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

1.1 Product Identifiers

Product Name: Rat TNF-alpha Quantikine ELISA Kit

Catalog Number: RTA00

Components:

Assay Diluent (contains Proclin 300 Mixture = .005%)
Calibrator Diluent (contains Proclin 300 Mixture = .005%)
Color Reagent A
Color Reagent B (contains N,N-Dimethylformamide and Tetramethylbenzidine)
Conjugate (contains Proclin 300 Mixture = .005%)
Control (contains Sodium azide < .1%)
Standard (contains Sodium azide < .1%)
Stop Solution (contains Hydrochloric Acid < 5%)
Wash Buffer Concentrate (contains Proclin 300 Mixture = .025%)

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	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:	461 North Service Rd West	Telephone:	1-855-668-8722
	Unit B37	Fax:	902-827-6402
	Oakville, ON L6M 2V5	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

1.4 Emergency Telephone Number

Emergency Tel: US: 612-379-2956 or 800-343-7475 / Europe: +44(0)1235-529449

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: Assay Diluent (contains Proclin 300 Mixture = .005%)

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	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:	461 North Service Rd West	Telephone:	1-855-668-8722
	Unit B37	Fax:	902-827-6402
	Oakville, ON L6M 2V5	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

1.4 Emergency Telephone Number

For chemical emergency, spill, leak, fire, exposure, or accident call CHEMTREC day or night:
Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887 (collect calls accepted).

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]

Sensibilisatie, huid - Categorie 1

2.2 Label Elements

Labeling according to Regulation (EC) No 1272/2008 [GHS/CLP]

Pictogram(s):

Signal Word: Waarschuwing

Hazard Statement(s):

H317	Kan een allergische huidreactie veroorzaken.

Precautionary Statement(s):

P261	Inademing van stof / rook / gas / nevel / damp / spuitnevel vermijden.
P272	Verontreinigde werkkleding mag de werkruimte niet verlaten.
P280	Beschermende handschoenen/beschermende kleding/oogbescherming/gelaatsbescherming dragen.
P302+352	BIJ CONTACT MET DE HUID: met veel water en zeep wassen.
P333+313	Bij huidirritatie of uitslag: een arts raadplegen.
P362+P364	Verontreinigde kleding uittrekken en wassen alvorens deze opnieuw te gebruiken.

2.3 Other Hazards - None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Component	CAS No.	EC No.	Index No.	Classification	Conc.
Proclin 300 Mixture = .005% (active ingredients)	96118-96-6			H317	
Mixture of 5-Chloro-2-Methyl-4-Isothiazolin-3-One (26172-55-4) and 2-Methyl-4-Isothiazolin-3-One (2682-20-4)	55965-84-9		613-167-00-5		= 0.005 %

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. ACCIDENTIAL 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 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.

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

Appearance	Lyophilized white powder or clear liquid	**Vapor Pressure**	No data available.
Odor	Little to none	**Vapor Density**	No data available.
Odor Threshold	No data available.	**Relative Density**	No data available.
pH	No data available.	**Solubility(ies)**	No data available.
Melting / Freezing Point	No data available.	**Partition Coefficient**	No data available.
Boiling Point / Range	No data available.	**Autoignition Temperature**	No data available.
Flash Point	No data available.	**Decomposition Temperature**	No data available.
Evaporation Rate	No data available.	**Viscosity**	No data available.
Flammability (Solid, Gas)	No data available.	**Explosive Properties**	No data available.
Upper / Lower Flammability or Explosive Limits	No data available.	**Oxidizing Properties**	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 oxidising/reducing agents.

10.6 Hazardous decomposition products

Strong acids/alkalis, strong oxidising/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

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:	There may be mild irritation at the site of contact.
Eyes:	There may be irritation and redness.
Delayed / Immediate Effects:	No known symptoms.

Additional Information

Classified based on available data

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available.

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

No data available.

12.6 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 Special precautions for users

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

Additional Transport Information

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

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

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 :
Proclin 300 Mixture = .005% 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: Calibrator Diluent (contains Proclin 300 Mixture = .005%)

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	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:	461 North Service Rd West	Telephone:	1-855-668-8722
	Unit B37	Fax:	902-827-6402
	Oakville, ON L6M 2V5	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

1.4 Emergency Telephone Number

For chemical emergency, spill, leak, fire, exposure, or accident call CHEMTREC day or night:
Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887 (collect calls accepted).

