200/500****Section 5 - Fire Fighting Measures****General Information:**

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

**Extinguishing Media:**

For small fires, use water spray, dry chemical, carbon dioxide or chemical foam.

**Autoignition Temperature:**

Not applicable.

**Explosion Limits:**

Lower: Not available. Upper: Not available.

**Flash Point:**

Not applicable.

**NFPA Rating:**

(estimated) Health: 1; Flammability: 0; Reactivity: 0

**Section 6 - Accidental Release Measures****General Information:**

Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:**

Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section.

**Section 7 - Handling and Storage****Handling:**

Wash thoroughly after handling. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with skin and eyes. Avoid ingestion and inhalation.

**Storage:**

Store in a cool place in the original container and protect from sunlight. Keep container closed when not in use.

**Section 8 - Exposure Controls, Personal Protection****Engineering Controls:**

Good general ventilation should be sufficient to control airborne levels.

**Exposure Limits**

<b>Chemical Name:</b>	<b>ACGIH</b>	<b>NIOSH</b>	<b>OSHA</b>
<b>Tris (hydroxymethyl) aminomethane</b>	None of the components are on this list.	None of the components are on this list.	None of the components are on this list.
<b>Sodium chloride</b>	None of the components are on this list.	None of the components are on this list.	None of the components are on this list.
<b>Bovine Thrombin</b>	None of the components are on this list.	None of the components are on this list.	None of the components are on this list.

**Material Safety Data Sheet****Bovine Thrombin 200/500****Calcium chloride**None of the components  
are on this list.None of the components  
are on this list.None of the components  
are on this list.**OSHA Vacated PELs****Personal Protective Equipment****Eyes:**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:**

Wear appropriate protective gloves to prevent skin exposure.

**Clothing:**

Wear appropriate protective clothing to prevent skin exposure.

**Respirators:**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Section 9 - Physical and Chemical Properties****Physical State:** Liquid**Color:** clear, colorless**Odor:** Odorless.**pH:** No information found**Vapor Pressure:** No information found**Vapor Density:** No information found**Evaporation Rate:** No information found**Viscosity:** No information found**Boiling Point:** Not available.**Freezing/Melting Point:** No information found**Decomposition Temperature:** No information found**Solubility in water:** Soluble in water.**Specific Gravity/Density:** No information found**Molecular Formula:** Not applicable.**Molecular Weight:** No information found**Section 10 - Stability and Reactivity****Chemical Stability:**

Stable under normal temperatures and pressures.

**Conditions to Avoid:**

Incompatible materials.

**Incompatibilities with Other Materials**

Strong oxidants.

**Hazardous Decomposition Products**

No data available.

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**Bovine Thrombin 200/500****Hazardous Polymerization**

Has not been reported

**Section 11 - Toxicological Information****RTECS:**

CAS# 77-86-1: TY2900000.  
CAS# 7647-14-5: VZ4725000.  
CAS# 9002-04-4: XO8950000.  
CAS# 10043-52-4: EV9800000.

**LD50/LC50:**

CAS# 77-86-1:  
Oral, rat: LD50 = 5900 mg/kg.  
CAS# 7647-14-5:  
Draize test, rabbit, eye: 100 mg Mild  
Draize test, rabbit, eye: 100 mg/24H Moderate  
Draize test, rabbit, eye: 10 mg Moderate  
Draize test, rabbit, skin: 50 mg/24H Mild  
Draize test, rabbit, skin: 500 mg/24H Mild  
Inhalation, rat: LC50 = >42 gm/m3/1H  
Oral, mouse: LD50 = 4 gm/kg  
Oral, rat: LD50 = 3000 mg/kg  
Skin, rabbit: LD50 = >10 gm/kg.  
CAS# 9002-04-4:  
No information found  
CAS# 10043-52-4:  
Oral, mouse: LD50 = 1940 mg/kg  
Oral, rabbit: LD50 = 1384 mg/kg  
Oral, rat: LD50 = 1 gm/kg.

