

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifiers

Product Name: Recombinant Human/Bovine Gremlin 1, Animal-Free Protein
Catalog Number: QK015
Components: Acetonitrile TFA – Liquid
Acetonitrile TFA – Lyophilized

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

Identified Uses:

1.3 Details of the supplier of the safety data sheet

Company:	R&D Systems, Inc. a Bio-Techne Brand	Telephone:	1-800-343-7475
	614 McKinley Place NE	Fax:	1-612-656-4400
	Minneapolis, MN 55413, USA	Internet:	www.rndsystems.com
		Email address:	info@bio-techne.com
Canada:	21 Canmotor Ave	Telephone:	1-855-668-8722
	Toronto, ON M8Z 4E6	Fax:	902-827-6402
		Email address:	Canada.inquiries@bio-techne.com
United Kingdom:	19 Barton Lane	Telephone:	44 (0)1235 529449
	Abingdon Science Park	Fax:	44 (0)1235 533420
	Abingdon, OX14 3NB	Email address:	info.emea@bio-techne.com
China:	1193 Changning Road	Telephone:	86-400-821-3475
	Unit 1901, Raffles Changning Office	Fax:	76 (021) 52371001
	Shanghai, China	Email address:	techsupport.cn@bio-techne.com

1.4 Emergency Telephone Number

For chemical emergency, spill, leak, fire, exposure, or accident call CHEMTREC day or night: Within U.S. 1-800-262-8200 Worldwide 1-703-741-5500
Bio-Techne Tel: US: 612-379-2956 or 800-343-7475 / Europe: +44(0)1235-529449 / China 86-400-821-3475

2. HAZARDS IDENTIFICATION

See additional safety data sheets.

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifiers

Product Name: Acetonitrile TFA – Liquid

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

Identified Uses: For research use only.

1.3 Details of the supplier of the safety data sheet

Company:	R&D Systems, Inc. a Bio-Techne Brand 614 McKinley Place NE Minneapolis, MN 55413, USA	Telephone:	1-800-343-7475
		Fax:	1-612-656-4400
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2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [GHS/CLP] or 29 CFR 1910.1200 [OSHA].

Flammable liquids – Category 2
Acute Toxicity, oral – Category 4
Acute Toxicity, dermal – Category 4
Eye Irritation – Category 2A
Acute Toxicity, inhalation – Category 4

2.2 Label Elements

Labeling according to Regulation (EC) No 1272/2008 [GHS/CLP] or 29 CFR 1910.1200 [OSHA].

Pictogram(s):



Signal Word:

Danger

Hazard Statement(s):

H225	Highly flammable liquid and vapor.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

Precautionary Statement(s):

P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting/...] equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges
P261	Avoid breathing dust/fumes/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only in well-ventilated areas.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/... if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P312 Call poison center/doctor if you feel unwell.
P321 Specific treatment (see Section 4).
P330 Rinse mouth.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P370+P378 In Case of Fire: Use dry chemical, CO₂, or alcohol resistant foam.

2.3 Other Hazards

This substance/mixture does not meet the PBT/vPvB criteria of REACH regulation, annex XIII.

The substance/mixture does not contain substance(s) equal to or greater than 0.1% by weight that are present in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Component	CAS No.	EC No.	Index No.	Classification	Concentration
Acetonitrile Solution	75-05-8	200-835-2		H225, H302, H312, H319, H332	30 – 40 %
Trifluoroacetic Acid	76-05-1	200-929-3			= 0.1 %
Water	7732-18-5	231-791-2			60 – 70 %

4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice

Consult a doctor and show this safety data sheet.

If Inhaled

Acetonitrile Solution - Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

Trifluoroacetic Acid - Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.

In Case of Skin Contact

Acetonitrile Solution - Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Trifluoroacetic Acid - Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor.

