

# Safety Data Sheet - SDS

according to Regulation (EC) No.1907/2006

## Bovine Thrombin

### 1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND COMPANY.

#### 1.1 Product Identifiers.

**Product name** : **Bovine Thrombin**  
**Product codes** : BTUA290 (20U ), BTUB291 (50U), BTUC292 (200U), BTUD293 (1000U)  
**Index Number** : 647-014-00-9  
**REACH No.** : Not required due to exemption from registration (below the annual tonnage for downstream user).  
**CAS Number** : 9002-04-4.

**1.2 Identified uses:** Factor IIa. A blood coagulation testing reagent. Facilitates conversion of fibrinogen into fibrin within the common pathway of the coagulation cascade.

**1.3 Company** : **Diagnostic Reagents Ltd.**



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UK.

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### 2. HAZARDS IDENTIFICATION.

#### 2.1 Classification of the substance or mixture according to regulation (EC) No 1272/2008.

Eye Irritation (Category 2), H319  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335.  
Skin Irritation (Category 2), H315.  
Respiratory sensitisation (Category 1), H334.

A full list of the relevant H-Statements mentioned in this section are listed in section 16

#### 2.2 Label Elements :

Labelling according to Regulation (EC) No 1272/2008.

**Pictogram**



**Signal Word** Danger

**Hazard Statement(s)**  
H315 Causes skin irritation.

H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.

**Precautionary Statement(s)**

P261	Avoid breathing dust.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

**2.3 Other hazards** None.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS.

#### 3.1 Substances.

Synonyms : Factor IIa.

Component	Classification	Concentration
<b>Thrombin - Bovine</b> CAS No. 9002-04-4 EC No. 232-648-7 Index No. 647-014-00-9	Eye Irrit. 2; STOT SE 3; Skin Irrit. Resp. Sens. 1; H315, H319, H334, H335	20-1000 IU/mL

### 4. FIRST AID MEASURES.

#### 4.1 Description of first aid measures.

##### General Advice.

Consult a physician. Show this SDS to the doctor in attendance.

##### If inhaled.

Move the person into fresh air. If not breathing give artificial respiration. Consult a physician.

##### In case of skin contact.

Wash the area with soap and plenty of water. If a reaction occurs consult a physician.

##### In case of eye contact.

Rinse the eye thoroughly with plenty of water for at least 15 minutes and consult a physician.

##### If swallowed.

Rinse mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed.

Bovine thrombin is involved in blood clotting. There are currently no chemical, physical and toxicological properties that have been thoroughly investigated.

#### 4.3 Indication of any immediate medical attention and special treatment needed.

No data available.

### 5. FIRE FIGHTING MEASURES.

#### 5.1 Extinguishing media.

##### Suitable extinguishing media.

Water Spray, alcohol-resistant foam, dry chemical or Carbon dioxide.

#### 5.2 Special Hazards arising from the substance or mixture.

Nature of decomposition products not known.

**5.3 Advice for firefighters.**

When entering any fire, please ensure the correct protective clothing and self contained breathing apparatus are worn.

**5.4 Further information.**

No data available.

**6. ACCIDENTAL RELEASE MEASURES.****6.1 Personal Precautions, protective equipment and emergency procedures.**

Use personal protective equipment. Avoid dust formation. Avoid inhaling dust. Ensure adequate ventilation. Evacuate personnel to a safe area if necessary.

**6.2 Environmental precautions.**

Do not allow product to enter the drains.

**6.3 Methods and materials for containment and cleaning up.**

Sweep up and shovel, or vacuum, creating as little dust as possible. Once contained, hold in suitable, closed container for disposal.

**6.4 Reference to other sections.**

For disposal see section 13.

**7. HANDLING AND STORAGE.****7.1 Precautions for safe handling.**

Avoid skin and eye contact. Avoid dust and aerosol formation. Provide appropriate exhaust ventilation at places where dust is formed.

**7.2 Conditions for safe storage, including any incompatibilities.**

Store according to manufacturers instruction in a cool place. Keep container tightly closed when storing. The recommended storage temperature is -20°C.

**7.3 Specific end use(s).**

Apart from those uses mentioned in section 1.2 no other specific uses are stipulated.

**8. EXPOSURE CONTROL / PERSONAL PROTECTION.****8.1 Control Parameters.****Components with workplace control parameters.**

Contains no substances with occupational exposure limits.

**8.2 Exposure controls.****Appropriate engineering controls.**

Handle in accordance with good laboratory practice. Wash hands before breaks and immediately after handling this product.

**8.3 Personal protective equipment.****Eye/face protection.**

A face shield or safety glasses. Use equipment tested and approved by government standards such as EN 166 (EU) or NIOSH (US).

**Skin protection.**

Handle with gloves. Gloves should be thoroughly checked before use. Use correct glove removal technique to avoid skin contact with this product. Dispose of any used gloves in accordance with applicable laws and Good Laboratory Practice (GLP).

Wash and dry hands thoroughly after use.

Protective gloves should adhere to the specifications detailed in EU directive 89/686/EEC and the derived standard EN374. A experienced Safety Officer should conduct a thorough assessment of any procedure using this product before proceeding.

**Body Protection.**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or overalls as appropriate, to prevent skin contact. The extend of the protective equipment must be selected according to the concentration and the amount of substance being used.

