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

1.1 Product Identifiers

Product Name: Mouse VEGF Quantikine ELISA Kit, 2 Plate
Catalog Number: MMV00
Components: Mouse VEGF Standard (contains Proclin 300 Mixture)
Mouse VEGF Conjugate (contains Proclin 300 Mixture)
Mouse VEGF Control (contains Proclin 300 Mixture)
Assay Diluent RD1N (contains Proclin 300 Mixture)
Calibrator Diluent RD5 (contains Proclin 300 Mixture and Sodium Azide)
Wash Buffer Concentrate (contains Proclin 300 Mixture)
Color Reagent A
Color Reagent B (contains N,N-Dimethylformamide DMF)
Stop Solution (contains Hydrochloric Acid)

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

Identified Uses: For research use only

1.3 Details of the supplier of the safety data sheet

Company: R&D Systems, Inc. a Bio-Techne Brand
614 McKinley Place NE
Minneapolis, MN 55413, USA
Telephone: 1-800-343-7475
Fax: 1-612-656-4400
Internet: www.rndsystems.com
Email address: info@bio-techne.com

Canada: 461 North Service Rd West
Unit B37
Oakville, ON L6M 2V5
Telephone: 1-855-666-8722
Fax: 902-827-6402
Email address: Canada.inquiries@bio-techne.com

United Kingdom: 19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB
Telephone: 44 (0)1235 529449
Fax: 44 (0)123 533420
Email address: info.emea@bio-techne.com

China: 1193 Changning Road
Unit 1901, Raffles Changning Office
Shanghai, China
Telephone: 86-400-821-3475
Fax: 76 (021)52371001
Email address: techsupport.cn@bio-techne.com

1.4 Emergency Telephone Number

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

2. HAZARDS IDENTIFICATION

See additional safety data sheets.
1. **IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

1.1 Product Identifiers

Product Name: Mouse VEGF Standard (contains Proclin 300 Mixture)

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

<table>
<thead>
<tr>
<th>Company</th>
<th>Telephone</th>
<th>Fax</th>
<th>Email address</th>
</tr>
</thead>
<tbody>
<tr>
<td>R&amp;D Systems, Inc. a Bio-Techne Brand</td>
<td>1-800-343-7475</td>
<td></td>
<td><a href="mailto:info@bio-techne.com">info@bio-techne.com</a></td>
</tr>
<tr>
<td>614 McKinley Place NE Minneapolis, MN 55413, USA</td>
<td>1-612-656-4400</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Canada: 461 North Service Rd West Oakville, ON L6M 2V5 Telephone: 1-855-668-8722 Fax: 902-827-6402 Email address: Canada.inquiries@bio-techne.com

United Kingdom: 19 Barton Lane Abingdon Science Park Abingdon, OX14 3NB Telephone: 44 (0)1235 529449 Fax: 44 (0)1235 533420 Email address: info.emea@bio-techne.com

China: 1193 Changning Road Unit 1901, Raffles Changning Office Shanghai, China Telephone: 86-400-821-3475 Fax: 76 (021)52371001 Email address: techsupport.cn@bio-techne.com

1.4 Emergency Telephone Number

Emergency Tel: For chemical emergency, spill, leak, fire, exposure, or accident call CHEMTREC day or night: Within U.S. 1-800-262-8200 Worldwide 1-703-741-5500

Bio-Techne Tel: US: 612-379-2956 or 800-343-7475 / Europe: +44(0)1235-529449 / China 86-400-821-3475

2. **HAZARDS IDENTIFICATION**

2.1 Classification of the substance or mixture


Sensitization, skin - Category 1

2.2 Label Elements

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

Pictogram(s):

<table>
<thead>
<tr>
<th>Signal Word</th>
<th>Hazard Statement(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>!</td>
<td>May cause an allergic skin reaction.</td>
</tr>
</tbody>
</table>

Precautionary Statement(s):

P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.

P272 Contaminated work clothing should not be allowed out of the workplace.

P380 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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Index No.</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proclin 300 Mixture &lt;0.1% (active 96118-96-6 ingredients)</td>
<td></td>
<td></td>
<td>H317</td>
<td></td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice
Consult a doctor and show this safety data sheet.