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]

Sensibilisatie, huid - Categorie 1

2.2 Label Elements

Labeling according to Regulation (EC) No 1272/2008 [GHS/CLP]

Pictogram(s):

Signal Word: Waarschuwing

Hazard Statement(s):

H317	Kan een allergische huidreactie veroorzaken.

Precautionary Statement(s):

P261	Inademing van stof / rook / gas / nevel / damp / spuitnevel vermijden.
P272	Verontreinigde werkkleding mag de werkruimte niet verlaten.
P280	Beschermende handschoenen/beschermende kleding/oogbescherming/gelaatsbescherming dragen.
P302+352	BIJ CONTACT MET DE HUID: met veel water en zeep wassen.
P333+313	Bij huidirritatie of uitslag: een arts raadplegen.
P362+P364	Verontreinigde kleding uittrekken en wassen alvorens deze opnieuw te gebruiken.

2.3 Other Hazards - None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Component	CAS No.	EC No.	Index No.	Classification	Conc.
Proclin 300 Mixture = .005% (active ingredients)	96118-96-6			H317	
Mixture of 5-Chloro-2-Methyl-4-Isothiazolin-3-One (26172-55-4) and 2-Methyl-4-Isothiazolin-3-One (2682-20-4)	55965-84-9		613-167-00-5		= 0.005 %

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. ACCIDENTIAL 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 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.

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

Appearance	Lyophilized white powder or clear liquid	**Vapor Pressure**	No data available.
Odor	Little to none	**Vapor Density**	No data available.
Odor Threshold	No data available.	**Relative Density**	No data available.
pH	No data available.	**Solubility(ies)**	No data available.
Melting / Freezing Point	No data available.	**Partition Coefficient**	No data available.
Boiling Point / Range	No data available.	**Autoignition Temperature**	No data available.
Flash Point	No data available.	**Decomposition Temperature**	No data available.
Evaporation Rate	No data available.	**Viscosity**	No data available.
Flammability (Solid, Gas)	No data available.	**Explosive Properties**	No data available.
Upper / Lower Flammability or Explosive Limits	No data available.	**Oxidizing Properties**	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 oxidising/reducing agents.

10.6 Hazardous decomposition products

Strong acids/alkalis, strong oxidising/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

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:	There may be mild irritation at the site of contact.
Eyes:	There may be irritation and redness.
Delayed / Immediate Effects:	No known symptoms.

Additional Information

Classified based on available data

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available.

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

No data available.

12.6 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 Special precautions for users

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

Additional Transport Information

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

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

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 :
Proclin 300 Mixture = .005% Not applicable.

15.2 Chemical safety assessment

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

16. OTHER INFORMATION

Further Information

Copyright © 2018 R&D Systems, Inc. a Bio-Techne Brand

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: Color Reagent B (contains N,N-Dimethylformamide and Tetramethylbenzidine)

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 614 McKinley Place NE Minneapolis, MN 55413, USA	Telephone: Fax: Internet: www.rndsystems.com Email address:	1-800-343-7475 1-612-656-4400 info@bio-techne.com
Canada:	461 North Service Rd West Unit B37 Oakville, ON L6M 2V5	Telephone: Fax: Email address:	1-855-668-8722 902-827-6402 Canada.inquiries@bio-techne.com
United Kingdom:	19 Barton Lane Abingdon Science Park Abingdon, OX14 3NB	Telephone: Fax: Email address:	44 (0)1235 529449 44 (0)1235 533420 info.emea@bio-techne.com

1.4 Emergency Telephone Number

For chemical emergency, spill, leak, fire, exposure, or accident call CHEMTREC day or night:
Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887 (collect calls accepted).

