SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: Soluble Human Fibrin
Catalog number: FIB-S

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

Identified uses: Laboratory chemicals, for research use only
Uses advised against: Not for clinical or diagnostic use

1.3. Details of the supplier of the safety data sheet

Molecular Innovations, Inc.
46430 Peary Court, Novi, MI 48377, USA
Tel: 248-896-0142
Fax: 248-896-0148

1.4. Emergency telephone number

Emergency number: 248-896-0142

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable liquids (Category 3), H226
Skin corrosion (Category 1A), H314
Serious eye damage (Category 1), H318
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. GHS label elements, including precautionary statements

Signal word: Danger

Hazard statement(s)
H226: Flammable liquid and vapor.
H314: Causes severe skin burns and eye damage.

Precautionary statements (Prevention)
P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233: Keep container tightly closed.
P240: Ground/bond container and receiving equipment.
P241: Use explosion-proof electrical/ ventilating/ lighting equipment.
P242: Use only non-sparking tools.
P243: Take precautionary measures against static discharge.
P264: Wash skin thoroughly after handling.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

Precautionary statements (Response)
P301 + P330 + P331: If swallowed rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353: If on skin or hair take off immediately all contaminated clothing. Rinse skin with water or shower.
P304 + P340 + P310: If inhaled remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor.
P305 + P351 + P338 + P310: If in eyes rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.
P363: Wash contaminated clothing before reuse.
P370 + P378: In case of fire use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Precautionary statements (Storage and disposal)
P403 + P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.
P501: Dispose of contents/container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS
Lachrymator.

SECTION 3: Composition/information on ingredients
3.2. Mixtures

Name	CAS No.	EC No.	Concentration	Classification
Fibrinogen	9001-32-5	232-598-6	<1%	Not classified
Acetic acid	64-19-7	200-580-7	<1%	Flam. Liq. 3; Skin Corr. 1A; Eye Dam. 1; H226, H314, H318; Concentration limits: 10-< 25%: Eye Irrit. 2; H319; 10-<25%: Skin Irrit. 2; H315; 25-<90%: Skin Corr. 1B; H314; >= 90%: Skin Corr. 1A; H314; >= 90%: Flam. Liq. 3; H226

No ingredients are hazardous according to OSHA criteria.
No components need to be disclosed according to the applicable regulations.

SECTION 4: First aid measures
4.1. Description of first aid measures
If inhaled
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact
Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

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

4.2. Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3. Indication of any immediate medical attention and special treatment needed
In all cases of doubt, or when symptoms persist, seek medical attention.

SECTION 5: Firefighting measures
5.1. Extinguishing media
Suitable extinguishing media: Use dry powder or dry sand.
Unsuitable extinguishing media: Do NOT use water jet.

5.2. Special hazards arising from the substance or mixture
Carbon oxides.
Combustible.

5.3. Advice for firefighters
Use normal individual fire protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.

5.4. Further information
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures
6.1. Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

6.2. Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3. Methods and material for containment and cleaning up
Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations.

6.4. Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage
7.1. Precautions for safe handling
Avoid inhalation of vapor or mist. Keep away from sources of ignition -No smoking.Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Moisture sensitive. Storage class (TRGS 510): 3: Flammable liquids.

7.3. Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure controls/personal protection
8.1. Control parameters
Components with workplace control parameters

Name	CAS No.	Value	Control Parameters	Basis
Acetic Acid	64-19-7	TWA	10 ppm	USA. ACGIH Threshold Limit Values (TLV)
		STEL	15 ppm	USA. ACGIH Threshold Limit Values (TLV)
		TWA	10 ppm 25 mg/m3	USA. NIOSH Recommended Exposure Limits
		ST	15 ppm 37 mg/m3	USA. NIOSH Recommended Exposure Limits
		TWA	10 ppm 25 mg/m3	USA. Occupational Exposure Limits (OSHA) -Table Z-1 Limits for Air Contaminants
		PEL	10 ppm 25 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		STEL	15 ppm 37 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		C	40 ppm	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

8.2. Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection: Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Control of environmental exposure: Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Frozen liquid
Color: Clear
Odor: Stinging
Odor threshold: No data available
pH: No data available
Melting point: No data available
Freezing point: No data available
Boiling point: No data available
Flash point: No data available
Evaporation rate: No data available
Decomposition temperature: No data available
Flammability (solid, gas): No data available
Vapor pressure: No data available
Relative vapor density: No data available
Relative density: No data available
Solubility: Water soluble
Viscosity: No data available
Explosive properties: No data available
Oxidizing properties: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under recommended storage conditions.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
No data available.