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

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

In Case of Eye Contact
Flush with copious amounts of water for at least 15 minutes. Consult a doctor.

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

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of immediate medical attention and special treatment needed

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

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

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

5.2 Special hazards arising from the substance or mixture

In combustion, may emit toxic fumes.

5.3 Precautions for fire-fighters

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

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

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

6.4 Reference to other sections

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

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

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

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end uses

Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Lyophilized white powder or clear liquid</td>
<td>Vapor Pressure</td>
</tr>
<tr>
<td>Odor</td>
<td>Little to none</td>
<td>Vapor Density</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
<td>Relative Density</td>
</tr>
<tr>
<td>pH</td>
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</tr>
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<td>Boiling Point / Range</td>
<td>No data available</td>
<td>Auto ignition Temperature</td>
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<td>Flash Point</td>
<td>No data available</td>
<td>Decomposition Temperature</td>
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<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td>Viscosity</td>
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<td>Flammability (Solid, Gas)</td>
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<td>Explosive Properties</td>
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<tr>
<td>Upper / Lower Flammability or</td>
<td>No data available</td>
<td>Oxidizing Properties</td>
</tr>
<tr>
<td>Explosive Limits</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

9.2 Other safety information
No data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity
Stable under recommended transport or storage conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

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

10.4 Conditions to avoid
Heat, moisture.

10.5 Incompatible materials
Strong acids/alkalis, strong oxidizing/reducing agents.

10.6 Hazardous decomposition products
Strong acids/alkalis, strong oxidizing/reducing agents.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity
Classified based on available data.

Skin Corrosion / Irritation
Classified based on available data.

Serious Eye Damage / Irritation
Classified based on available data.

Respiratory or Skin Sensitization
Classified based on available data.

Germ Cell Mutagenicity
Classified based on available data.

Carcinogenicity
Classified based on available data.

Reproductive Toxicity
Classified based on available data.

Specific Target Organ Toxicity - Single Exposure
Classified based on available data.

Specific Target Organ Toxicity - Repeated Exposure
Aspiration Hazard

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

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available.

12.2 Persistence and degradability
No data available.

12.3 Bio accumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
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.

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: 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: Mouse VEGF Conjugate (contains Proclin 300 Mixture)

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
Minneapolis, MN 55413, USA
Fax: 1-612-656-4400
Internet: www.rndsystems.com
Email address: info@bio-techne.com

Canada: 461 North Service Rd West
Telephone: 1-855-868-8722
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

China: 1193 Changning Road
Telephone: 86-400-821-3475
Unit 1901, Raffles Changning Office
Fax: 76 (021)52371001
Shanghai, China
Email address: techsupport.cn@bio-techne.com

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

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
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/vapors/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P380 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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Index No.</th>
<th>Classification</th>
<th>Conc.</th>
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</thead>
<tbody>
<tr>
<td>Proclin 300 Mixture &lt;0.1% (active 96118-96-6 ingredients)</td>
<td></td>
<td></td>
<td></td>
<td>H317</td>
<td></td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice
Consult a doctor and show this safety data sheet.

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

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

In Case of Eye Contact
Flush with copious amounts of water for at least 15 minutes. Consult a doctor.

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

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of immediate medical attention and special treatment needed

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

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

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

5.2 Special hazards arising from the substance or mixture

In combustion, may emit toxic fumes.

5.3 Precautions for fire-fighters

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

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

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

6.4 Reference to other sections

For required PPEs 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Lyophilized white powder or clear liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Little to none</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point / Range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper / Lower Flammability or Explosive Limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2 Other safety information
No data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity
Stable under recommended transport or storage conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

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

10.4 Conditions to avoid
Heat, moisture.

10.5 Incompatible materials
Strong acids/alkalis, strong oxidizing/reducing agents.

10.6 Hazardous decomposition products
Strong acids/alkalis, strong oxidizing/reducing agents.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity
Classified based on available data.

Skin Corrosion / Irritation
Classified based on available data.

Serious Eye Damage / Irritation
Classified based on available data.

Respiratory or Skin Sensitization
Classified based on available data.

Germ Cell Mutagenicity
Classified based on available data.

Carcinogenicity
Classified based on available data.

Reproductive Toxicity
Classified based on available data.