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]

Acute Toxicity, dermal - Category 4
Skin Corrosion/Irritation - Category 2
Serious eye damage/eye irritation - Category 2A
Acute Toxicity, inhalation - Category 4
Reproductive Toxicity - Category 1B

2.2 Label Elements

Labeling according to Regulation (EC) No 1272/2008 [GHS/CLP]

Pictogram(s):

Signal Word: Danger

Hazard Statement(s):

H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H360	May damage fertility or the unborn child

Precautionary Statement(s):

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P261	Avoid breathing dust/fumes/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P271	Use only in well-ventilated areas.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P304+340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+313	IF exposed or concerned: Get medical advice/ attention.
P312	Call poison center/doctor if you feel unwell.
P321	Specific treatment (see Section 4).
P332+313	If skin irritation occurs: Get medical advice/attention.
P337+313	If eye irritation persists: Get medical advice/attention.
P362+364	Take off contaminated clothing and wash it before reuse.

2.3 Other Hazards - None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Component	CAS No.	EC No.	Index No.	Classification	Conc.
N,N-Dimethylformamide	68-12-2	200-679-5		H312 , H315 , H319 , H332 , H360	< 25 %
Tetramethylbenzidine	54827-17-7	259-364-6	616-001-00-x	Not hazardous at this concentration.	< 0.05 %

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. ACCIDENTIAL 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

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

Tetramethylbenzidine - 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 control parameters

Occupational exposure limit values (Workplace Exposure Limits
List source(s): EU - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC UK - EH40/2005 Work Exposure Limits, Third edition. Published 2018. IRE - 2018 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority

Component	CAS No.	Agency	OELs	STEL
N, N – Dimethylformamide	68-12-2	OSHA (USA)	10 ppm 30 mg/m3	20 ppm 61 mg/m3
		European Union (IOELV)	5 ppm 15 mg/m3	10 ppm 30 mg/m3
		United Kingdom (UK)	5 ppm 15 mg/m3	10 ppm 30 mg/m3
		Ireland	5 ppm 15 mg/m3	10 ppm 30 mg/m3

Human Health Values

Relevant DNELs and other threshold Levels					
Component	**Endpoint**	**Threshold Level**	**Protection goal / route of exposure**	**Use in**	**Exposure time**
N, N – Dimethylformamide CAS No. 68-12-2	DNEL	6 mg/m3	Human, inhalation	Worker (industry)	Chronic – system effects
		1,1 mg/kg bw/day	Human, dermal	Worker (industry)	Chronic – systemic effects

Environmental Values

Component	Endpoint	Threshold Level	Organism	Environmental compartment	Exposure time
N, N – Dimethylformamide CAS No. 68-12-2	PNEC	44 mg/l	Aquatic organisms	Sewage treatment plant (STP)	Short-term (single instance)
		111 mg/kg	Aquatic organisms	Freshwater sediment	Short-term (single instance)
		11,1 mg/kg	Aquatic organisms	Marine sediment	Short-term (single instance)

Tetramethylbenzidine	54827-17-7	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 the facility is equipped with a safety shower and eye wash stations near point of use.

Personal Protective Equipment

Eye / Face Protection

Use safety goggles with side protection and face shield

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

Use appropriate respiratory protection if adequate exhaust ventilation is absent.

Environmental exposure controls

Prevent product from entering the drains. Dispose in accordance with federal, state and/or local regulations.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid	**Vapor Pressure**	No data available.
Odor	No data available.	**Vapor Density**	No data available.
Odor Threshold	No data available.	**Relative Density**	No data available.
pH	No data available.	**Solubility(ies)**	No data available.
Melting / Freezing Point	No data available.	**Partition Coefficient**	No data available.
Boiling Point / Range	No data available.	**Autoignition Temperature**	No data available.

Flash Point	No data available.	**Decomposition Temperature**	No data available.
Evaporation Rate	No data available.	**Viscosity**	No data available.
Flammability (Solid, Gas)	No data available.	**Explosive Properties**	No data available.
Upper / Lower Flammability or Explosive Limits	No data available.	**Oxidizing Properties**	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

N,N-Dimethylformamide - Heat, moisture.
Tetramethylbenzidine - Heat, flames, sparks.

10.5 Incompatible materials

N,N-Dimethylformamide - Strong acids/alkalis, strong oxidizing/reducing agents.
Tetramethylbenzidine - Strong oxidizing agents.

10.6 Hazardous decomposition products

Strong acids/alkalis, strong oxidizing/reducing agents.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

N,N-Dimethylformamide - LD50 - Oral, Rat - 2,800 mg/kg
Tetramethylbenzidine - No data available.