In Case of Eye Contact

Acetonitrile Solution - Flush with copious amounts of water for at least 15 minutes. Remove contact lenses if present and easy to do so. If eye irritation persists, consult a doctor.

Trifluoroacetic Acid - Flush with copious amounts of water for at least 15 minutes. Consult a doctor.

If Swallowed

Acetonitrile Solution - Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Trifluoroacetic Acid - Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of immediate medical attention and special treatment needed

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Suitable extinguishing media

Acetonitrile Solution – Dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

Trifluoroacetic Acid – Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Acetonitrile Solution – Use water spray to cool unopened containers.

5.2 Special hazards arising from the substance or mixture

Acetonitrile Solution – Emits toxic fumes under fire conditions. Carbon dioxides.

Trifluoroacetic Acid – In combustion, may emit toxic fumes.

5.3 Precautions for fire-fighters

Acetonitrile Solution – Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Trifluoroacetic Acid – Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Acetonitrile Solution – Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate all personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Trifluoroacetic Acid – Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust or gas.

6.2 Environmental precautions

Acetonitrile Solution – Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Trifluoroacetic Acid – Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Acetonitrile Solution – Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations.

Trifluoroacetic Acid – Cover spillage with suitable absorbent material. Hold all material for appropriate disposal as described under section 13 of SDS.

6.4 Reference to other sections

For required PPE see section 8. For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Acetonitrile Solution – Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Trifluoroacetic Acid – Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

7.2 Conditions for safe storage, including any incompatibilities

Acetonitrile Solution – Store in cool, well-ventilated area. Keep cool. Keep container tightly sealed until ready to use.

Trifluoroacetic Acid – Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use.

7.3 Specific end uses

Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace and control parameters

Acetonitrile Solution – STEL: 102 mg/m³ 15 minutes. TWA: 68 mg/m³ 8 hours.

Trifluoroacetic Acid – Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate Engineering Controls

Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.

8.3 Personal Protective Equipment

Eye / Face Protection

Use appropriate safety glasses.

Skin Protection

Use appropriate chemical resistant gloves (minimum requirement use standard BS EN 374:2003). Gloves should be inspected before use. Wash and dry hands thoroughly after handling.

Body Protection

Wear appropriate protective clothing.

Respiratory Protection

If risk assessment indicates necessary, use a suitable respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical State	Liquid	Vapor Pressure	No data available.
Appearance	Colorless liquid	Vapor Density	No data available.
Odor	Little to none	Relative Density	No data available.
Odor Threshold	No data available.	Solubility	Soluble
pH	2.0 ± 0.3	Partition Coefficient	No data available.
Melting / Freezing Point	No data available.	Auto ignition Temperature	No data available.
Boiling Point / Range	No data available.	Decomposition Temperature	No data available.
Flash Point	No data available.	Viscosity	No data available.
Evaporation Rate	No data available.	Explosive Properties	No data available.
Flammability (Solid, Gas)	No data available.	Oxidizing Properties	No data available.
Upper / Lower Flammability or Explosive Limits	No data available.		

9.2 Other safety information

No data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under recommended transport or storage conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

10.4 Conditions to avoid

Acetonitrile Solution – Avoid all sources of ignition (heat, spark, flame and direct sunlight).
Trifluoroacetic acid – Heat, moisture.

10.5 Incompatible materials

Acetonitrile Solution – Strong acids/alkalis, strong oxidizing/reducing agents. May attach plastic, rubbers and coatings.
Trifluoroacetic Acid – Strong acids/alkalis, strong oxidizing/reducing agents.

10.6 Hazardous decomposition products

Acetonitrile Solution – In combustion may emit toxic fumes such as hydrogen cyanide (hydrocyanide acid), carbon dioxide, carbon monoxide or oxides of nitrogen.
Trifluoroacetic Acid – Strong acids/alkalis, strong oxidizing/reducing agents.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

Acetonitrile Solution – LD50 rat oral – Dose: 2460 mg/kg; Dermal LD50 rabbit – Dose: >2000 mg/kg, Inhalation: LD50 rat – Dose: 12.68 mg/L with 8 hours of exposure
Trifluoroacetic Acid – Classified based on available data.