Specific Target Organ Toxicity - Single Exposure
Classified based on available data.

Specific Target Organ Toxicity - Repeated Exposure
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

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available.

12.2 Persistence and degradability
No data available.

12.3 Bio accumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
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: 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: Assay Diluent RD1N (contains Proclin 300 Mixture)

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

Identified Uses: For research use only.

1.3 Details of the supplier of the safety data sheet

Company: R&D Systems, Inc. a Bio-Techne Brand
614 McKinley Place NE
Minneapolis, MN 55413, USA
Telephone: 1-800-343-7475
Fax: 1-612-656-4400
Internet: www.rndsystems.com
Email address: info@bio-techne.com

Canada: 461 North Service Rd West
Unit B37
Oakville, ON L6M 2V5
Telephone: 1-855-668-8722
Fax: 902-827-8402
Email address: Canada.inquiries@bio-techne.com

United Kingdom: 19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB
Telephone: 44 (0)1235 529449
Fax: 44 (0)1235 533420
Email address: info.emea@bio-techne.com

China: 1193 Changning Road
Unit 1901, Raffles Changning Office
Shanghai, China
Telephone: 86-800-821-3475
Fax: 76 (021)52371001
Email address: techsupport.cn@bio-techne.com

1.4 Emergency Telephone Number

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

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture


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):

May cause an allergic skin reaction.

Precautionary Statement(s):

P261 Avoid breathing dust/fumes/gas/mist/vapors/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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Index No.</th>
<th>Classification</th>
<th>Conc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proclin 300 Mixture</td>
<td>&lt;0.1%</td>
<td></td>
<td></td>
<td>H317</td>
<td></td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice
Consult a doctor and show this safety data sheet.

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

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

In Case of Eye Contact
Flush with copious amounts of water for at least 15 minutes. Consult a doctor.

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

4.2 Most important symptoms and effects, both acute and delayed
To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

4.3 Indication of immediate medical attention and special treatment needed
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
In combustion, may emit toxic fumes.

5.3 Precautions for fire-fighters
Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

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

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Cover spillage with suitable absorbent material. Hold all material for appropriate disposal as described under section 13 of SDS.

6.4 Reference to other sections
For required PPE see section 8. For disposal see section 13.

7. HANDLING AND STORAGE

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

7.2 Conditions for safe storage, including any incompatibilities
Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use.

7.3 Specific end uses
Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Components with workplace 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Lyophilized white powder or clear liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Little to none</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point / Range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper / Lower Flammability or</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive Limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto ignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

9.2 Other safety information
No data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity
Stable under recommended transport or storage conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

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

10.4 Conditions to avoid
Heat, moisture.

10.5 Incompatible materials
Strong acids/alkalis, strong oxidizing/reducing agents.

10.6 Hazardous decomposition products
Strong acids/alkalis, strong oxidizing/reducing agents.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity
Classified based on available data.

Skin Corrosion / Irritation
Classified based on available data.

Serious Eye Damage / Irritation
Classified based on available data.

Respiratory or Skin Sensitization
Classified based on available data.

Germ Cell Mutagenicity
Classified based on available data.

Carcinogenicity
Classified based on available data.

Reproductive Toxicity
Classified based on available data.

Specific Target Organ Toxicity - Single Exposure
Classified based on available data.

Specific Target Organ Toxicity - Repeated Exposure

14 of 41
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 Bio accumulative 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: Not applicable.
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: Calibrator Diluent RD5T (contains Proclin 300 Mixture)

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

Identified Uses: For research use only.

1.3 Details of the supplier of the safety data sheet

Company: R&D Systems, Inc. a Bio-Techne Brand
614 McKinley Place NE
Minneapolis, MN 55413, USA

Telephone: 1-800-343-7475
Fax: 1-612-656-4400
Internet: www.rndsystems.com
Email address: info@bio-techne.com

Canada: 461 North Service Rd West
Oakville, ON L6M 2V5

Telephone: 1-855-868-8722
Fax: 902-827-6402
Email address: Canada.inquiries@bio-techne.com

United Kingdom: 19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB

Telephone: 44 (0)1235 529449
Fax: 44 (0)1235 533420
Email address: info.emea@bio-techne.com

China: 1193 Changning Road
Unit 1901, Raffles Changning Office
Shanghai, China

Telephone: 86-400-821-3475
Fax: 76 (021)52371001
Email address: techsupport.cn@bio-techne.com

1.4 Emergency Telephone Number

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

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture


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/vapors/spray.