Skin Corrosion / Irritation

N,N-Dimethylformamide - Classified based on available data
Tetramethylbenzidine - No data available.

Serious Eye Damage / Irritation

N,N-Dimethylformamide - Classified based on available data
Tetramethylbenzidine - No data available.

Respiratory or Skin Sensitization

N,N-Dimethylformamide - Classified based on available data
Tetramethylbenzidine - No data available.

Germ Cell Mutagenicity

N,N-Dimethylformamide - Genotoxicity in vitro – mouse – lymphocyte, Mutation in mammalian somatic cells.
Tetramethylbenzidine - Classified based on available data

Carcinogenicity

N,N-Dimethylformamide - Classified based on available data
Tetramethylbenzidine - Not classified to its carcinogenicity based on its IARC, ACGIH, NTP or EPA classification at levels less than 0.1%.

Reproductive Toxicity

N,N-Dimethylformamide - May cause congenital malformation in the fetus. Presumed human reproductive toxicant.
Tetramethylbenzidine - Classified based on available data

Specific Target Organ Toxicity - Single Exposure

Classified based on available data

Specific Target Organ Toxicity - Repeated Exposure

N,N-Dimethylformamide - Classified based on available data
Tetramethylbenzidine - No data available.

Aspiration Hazard

N,N-Dimethylformamide - Classified based on available data
Tetramethylbenzidine - No data available.

Symptoms / Routes of Exposure

Inhalation:	N,N-Dimethylformamide - Toxic if inhaled. May cause respiratory tract irritation. Tetramethylbenzidine - There may be irritation of the throat with a feeling of tightness in the chest.
Ingestion:	N,N-Dimethylformamide - May be harmful if swallowed. Tetramethylbenzidine - There may be irritation of the throat.
Skin:	N,N-Dimethylformamide - May be harmful if absorbed through the skin. May cause skin irritation. Tetramethylbenzidine - There may be mild irritation at the site of contact.

Eyes:	N,N-Dimethylformamide - Causes serious eye irritation. Tetramethylbenzidine - There may be irritation and redness.
Delayed / Immediate Effects:	N,N-Dimethylformamide - No known symptoms. Tetramethylbenzidine - No data available.

Additional Information

N,N-Dimethylformamide - Classified based on available data
Tetramethylbenzidine - No data available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available.

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

No data available.

12.6 Other adverse effects

No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Dispose of contents/container in accordance with local/regional/national/international regulations.

Contaminated Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

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 Special precautions for users

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

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

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

TSCA (Toxic Substances Control Act):
N,N-Dimethylformamide – Is Listed.
Tetramethylbenzidine - Is Listed.

SARA 313 : Not applicable.

SARA 311/312 : Not applicable.

CERCLA Reportable Quantity : Not applicable.

California Proposition 65 :

N,N-Dimethylformamide — WARNING: This product can expose you to chemicals including N,N-Dimethylformamide, which is known to the State of California to cause cancer. For more information, go to www.P65Warnings.ca.gov.

National Inventories

Country Specific Chemical Inventory Status

	Australia (AIIC)	China (IECSC)	EU (ESCI)	EU REACH	Japan (CSCL-ENCS)	Korea (KECI)	New Zealand (NXIoC)	Philippines (PICCS)
N,N-Dimethylformamide	X	X	X	X	X	X	X	X

Legend: AIIC Australian Inventory of Industrial Chemicals; **CICR** Chemical Inventory and Control Regulation; **CSCL-ENCS** List of Existing and New Chemical Substances (CSCL-ENCS) DSL Domestic Substances List (DSL); **ECSI EC** Substance Inventory (EINECS, ELINCS, NLP); **IECSC** Inventory of Existing Chemical Substances Produced or Imported in China; **KECI** Korea Existing Chemicals Inventory; **NZIoC** New Zealand Inventory of Chemicals: **PICCS** Philippine Inventory of Chemicals and Chemical Substances (PICCS); **REACH Reg.** REACH registered substances; **TCSI** Taiwan Chemical Substance Inventory; **TSCA** Toxic Substance Control Act