**Carcinogenicity:**

CAS# 77-86-1: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.  
CAS# 7647-14-5: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.  
CAS# 9002-04-4: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.  
CAS# 10043-52-4: Not listed as a carcinogen by ACGIH, IARC, NIOSH, NTP, OSHA, or CA Prop 65.

**Epidemiology:**

No information found

**Teratogenicity:**

No information found

**Reproductive:**

No information found

**Mutagenicity:**

No information found

**Neurotoxicity:**

No information found

**Other:**

See actual entry in RTECS for complete information.

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**Bovine Thrombin 200/500****Section 12 - Ecological Information**

No information found

**Section 13 - Disposal Considerations**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Part 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P Series Wastes**

None of the components are on this list.

**RCRA U Series Wastes**

None of the components are on this list.

**Section 14 - Transport Information****US DOT****Canadian TDG**

**Proper Shipping Name:** No information found

No information found

**Hazard Class:**

**UN Number:**

**Packing Group:**

**Section 15 - Regulatory Information****US Federal****TSCA**

CAS# 77-86-1 is listed on the TSCA Inventory.  
CAS# 7647-14-5 is listed on the TSCA Inventory.  
CAS# 9002-04-4 is listed on the TSCA Inventory.  
CAS# 10043-52-4 is listed on the TSCA Inventory.

**Health and Safety Reporting List**

None of the components are on this list.

**Chemical Test Rules**

None of the components are on this list.

**TSCA Section 12b**

None of the components are on this list.

**TSCA Significant New Use Rule (SNUR)**

None of the components are on this list.

**CERCLA Hazardous Substances and corresponding RQs**

None of the components are on this list.

**SARA Section 302 Extremely Hazardous Substances**

None of the components are on this list.

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**Bovine Thrombin 200/500****SARA Hazard Categories**

CAS# 77-86-1: acute.

CAS# 7647-14-5: acute.

CAS# 10043-52-4: acute, chronic, reactive.

**CERCLA/SARA Section 313**

None of the components are on this list.

**Clean Air Act - Hazardous Air Pollutants (HAPs)**

None of the components are on this list.

**Clean Air Act - Class 1 Ozone Depletors**

None of the components are on this list.

**Clean Air Act - Class 2 Ozone Depletors**

None of the components are on this list.

**Clean Water Act - Hazardous Substances**

None of the components are on this list.

**Clean Water Act - Priority Pollutants**

None of the components are on this list.

**Clean Water Act - Toxic Pollutants**

None of the components are on this list.

**OSHA - Highly Hazardous**

None of the components are on this list.

**US State****State Right to Know****California Regulations**

CAS# 77-86-1: No information found

CAS# Not available: No information found

CAS# 7647-14-5: No information found

CAS# 9002-04-4: No information found

CAS# 10043-52-4: No information found

**European/International Regulations****European Labelling in Accordance with EC Directives:**

Hazard Symbols:

Risk Phrases:

Safety Phrases:

**WGK (Water Danger/Protection)**

CAS# 77-86-1: 1

CAS# Not available: No information found

CAS# 7647-14-5: 0

CAS# 9002-04-4: 1

CAS# 10043-52-4: 0

**United Kingdom Occupational Exposure Limits**

No information found

**Canadian DSL/NDSL**

CAS# 77-86-1 is listed on Canada's DSL List.

CAS# 7647-14-5 is listed on Canada's DSL List.

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CAS# 10043-52-4 is listed on Canada's DSL List.

**Canadian WHMIS Classifications**

No information found

**Canadian Ingredient Disclosure List**

CAS# 77-86-1 is not listed on Canada's Ingredient Disclosure List.

CAS# Not available is not listed on Canada's Ingredient Disclosure List.

CAS# 7647-14-5 is not listed on Canada's Ingredient Disclosure List.

CAS# 9002-04-4 is not listed on Canada's Ingredient Disclosure List.

CAS# 10043-52-4 is not listed on Canada's Ingredient Disclosure List.

**Exposure Limits****Section 16 - Other Information**

Color information has been

MSDS Creation Date: September 2, 1997

Revision Date: March 22, 2006

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