10.4. Conditions to avoid
Heat, flames and sparks.

10.5. Incompatible materials
Oxidizing agents, Soluble carbonates and phosphates, Hydroxides, Metals, Peroxides, Permanganates, for example potassium permanganate, Amines, Alcohols, Nitric acid.

10.6. Hazardous decomposition products
Hazardous decomposition products formed under fire conditions: Carbon oxides
Other decomposition products: No data available
In the event of fire: see section 5

SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity
LD50 Oral – Rat – 3,310 mg/kg
LC50 Inhalation – Mouse – 4 h – 2,819 mg/l

Skin corrosion/irritation
Skin – Rabbit – 4 h – Causes burns

Serious eye damage/eye irritation
Skin – Rabbit – 4 h – Causes burns

Respiratory or skin sensitization
No data available.

Germ cell mutagenicity
Ames test – Salmonella typhimurium – Result: negative
Mutagenicity (mammal cell test): chromosome aberration – Chinese hamster ovary cells – Result: negative
Mutagenicity (micronucleus test) – Rat – male and female – Bone marrow – Result: negative

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.
ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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.

Additional information
To the best of our knowledge the product does not present any particular risk under normal conditions of use. The chemical, physical, and toxicological properties have not been thoroughly investigated.
Safety Data Sheet in accordance with Regulation (EC) No. 1907/2006, as amended.

SECTION 12: Ecological information

12.1. Toxicity
Presents no specific risk for the environment in small amounts.

12.2 Persistence and degradability
No data available.

12.3 Bioaccumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

12.6 Other adverse effects
No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

Not dangerous goods in accordance with DOT (US) / ADR / RID / ADNR / IMDG / ICAO / IATA

14.1 UN number
2789

14.2 UN proper shipping name
Acetic acid

14.3 Transport hazard class(es)
8

14.4 Packaging group
II

14.5 Reportable quantity
5000 lbs

14.6 Special precautions for user
Poison inhalation hazard: No

14.7 Transport in bulk according to Annex II of Marpol73/78 and the IBC Code
No data available.

SECTION 15: Regulatory information
15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
United States Restrictions
SARA 302 Components: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA 313 Components: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
SARA 311/312 Hazards: Fire Hazard, Acute Health Hazard, Chronic Health Hazard.
Massachusetts Right To Know Components: No components are subject to the Massachusetts Right to Know Act.
Pennsylvania Right To Know Components: Acetic acid, CAS No. 64-19-7.
New Jersey Right To Know Components: No components are subject to the New Jersey Right to Know Act.
California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

European Union Restrictions
Act No. 350/2011 Coll., to regulate chemical substances and chemical mixtures and to amend some statutes, as amended. Implemented regulations to Act No. 350/2011 Coll., as amended The Waste Act as amended. Government Decree No. 361/2007 Coll., to regulate the conditions of occupational health and safety, as amended. Regulation of the European Parliament and the Council (EC) No. 1907/2006 (REACH). Regulation of the European Parliament and the Council (EC) No. 1272/2008 (CLP). Commission Regulation (EU) No. 453/2010. Directives 67/548/EEC as amended and 1999/45/EC as amended.

15.2. Chemical safety assessment
Chemical safety assessment has not been carried out.

SECTION 16: Other information
Full text of H-Statements referred to under sections 2 and 3.
Eye Dam: Serious eye damage.
Flam Liq: Flammable liquid.
H226: Flammable liquid and vapor.
H314: Causes severe skin burns and eye damage.
H318: Causes serious eye damage.
H319: Causes serious eye irritation.
Skin Corr: Skin corrosion.
Skin Irrit: Skin irritation.

Hazardous Material Information System (HMIS) Rating
Health Hazard: 3
Chronic Health Hazard:
Flammability: 2
Physical Hazard: 0

National Fire Protection Association (NFPA) Rating
Health Hazard: 3
Fire Hazard: 2
Reactivity Hazard: 0