Authorization / Restriction according to EU REACH

Component		REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
N,N-Dimethylformamide			Use is restricted under specified conditions. See link for additional details. **EU REACH Restriction - N,N-Dimethylformamide**	SVHC Candidate list - (Toxic to Reproduction, Article 57c)

National Regulations

Component	Germany – Water Classification (VwVwS)	Germany – TA – Luft Class
N,N-Dimethylformamide	WGK 2	-

15.2 Chemical safety assessment

An occupational exposure assessment for inhalation and dermal exposure was conducted, based on site specific conditions, and the results were found to be below the occupational exposure limits and derived no-effect limits (DNELs) for this product. Operational conditional and risk management measures described in this safety data sheet are determined adequate. Customers may conduct their own assessments to evaluate exposure within their operations and take appropriate risk management.

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: Conjugate (contains Proclin 300 Mixture = .005%)

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	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:	461 North Service Rd West	Telephone:	1-855-668-8722
	Unit B37	Fax:	902-827-6402
	Oakville, ON L6M 2V5	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

1.4 Emergency Telephone Number

For chemical emergency, spill, leak, fire, exposure, or accident call CHEMTREC day or night:
Within USA and Canada: 1-800-424-9300. Outside USA and Canada: +1 703-527-3887 (collect calls accepted).

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]

Sensitization, skin - Category 1

2.2 Label Elements

Labeling according to Regulation (EC) No 1272/2008 [GHS/CLP]

Pictogram(s):

Signal Word: Warning

Hazard Statement(s):

H317	May cause an allergic skin reaction.

Precautionary Statement(s):

P261	Avoid breathing dust/fumes/gas/mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+352	IF ON SKIN: Wash with plenty of soap and water.
P333+313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

2.3 Other Hazards - None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Component	CAS No.	EC No.	Index No.	Classification	Conc.
Proclin 300 Mixture = .005% (active ingredients)	96118-96-6			H317	
Mixture of 5-Chloro-2-Methyl-4-Isothiazolin-3-One (26172-55-4) and 2-Methyl-4-Isothiazolin-3-One (2682-20-4)	55965-84-9		613-167-00-5		= 0.005 %

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. ACCIDENTIAL 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 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.

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

Appearance	Lyophilized white powder or clear liquid	**Vapor Pressure**	No data available.
Odor	Little to none	**Vapor Density**	No data available.
Odor Threshold	No data available.	**Relative Density**	No data available.
pH	No data available.	**Solubility(ies)**	No data available.
Melting / Freezing Point	No data available.	**Partition Coefficient**	No data available.
Boiling Point / Range	No data available.	**Autoignition Temperature**	No data available.
Flash Point	No data available.	**Decomposition Temperature**	No data available.
Evaporation Rate	No data available.	**Viscosity**	No data available.
Flammability (Solid, Gas)	No data available.	**Explosive Properties**	No data available.
Upper / Lower Flammability or Explosive Limits	No data available.	**Oxidizing Properties**	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 oxidising/reducing agents.

10.6 Hazardous decomposition products

Strong acids/alkalis, strong oxidising/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

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:	There may be mild irritation at the site of contact.
Eyes:	There may be irritation and redness.
Delayed / Immediate Effects:	No known symptoms.

Additional Information

Classified based on available data

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available.

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

No data available.

12.6 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 Special precautions for users

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

Additional Transport Information

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

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

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 :
Proclin 300 Mixture = .005% 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: Control (contains Sodium azide < .1%)

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	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:	461 North Service Rd West	Telephone:	1-855-668-8722
	Unit B37	Fax:	902-827-6402
	Oakville, ON L6M 2V5	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

1.4 Emergency Telephone Number

Emergency Tel: US: 612-379-2956 or 800-343-7475 / Europe: +44(0)1235-529449

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

This substance does not meet the classification criteria of the EC Directives 67/548/EEC, 1999/45/EC, 1272/2008 [CLP], GHS or 29 CFR 1910.1200 [OSHA].

2.2 Label Elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 Other Hazards - None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Component	CAS No.	EC No.	Index No.	Classification	Conc.
Sodium Azide < 0.1%	26628-22-8	247-852-1	011-004-00-7	Not hazardous at this concentration.	< 0.1 %

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. ACCIDENTIAL 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 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.

