Sekisui Diagnostics, LLC
500 West Avenue, Stamford, CT 06902
Tel. (203) 602-7777 Fax (203) 602-2221

MATERIAL SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

1.1 Product Name: Human Urokinase (uPA)

1.2 Product REF: 128

1.3 Configuration: Single vial

1.4 Use of Product: For Research Use Only

1.5 Company

Manufacturer:
Sekisui Diagnostics, LLC
500 West Avenue
Stamford, CT 06902 USA
Tel: (203) 602 7777
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Distributor EU:
American Diagnostica GmbH
Kaplangeisse 35
Pfungstadt 64319 Germany
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Email: info@amdiag.de

2. HAZARDS IDENTIFICATION

2.1 Classification: Xn, R22

2.2 Potential Health and Environmental Effects

Skin Exposure: May cause irritation.

Eye Exposure: May be harmful.

Inhalation Exposure: May be harmful.

Ingestion: Harmful if swallowed.

Environmental Exposure: None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Reagent/Component	Chemical Name	CAS No.	EINECS No.	Concentration, w/v, %
Human Urokinase	Human Urokinase	9039-53-6	232-917-9	< 0.1%
	Tris	77-86-1	201-064-4	0.24%
	Sodium Chloride	7647-14-5	231-598-3	0.88%
	Polyethylene Glycol	25322-68-3	500-038-2	0.1%
	Collagen	9007-34-5	232-697-4	1.0%
	Mannitol	69-65-8	200-711-8	3.6%

4. FIRST AID MEASURES

Skin Exposure: In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing. Seek medical attention if adverse symptoms appear.

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. Seek medical attention if adverse symptoms appear.

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Inhalation Exposure:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, administer oxygen and seek medical attention.
Ingestion:	If swallowed, wash out mouth with water provided person is conscious. Seek medical attention if adverse symptoms appear.

5. FIRE FIGHTING MEASURES

Flammability:	Solutions are non-flammable. Boxing, instruction papers and powdered reagents are flammable.
Suitable Extinguishing Media:	Use extinguishing media appropriate to the surrounding fire conditions, such as carbon dioxide, dry chemical powder, foam or water spray.
Equipment for fire fighting:	Wear self-contained breathing apparatus and protective clothing appropriate for fighting a fire involving chemical materials to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Wear respirator, chemical safety goggles, rubber boots and heavy rubber gloves. In case of skin contact, flush with copious amounts of water and remove contaminated clothing.
Environmental Precautions:	Do not let the product enter the drainage system.
Methods For Cleaning Up:	Sweep up dry product, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7. HANDLING AND STORAGE

7.1 Handling

Handling Procedure:	Avoid inhalation. Avoid contact with eyes, skin and clothing. Avoid prolonged exposure. Provide adequate ventilation in all work areas.
Safety:	The source material for this product has been found to be non-reactive for Hepatitis B Surface Antigen (HBsAg), Hepatitis C Virus (HCV) and Human Immunodeficiency Virus Type 1 and Type 2 (HIV-1, HIV-2) using registered methods. As no known test method can provide complete assurance that products derived from human specimens will not transmit HBsAg, HCV, HIV-1, HIV-2 or other blood-borne pathogens, this reagent should be handled as recommended for any potentially infectious human specimen. The source material for some reagents are of animal origin. As no known test method can provide complete assurance that products derived from animal specimens will not transmit blood-borne pathogens, this reagent should be handled as recommended for any potentially infectious human specimen.
Hygienic Practice:	Wash hands with soap and water following use.

7.2 Storage

Container:	Keep container tightly closed and labeled with the name of the product.
Recommended Temperature:	2°-8°C for the lyophilized product.

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure Limit Values

TWA: 10 mg/m^3 for Polyethylene Glycol[1]

8.2 Personal Protection

Respiratory Protection:	Respirator protection is not required. Where protection is desired, use type N95 (US) or type P1 (EN 143) dust masks or. For higher level protection, use NIOSH (USA) or CEN (EU) approved respirators and filters.
Eye Protection:	Chemical safety goggles.
Hand Protection:	Compatible chemical resistant gloves. Use proper glove removal technique to avoid skin contact. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.
Skin Protection:	Compatible chemical resistant gloves and other protective clothing as required to prevent skin contact.
General Hygiene Practices:	Wash promptly if skin comes into contact with product. Wash thoroughly after handling. Remove any clothing that comes into contact with the product. Do not smoke or eat in the work environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