Skin Corrosion/Irritation

Acetonitrile Solution – Mild irritant rabbit.
Trifluoroacetic Acid – Classified based on available data.

Serious Eye Damage / Irritation

Acetonitrile Solution – Moderate irritant rabbit
Trifluoroacetic Acid – Classified based on available data.

Respiratory or Skin Sensitization

Classified based on available data.

Germ Cell Mutagenicity

Classified based on available data.

Carcinogenicity

Classified based on available data.

Reproductive Toxicity

Classified based on available data.

Specific Target Organ Toxicity – Single Exposure

Classified based on available data.

Specific Target Organ Toxicity – Repeated Exposure

Classified based on available data.

Aspiration Hazard

Classified based on available data.

Symptoms / Routes of Exposure

Inhalation:	There may be irritation of the throat with a feeling of tightness in the chest.
Ingestion:	There may be irritation of the throat.
Skin:	Acetonitrile Solution – Adverse symptoms may include the following: irritation, redness. Trifluoroacetic Acid – There may be mild irritation at the site of contact.
Eyes:	Acetonitrile Solution – Adverse symptoms may include the following: pain or irritation, watering, redness. Trifluoroacetic Acid – There may be irritation and redness.
Delayed/Immediate Effects:	No known symptoms.

Additional Information

Classified based on available data

11.2 Information On Other Hazards

Based on available data this substance/the substances in this mixture not listed below do(es) not have endocrine disrupting properties with respect to humans as it does not meet the criteria set out in section A of Regulation (EU) No 2017/2100 and/or the criteria set out in Regulation (EU) 2018/605, or the substance(s) are not required to be disclosed.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Acetonitrile Solution – Acute LC50 3600000 ug/L Fresh water Daphnia – Daphnia magna - <24 hours. Acute LC50 >1500 mg/L Fresh water Fish – Pimephales promelas – (Juvenile) – 0.2 to 0.5 g at 96 hours.
Trifluoroacetic Acid – No data available.

12.2 Persistence and degradability

No data available.

12.3 Bio accumulative potential

Acetonitrile Solution – Potential low.
Trifluoroacetic Acid – No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Does not contain any PBT/vPvB substances \geq 0.1% assessed in accordance with REACH Annex XIII.

12.6 Endocrine disrupting properties

Based on available data this substance/the substances in this mixture not listed below do(es) not have endocrine disrupting properties with respect to non-target organisms as it does not meet the criteria set out in section B of Regulation (EU) No 2017/2100 and/or the criteria set out in Regulation (EU) 2018/605, or the substance(s) are not required to be disclosed.

12.7 Other adverse effects

No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Acetonitrile Solution – Dispose of waste in accordance to applicable national, regional, or local regulations.

Trifluoroacetic Acid – Transfer to a suitable container and arrange for collection by specialized disposal company in accordance with national, regional, or local legislation.

Contaminated Packaging

Dispose of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with national, regional, or local legislation.

14. TRANSPORT INFORMATION

Classified according to the criteria of the UN Model Regulations as reflected in the IMDG Code, ADR, RID, DOT and IATA.

14.1 UN-Number

Acetonitrile Solution – UN1993

Trifluoroacetic Acid – Does not meet the criteria for classification as hazardous for transport.

14.2 UN proper shipping name

Acetonitrile Solution – Flammable liquids, n.o.s

Trifluoroacetic Acid – Does not meet the criteria for classification as hazardous for transport.

14.3 Transport hazard class(es)

Acetonitrile Solution - 3

Trifluoroacetic Acid – Does not meet the criteria for classification as hazardous for transport.

14.4 Packaging group

Acetonitrile Solution - II

Trifluoroacetic Acid – Does not meet the criteria for classification as hazardous for transport.