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

Appearance	Lyophilized white powder or clear liquid	**Vapor Pressure**	No data available.
Odor	Little to none	**Vapor Density**	No data available.
Odor Threshold	No data available.	**Relative Density**	No data available.
pH	No data available.	**Solubility(ies)**	No data available.
Melting / Freezing Point	No data available.	**Partition Coefficient**	No data available.
Boiling Point / Range	No data available.	**Autoignition Temperature**	No data available.
Flash Point	No data available.	**Decomposition Temperature**	No data available.
Evaporation Rate	No data available.	**Viscosity**	No data available.
Flammability (Solid, Gas)	No data available.	**Explosive Properties**	No data available.
Upper / Lower Flammability or Explosive Limits	No data available.	**Oxidizing Properties**	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 oxidising/reducing agents.

10.6 Hazardous decomposition products

Strong acids/alkalis, strong oxidising/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

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:	There may be mild irritation at the site of contact.
Eyes:	There may be irritation and redness.
Delayed / Immediate Effects:	No known symptoms.

Additional Information

Classified based on available data

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available.

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

No data available.

12.6 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 Special precautions for users

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

Additional Transport Information

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

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

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

TSCA (Toxic Substances Control Act) : Listed
SARA 313 : Listed
SARA 311/312 : Listed
CERCLA Reportable Quantity : 1000 lbs.
California Proposition 65 :
Sodium Azide < 0.1% 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: Standard (contains Sodium azide < .1%)

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	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:	461 North Service Rd West	Telephone:	1-855-668-8722
	Unit B37	Fax:	902-827-6402
	Oakville, ON L6M 2V5	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

1.4 Emergency Telephone Number

Emergency Tel: US: 612-379-2956 or 800-343-7475 / Europe: +44(0)1235-529449

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

This substance does not meet the classification criteria of the EC Directives 67/548/EEC, 1999/45/EC, 1272/2008 [CLP], GHS or 29 CFR 1910.1200 [OSHA].

2.2 Label Elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 Other Hazards - None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Component	CAS No.	EC No.	Index No.	Classification	Conc.
Sodium Azide < 0.1%	26628-22-8	247-852-1	011-004-00-7	Not hazardous at this concentration.	< 0.1 %

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. ACCIDENTIAL 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 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.

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

Appearance	Lyophilized white powder or clear liquid	**Vapor Pressure**	No data available.
Odor	Little to none	**Vapor Density**	No data available.
Odor Threshold	No data available.	**Relative Density**	No data available.
pH	No data available.	**Solubility(ies)**	No data available.
Melting / Freezing Point	No data available.	**Partition Coefficient**	No data available.
Boiling Point / Range	No data available.	**Autoignition Temperature**	No data available.
Flash Point	No data available.	**Decomposition Temperature**	No data available.
Evaporation Rate	No data available.	**Viscosity**	No data available.
Flammability (Solid, Gas)	No data available.	**Explosive Properties**	No data available.
Upper / Lower Flammability or Explosive Limits	No data available.	**Oxidizing Properties**	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 oxidising/reducing agents.

10.6 Hazardous decomposition products

Strong acids/alkalis, strong oxidising/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

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:	There may be mild irritation at the site of contact.
Eyes:	There may be irritation and redness.
Delayed / Immediate Effects:	No known symptoms.

Additional Information

Classified based on available data

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available.

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

No data available.

12.6 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 Special precautions for users

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

Additional Transport Information

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

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

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

TSCA (Toxic Substances Control Act) : Listed
SARA 313 : Listed
SARA 311/312 : Listed
CERCLA Reportable Quantity : 1000 lbs.
California Proposition 65 :
Sodium Azide < 0.1% 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: Stop Solution (contains Hydrochloric Acid < 5%)

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	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:	461 North Service Rd West	Telephone:	1-855-668-8722
	Unit B37	Fax:	902-827-6402
	Oakville, ON L6M 2V5	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

1.4 Emergency Telephone Number

Emergency Tel: US: 612-379-2956 or 800-343-7475 / Europe: +44(0)1235-529449

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

This substance does not meet the classification criteria of the EC Directives 67/548/EEC, 1999/45/EC, 1272/2008 [CLP], GHS or 29 CFR 1910.1200 [OSHA].