Property	Urokinase Reagent
Appearance	White, lyophilized powder
Odor	N/A
pH	7.4 (upon reconstitution)
Freezing Point	N/A
Vapor Pressure	N/A
Specific Gravity	N/A
Solubility	water soluble
Evaporation Rate	N/A
Viscosity	N/A
Surface Tension	N/A
Boiling Point	N/A
Melting Point	N/A
Flash Point	N/A
Lower Explosive Limit	N/A
Upper Explosive Limit	N/A
Flammability	N/A
Autoignition Temp.	N/A

N/A = not available

10. STABILITY AND REACTIVITY

10.1 Stability: The product is stable until the expiration date stated on its label when properly stored at 2°-8°C.

10.2 Conditions To Avoid: Keep away from heat.

10.3 Materials To Avoid: Strong acids, strong reducing agents, strong oxidizing reagents.

10.4 Hazardous Decomposition Products: Hazardous decomposition products due to combustion may include carbon monoxide, carbon dioxide, and nitrogen oxides.

11. TOXICOLOGICAL INFORMATION

11.1 Acute Toxicity

Chemical Name	Oral LD_{50}	Inhalation LD_{50}	Dermal LD_{50}	OtherLD_{50}
Human Urokinase	NA	NA	NA	NA
Tris	5,900 mg/kg, rat	NA	NA	NA
Sodium Chloride	NA	42,000 mg/m^3	>10,000 mg/kg, rabbit	NA
Polyethylene Glycol	>50,000 mg/kg, rat	NA	> 20,000 mg/kg, rabbit	NA
Collagen	NA	NA	NA	NA
Mannitol	13,500 mg/kg, rat	200-711-8	3.6%	

NA – Not Available

11.2 Irritation

Skin: No Data Available

Eye: No Data Available

Inhalation: No Data Available

11.3 Sensitization

Skin: No Data Available

Inhalation: No Data Available

11.4 Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.

11.4 Mutagenicity

No data available

11.4 Teratogenicity

No data available

For the other components of this product, the health effects noted above are based on the extrapolation of data on the pure product ingredients. To the best of our knowledge, no health effects have been identified for the product mixture under normal conditions of use, although the health effects of the product have not been thoroughly investigated.

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12. ECOLOGICAL INFORMATION

12.1	**Toxicity:**	No Data Available
12.2	**Mobility:**	No Data Available
12.3	**Persistence and degradability degradability:**	No Data Available
12.4	**Bioaccumulative potential:**	No Data Available
12.5	**PBT assessment:**	No Data Available
12.6	**Other adverse effects:**	No Data Available

13. DISPOSAL CONSIDERATIONS

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 and laws.

14. TRANSPORT INFORMATION

DOT (US):	Not classified as dangerous goods
IATA:/ICAO	Not classified as dangerous goods
ADR (road):	Not classified as dangerous goods
RID (rail):	Not classified as dangerous goods

15. REGULATORY INFORMATION

This product is classified and labeled in accordance with Directive 1999/45/EC and the following modifications. The health hazard classification has been determined based upon the composition and hazard data of each ingredient. Physical and health hazard information on the reagent mixture has not been determined. Any physical and health hazard information noted is based on a) evaluation of data of the pure ingredient and b) the concentration of each ingredient.

Hazard Classification

EC Symbol:	Xn
Indication of Danger:	Harmful.
Risk Code:	R22
Safety Code:	S24/25, S46

OSHA Hazards:	No known OSHA hazards.
SARA 302 Components:	No chemicals in this product are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components:	This product does not contain any chemical components with known CAS numbers that exceed the threshold reporting levels by SARA Title III, Section 313.
SARA 311/312 Hazards:	No SARA hazards.
Californai Prop 65 Components:	This product does not contain any chemicals known to the State of California to cause cancer, birth defects or any other reproductive harm.

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16. OTHER INFORMATION

The information supplied in this Material Safety Data Sheet represents the data and best information available on the date of preparation. It is provided to allow for the proper and safe use, storage, transport and disposal of the product. It is not to be considered as a warranty, guarantee or specification of the product quality. It is related to the materials specifically indicated and does not apply if these are used in combination with other materials or during processes not indicated in the text of this safety data sheet.

Sekisui Diagnostics, LLC and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

References:

1. American Industrial Hygiene Association® (AIHA) Workplace Environmental Exposure Limits (WEEL) 2011 value