**Respiratory protection.**

For nuisance exposures use type N95 (US) or type P1 (EU EN143). Use respirators and components tested and approved under appropriate government standards such as NIOSH

**9. PHYSICAL AND CHEMICAL PROPERTIES.****9.1 Information on basic chemical and physical properties.**

<b>a) Physical state:</b>	Lyophilised cake	<b>k) pH:</b>	Not available.
<b>b) Colour:</b>	White	<b>l) Kinematic viscosity:</b>	Not available.
<b>c) Odour:</b>	Odourless	<b>m) Solubility:</b>	Not available.
<b>d) Melting/freezing point:</b>	Not available	<b>n) Partition coefficient:</b>	Not available.
<b>e) Boiling point:</b>	Not available	<b>o) Vapour pressure</b>	Not available.
<b>f) Flammability:</b>	Not available	<b>p) Density</b>	Not available.
<b>g) Lower and upper explosion limit:</b>	Not available	<b>q) Relative vapour density</b>	Not available.
<b>h) Flash point:</b>	Not available	<b>r) Particle characteristics</b>	Not available.
<b>i) Auto-ignition temperature:</b>	Not available		
<b>j) Decomposition</b>	Not available		
<b>Other information:</b>	Not available.		

**10. STABILITY AND REACTIVITY.****10.1 Reactivity**

No data available

**10.2 Chemical Stability**

No data available.

**10.3 Possibility of hazardous reactions**

No data available.

**10.4 Conditions to avoid:**

No data available.

**10.5 Materials to avoid:**

Strong oxidising agents..

**10.6 Hazardous decomposition products**

Other decomposition products - no data available.

**11. TOXICOLOGICAL INFORMATION.****11.1 Information on toxicological effects****Acute toxicity:**

LD50 Dermal - mouse - > 3,000 mg/kg.

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

**Skin corrosion/irritation**

No data available.

**Serious eye damage/irritation.**

No data available.

**Respiratory or skin sensitisation.**

No data available.

**Germ cell mutagenicity.**

Genotoxicity in vitro - mouse - fibroblast.  
Morphological transformation.

Genotoxicity in vitro - Chicken - Embryo  
Unscheduled DNA synthesis.

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

**Reproductive toxicity.**

No data available.

**Specific target organ toxicity - single exposure.**

No data available.

**Specific target organ toxicity - repeated exposure.**

No data available.

**Aspiration hazard.**

No data available.

**Potential health effects.****Inhalation**

May be harmful if inhaled. Causes respiratory tract irritation.

**Ingestion**

May be harmful if swallowed.

**Skin**

May be harmful if absorbed through skin. Causes skin irritation.

**Eyes**

Causes serious eye irritation.

**Signs and Symptoms of Exposure.**

Bovine thrombin is involved in blood clotting. There are currently no chemical, physical and toxicological properties that have been thoroughly investigated.

**Additional information.**

RTECS: XO8950000.

**12. ECOLOGICAL INFORMATION****12.1 Toxicity.**

No data available.

**12.2 Persistence/Biodegradability.**

No data available.

**12.3 Bioaccumulation potential.**

No data available.

**12.4 Mobility in soil.**

No data available.

**12.5 Other adverse effects.**

No data available.

**13. DISPOSAL CONSIDERATIONS.****13.1 Waste Treatment methods.****Product.**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator with an afterburner and scrubber.

**Contaminated Packaging.**

Dispose of as an unused product.

**14. TRANSPORT INFORMATION.****RID/ADR:**

UK Road Class:	-	UK Road Packaging Group:	-
UN No. (Road):	-	RID Class No.	-
Proper Shipping Name:	Not dangerous goods.	RID Pack Group:	-
		CEFIC TEC-R No.	-
Hazchem Code:	-	ADR Class:	-
ADR Class No.	-	ADR Label No:	-
ADR Pack Group:	-		

**IMDG:**

IMDG Class:	-	IMDG Pack Group:	-
UN No. (Sea):	-	MFAG:	-
Proper Shipping Name:	Not dangerous goods.	IMDG Page No:	-
EMS:	-		
Marine pollutant:	-		

**IATA:**

Air Class:	-	Air Pack Group:	-
UN Air No.	-		
Proper Shipping Name:	Not dangerous goods.		

**14.6 Special precautions for user.**

None.

**15. REGULATORY INFORMATION.**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture.**

no data available

**15.2 Chemical Safety Assessment.**

A chemical safety assessment has not been carried out for this product.

**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3.**

Eye Irrit.	Eye irritation.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335	May cause respiratory irritation.
Resp. Sens	Respiratory sensitisation.
Skin Irrit.	Skin irritation.
STOT SE	Specific target organ toxicity - single exposure.

**Further Information**

Cattle used in the production of thrombin from bovine plasma have passed both ante and post mortem inspection and have been passed fit for human consumption. Normal precautions should still be observed for potentially infectious material. All the above information is based on current knowledge at the time of publication and follows stipulated regulations. Diagnostic Reagents Ltd is not responsible for any errors or lack of information given in the above literature. The information contained in this SDS does not constitute an assessment of work place risks and is intended only as a guide to the appropriate precautionary handling of a material by a trained person using this product. The customer should undertake a formal COSHH assessment which should ensure that employees are aware of the hazards / precautions detailed in this SDS. The COSHH assessment should ensure that the recommended safety equipment is available and where applicable, that the exposure limits are not being exceeded. Diagnostic Reagents Ltd will not therefore be responsible for damages resulting from use of or reliance upon this information.