2.2 Label Elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 Other Hazards - None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Component	CAS No.	EC No.	Index No.	Classification	Conc.
Hydrochloric Acid	7647-01-0	231-595-7	017-002-01-X		< 5 %
Water	7732-18-5	231-791-2			> 95 %

4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice

Consult a doctor and show this safety data sheet.

If Inhaled

Move person into fresh air. If not breathing, give artificial respiration. Consult a physician. Show this MSDS.

In Case of Skin Contact

Immediately take off contaminated clothing or shoes. Wash with plenty of soap and water. Consult a physician.

In Case of Eye Contact

Rinse thoroughly with water for at least 15 minutes and immediately consult a physician.

If Swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Immediately consult a physician. Show this MSDS.

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 or extinguishing measure that are appropriate to local circumstances and the surrounding environment.

This product does not burn.

5.2 Special hazards arising from the substance or mixture

Hydrogen chloride gas.

5.3 Precautions for fire-fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

6. ACCIDENTIAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use water spray or extinguishing measure that are appropriate to local circumstances and the surrounding environment.

6.2 Environmental precautions

Hydrogen chloride gas.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

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 of vapour or mist. Avoid contact with eyes and skin.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry place. 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. Do not store in metal containers.

7.3 Specific end uses

Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace control parameters

			Workplace Exposure Limits			
			8 Hour TWA		15 Min STEL	
Component	**CAS No.**	**Agency**	**ppm**	**mg.m^{-3}**	**ppm**	**mg.m^{-3}**
Hydrochloric Acid	7647-01-0	OSHA	5	7		
		EH40	5	8	10	15
		NIOSH	5	7		
		ACGIH	5	7		

8.2 Exposure controls

Appropriate Engineering Controls

Use with adequate ventilation including local extraction. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

Eye / Face Protection

Wear approved safety goggles.

Skin Protection

Handle with protective gloves, plastic or rubber. 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

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved. Wear suitable protective clothing as protection against splashing or contamination.

Respiratory Protection

In case of inadequate ventilation, use a suitable respirator. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Colorless liquid	**Vapor Pressure**	No data available.

Odor	Pungent	**Vapor Density**	No data available.
Odor Threshold	No data available.	**Relative Density**	No data available.
pH	~1 - 2	**Solubility(ies)**	Soluble
Melting / Freezing Point	No data available.	**Partition Coefficient**	No data available.
Boiling Point / Range	No data available.	**Autoignition Temperature**	No data available.
Flash Point	No data available.	**Decomposition Temperature**	No data available.
Evaporation Rate	No data available.	**Viscosity**	No data available.
Flammability (Solid, Gas)	No data available.	**Explosive Properties**	No data available.
Upper / Lower Flammability or Explosive Limits	No data available.	**Oxidizing Properties**	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

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid

Hydroxides, amines, alkalis and metals.

10.5 Incompatible materials

Hydroxides, amines, alkalis or metals such as copper, brass, zinc, potassium and sodium should be avoided.

10.6 Hazardous decomposition products

Products formed under fire conditions: toxic gases and vapors such as chlorine.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity

Irritating and corrosive to eyes, skin, and mucous membranes. Can cause severe burns upon contact while the vapors or mist are corrosive and can cause severe irritation or damage to the nose, throat and lungs. Ingestion of this product causes severe burns to the mouth, esophagus, and stomach, with consequent pain, nausea and vomiting.

Skin Corrosion / Irritation

Can cause burns of the skin and mucous membranes.

Serious Eye Damage / Irritation

Can cause burns, reduced vision or blindness.

Respiratory or Skin Sensitization

Can cause severe burns. Causes respiratory tract irritation.

Germ Cell Mutagenicity

No data available

Carcinogenicity

IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Hydrochloric acid).