14.5 Environmental hazards

Does not meet the criteria for classification as hazardous for transport.

14.6 Special precautions for users

Does not meet the criteria for classification as hazardous for transport.

14.7 Additional Transport Information

Does not meet the criteria for classification as hazardous for transport.

15. REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006 and 29 CFR 1910.1200 [OSHA]

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

TSCA (Toxic Substances Control Act): Not applicable.

SARA 313: Not applicable.

SARA 311/312: Not applicable.

CERCLA Reportable Quantity: Not applicable.

California Proposition 65: Not applicable.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been made for this product.

16. OTHER INFORMATION

Further Information

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This company shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

End of safety data sheet.

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifiers

Product Name: Acetonitrile TFA – Lyophilized

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

Identified Uses: For research use only.

1.3 Details of the supplier of the safety data sheet

Company:	R&D Systems, Inc. a Bio-Techne Brand 614 McKinley Place NE Minneapolis, MN 55413, USA	Telephone:	1-800-343-7475
		Fax:	1-612-656-4400
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2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

This substance does not meet the classification criteria according to Regulation (EC) No 1272/2008 [GHS/CLP] or 29 CFR 1910.1200 [OSHA].

2.2 Label Elements

This product does not need to be labeled in accordance with Regulation (EC) No 1272/2008 [GHS/CLP] or 29 CFR 1910.1200 [OSHA].

2.3 Other Hazards

This substance/mixture does not meet the PBT/vPvB criteria of REACH regulation, annex XIII.

The substance/mixture does not contain substance(s) equal to or greater than 0.1% by weight that are present in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

This product does not contain hazardous chemicals at concentrations of 1% or greater. This product is not known to contain carcinogens at concentrations of 0.1% or greater.

4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice

Consult a doctor and show this safety data sheet.

If Inhaled

Remove to fresh air and monitor breathing. If breathing becomes difficult, give oxygen. If breathing stops, give artificial respiration. Consult a doctor.

In Case of Skin Contact

Immediately wash skin with copious amounts of soap and water for at least 15 minutes. Remove contaminated clothing and shoes and wash before reuse. Consult a doctor.

In Case of Eye Contact

Flush with copious amounts of water for at least 15 minutes. Consult a doctor.

If Swallowed

Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Consult a doctor.

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of immediate medical attention and special treatment needed

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

In combustion, may emit toxic fumes.

5.3 Precautions for fire-fighters

Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust or gas.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover spillage with suitable absorbent material. Hold all material for appropriate disposal as described under section 13 of SDS.

6.4 Reference to other sections

For required PPE see section 8. For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use.

7.3 Specific end uses

Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace and control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate Engineering Controls

Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.

8.3 Personal Protective Equipment

Eye / Face Protection

Use appropriate safety glasses.

Skin Protection

Use appropriate chemical resistant gloves (minimum requirement use standard BS EN 374:2003). Gloves should be inspected before use. Wash and dry hands thoroughly after handling.

Body Protection

Wear appropriate protective clothing.

Respiratory Protection

If risk assessment indicates necessary, use a suitable respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical State	Solid or liquid	Vapor Pressure	No data available.
Appearance	Lyophilized white powder or clear liquid	Vapor Density	No data available.
Odor	Little to none.	Relative Density	No data available.

Odor Threshold	No data available.	Solubility	No data available.
pH	No data available.	Partition Coefficient	No data available.
Melting / Freezing Point	No data available.	Auto ignition Temperature	Product is not self-igniting.
Boiling Point / Range	No data available.	Decomposition Temperature	No data available.
Flash Point	No data available.	Viscosity	No data available.
Evaporation Rate	No data available.	Explosive Properties	No data available.
Flammability (Solid, Gas)	No data available.	Oxidizing Properties	No data available.
Upper / Lower Flammability or Explosive Limits	No data available.		