Reproductive Toxicity

No data available

Specific Target Organ Toxicity - Single Exposure

3

Specific Target Organ Toxicity - Repeated Exposure

No data available

Aspiration Hazard

No data available

Symptoms / Routes of Exposure

Inhalation:	Inhalation of vapors can cause coughing, choking, inflammation of the nose, throat, and upper respiratory tract and in severe cases, pulmonary edema, circulatory failure, and death. / Long term exposure to vapors may cause erosion of teeth. Long term exposures seldom occur due to the corrosive properties of this acid.
Ingestion:	Harmful if swallowed. Irritating to mouth, throat and stomach.
Skin:	Causes skin irritation.
Eyes:	Causes eye burns.

Delayed / Immediate Effects:	Short-term exposure potential immediate effects: Exposure to vapor or aerosol produces inflammation and may cause ulceration of the nose, throat, and larynx; laryngeal spasm or. Eye and skin burns occur at high concentrations. Burns of the skin and mucous membranes result from contact with the solution. Short-term exposure potential delayed effects: Burns may progress to ulcerations and to keloid and retractile scarring. Pulmonary edema may occur on rare occasions. Chronic exposure by skin contact with aqueous solutions may result in dermatitis and photosensitization. Dental discoloration and erosion.

Additional Information

Classified based on available data

12. ECOLOGICAL INFORMATION

12.1 Toxicity

High concentrations may be toxic to aquatic life.

12.2 Persistence and degradability

When released into the soil, this material is not expected to degrade without pretreatment and may leach into groundwater.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

Liquid may leach into groundwater.

12.5 Results of PBT and vPvB assessment

No data available.

12.6 Other adverse effects

No data available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Dispose of waste in accordance to applicable national, regional, or local regulations. This material should be handled as hazardous waste by a licensed disposal company.

Contaminated Packaging

Dispose in the same manner as unused product.

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 Special precautions for users

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

Additional Transport Information

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

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

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

TSCA (Toxic Substances Control Act) : Listed
SARA 313 : Not Applicable
SARA 311/312 : Listed
CERCLA Reportable Quantity : 5,000 lbs.
California Proposition 65 :

Hydrochloric Acid	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: Wash Buffer Concentrate (contains Proclin 300 Mixture = .025%)

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	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:	461 North Service Rd West	Telephone:	1-855-668-8722
	Unit B37	Fax:	902-827-6402
	Oakville, ON L6M 2V5	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

1.4 Emergency Telephone Number

Emergency Tel: US: 612-379-2956 or 800-343-7475 / Europe: +44(0)1235-529449

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

This substance does not meet the classification criteria of the EC Directives 67/548/EEC, 1999/45/EC, 1272/2008 [CLP], GHS or 29 CFR 1910.1200 [OSHA].

2.2 Label Elements

The product does not need to be labelled in accordance with EC directives or respective national laws.

2.3 Other Hazards - None

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

Component	CAS No.	EC No.	Index No.	Classification	Conc.
Proclin 300 Mixture = .025% (active ingredients)	96118-96-6				
Mixture of 5-Chloro-2-Methyl-4-Isothiazolin-3-One (26172-55-4) and 2-Methyl-4-Isothiazolin-3-One (2682-20-4)	55965-84-9		613-167-00-5		= 0.025 %

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. ACCIDENTIAL 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 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.

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

Appearance	Lyophilized white powder or clear liquid	**Vapor Pressure**	No data available.
Odor	Little to none	**Vapor Density**	No data available.
Odor Threshold	No data available.	**Relative Density**	No data available.
pH	No data available.	**Solubility(ies)**	No data available.
Melting / Freezing Point	No data available.	**Partition Coefficient**	No data available.
Boiling Point / Range	No data available.	**Autoignition Temperature**	No data available.
Flash Point	No data available.	**Decomposition Temperature**	No data available.
Evaporation Rate	No data available.	**Viscosity**	No data available.

Flammability (Solid, Gas)	No data available.	**Explosive Properties**	No data available.
Upper / Lower Flammability or Explosive Limits	No data available.	**Oxidizing Properties**	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 oxidising/reducing agents.

10.6 Hazardous decomposition products

Strong acids/alkalis, strong oxidising/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

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:	There may be mild irritation at the site of contact.
Eyes:	There may be irritation and redness.
Delayed / Immediate Effects:	No known symptoms.

Additional Information

Classified based on available data

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No data available.

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

No data available.

12.6 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 Special precautions for users

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

Additional Transport Information

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

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

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 :
Proclin 300 Mixture = .025% 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