9.2 Other safety information
No data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

Stable under recommended transport or storage conditions.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

10.4 Conditions to avoid

Heat, moisture.

10.5 Incompatible materials

Strong acids/alkalis, strong oxidizing/reducing agents.

10.6 Hazardous decomposition products

Strong acids/alkalis, strong oxidizing/reducing agents.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

Classified based on available data.

Skin Corrosion/Irritation

Classified based on available data.

Serious Eye Damage / Irritation

Classified based on available data.

Respiratory or Skin Sensitization

Classified based on available data.

Germ Cell Mutagenicity

Classified based on available data.

Carcinogenicity

Classified based on available data.

Reproductive Toxicity

Classified based on available data.

Specific Target Organ Toxicity – Single Exposure

Classified based on available data.

Specific Target Organ Toxicity – Repeated Exposure

May cause eye burns.

Aspiration Hazard

Classified based on available data.

Symptoms / Routes of Exposure

Inhalation:	There may be irritation of the throat with a feeling of tightness in the chest.
Ingestion:	There may be irritation of the throat.
Skin:	There may be mild irritation at the site of contact.
Eyes:	May cause eye burns.
Delayed/Immediate Effects:	No known symptoms.

Additional Information

Classified based on available data

11.2 Information On Other Hazards

Based on available data this substance/the substances in this mixture not listed below do(es) not have endocrine disrupting properties with respect to humans as it does not meet the criteria set out in section A of Regulation (EU) No 2017/2100 and/or the criteria set out in Regulation (EU) 2018/605, or the substance(s) are not required to be disclosed.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available.

12.2 Persistence and degradability

No data available.

12.3 Bio accumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Does not contain any PBT/vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII.

12.6 Endocrine disrupting properties

Based on available data this substance/the substances in this mixture not listed below do(es) not have endocrine disrupting properties with respect to non-target organisms as it does not meet the criteria set out in section B of Regulation (EU) No 2017/2100 and/or the criteria set out in Regulation (EU) 2018/605, or the substance(s) are not required to be disclosed.

12.7 Other adverse effects

No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Transfer to a suitable container and arrange for collection by specialized disposal company in accordance with national, regional, or local legislation.

Contaminated Packaging

Dispose of in a regulated landfill site or other method for hazardous or toxic wastes in accordance with national, regional, or local legislation.

14. TRANSPORT INFORMATION

Classified according to the criteria of the UN Model Regulations as reflected in the IMDG Code, ADR, RID, DOT and IATA.

14.1 UN-Number

Does not meet the criteria for classification as hazardous for transport.

14.2 UN proper shipping name

Does not meet the criteria for classification as hazardous for transport.

14.3 Transport hazard class(es)

Does not meet the criteria for classification as hazardous for transport.

14.4 Packaging group

Does not meet the criteria for classification as hazardous for transport.

14.5 Environmental hazards

Does not meet the criteria for classification as hazardous for transport.

14.6 Additional Transport Information

Does not meet the criteria for classification as hazardous for transport.

15. REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006. COMMISSION REGULATION (EU) 2020/878 amending Annex II to Regulation (EC) No 1907/2006 and 29 CFR 1910.1200 [OSHA]

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

TSCA (Toxic Substances Control Act): Not applicable.

SARA 313: Not applicable.

SARA 311/312: Not applicable.

CERCLA Reportable Quantity: Not applicable.

California Proposition 65: Not applicable.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been made for this product.

16. OTHER INFORMATION

Further Information

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This company shall not be held liable for any damage resulting from handling or from contact with the above product. This material must only be handled by suitably qualified experienced scientists in appropriately equipped and authorized facilities. The above information is believed to be correct but does not purport to be all inclusive and should be used as a guide only for experienced personnel. Always consult your safety advisor and follow appropriate local and national safety legislature. The absence of warning must not, under any circumstance, be taken to mean that no hazard exists.

End of safety data sheet.