P272 Contaminated work clothing should not be allowed out of the workplace.

P380 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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Index No.</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proclin 300 Mixture &lt;0.1% (active 96118-96-6 ingredients)</td>
<td></td>
<td></td>
<td></td>
<td>H317</td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice
Consult a doctor and show this safety data sheet.

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

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

In Case of Eye Contact
Flush with copious amounts of water for at least 15 minutes. Consult a doctor.

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

4.2 Most important symptoms and effects, both acute and delayed
To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

4.3 Indication of immediate medical attention and special treatment needed
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
In combustion, may emit toxic fumes.

5.3 Precautions for fire-fighters
Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

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

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Cover spillage with suitable absorbent material. Hold all material for appropriate disposal as described under section 13 of SDS.

6.4 Reference to other sections
For required PPE see section 8. For disposal see section 13.

7. HANDLING AND STORAGE

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

7.2 Conditions for safe storage, including any incompatibilities
Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use.

7.3 Specific end uses
Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters
Components with workplace 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Lyophilized white powder or clear liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Little to none</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH</td>
<td>No data available.</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>No data available.</td>
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<tr>
<td>Boiling Point / Range</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available.</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Upper / Lower Flammability or Explosive Limits</td>
<td>No data available.</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available.</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No data available.</td>
</tr>
<tr>
<td>Relative Density</td>
<td>No data available.</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available.</td>
</tr>
<tr>
<td>Partition Coefficient</td>
<td>No data available.</td>
</tr>
<tr>
<td>Auto Ignition Temperature</td>
<td>No data available.</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available.</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>No data available.</td>
</tr>
</tbody>
</table>

9.2 Other safety information
No data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity
Stable under recommended transport or storage conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

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

10.4 Conditions to avoid
Heat, moisture.

10.5 Incompatible materials
Strong acids/alkalis, strong oxidizing/reducing agents.

10.6 Hazardous decomposition products
Strong acids/alkalis, strong oxidizing/reducing agents.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity
Classified based on available data.

Skin Corrosion / Irritation
Classified based on available data.

Serious Eye Damage / Irritation
Classified based on available data.

Respiratory or Skin Sensitization
Classified based on available data.

Germ Cell Mutagenicity
Classified based on available data.

Carcinogenicity
Classified based on available data.

Reproductive Toxicity
Classified based on available data.

Specific Target Organ Toxicity - Single Exposure
Classified based on available data.

Specific Target Organ Toxicity - Repeated Exposure
Aspiration Hazard

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

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available.

12.2 Persistence and degradability
No data available.

12.3 Bio accumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
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: 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: Calibrator Diluent RD5T (contains Sodium Azide < 0.1%)

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
614 McKinley Place NE
Minneapolis, MN 55413, USA
Telephone: 1-800-343-7475
Fax: 1-612-656-4400
Internet: www.rndsystems.com
Email address: info@bio-techne.com

Canada: 461 North Service Rd West
Unit B37
Oakville, ON L6M 2V5
Telephone: 1-855-668-8722
Fax: 902-827-6402
Email address: Canada.inquiries@bio-techne.com

United Kingdom: 19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB
Telephone: 44 (0)1235 529449
Fax: 44 (0)1235 533420
Email address: info.emea@bio-techne.com

China: 1193 Changning Road
Unit 1901, Raffles Changning Office
Shanghai, China
Telephone: 86-400-821-3475
Fax: 76 (021)52371001
Email address: techsupport.cn@bio-techne.com

1.4 Emergency Telephone Number

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

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

This substance does not meet the classification criteria of the EC Directives 67/548/EED, 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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Index No.</th>
<th>Classification</th>
<th>Conc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium Azide &lt; 0.1%</td>
<td>26628-22-8</td>
<td>247-852-1</td>
<td>011-004-00-7</td>
<td>Not hazardous at this concentration</td>
<td>&lt; 0.1%</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice
Consult a doctor and show this safety data sheet.

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

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

In Case of Eye Contact
Flush with copious amounts of water for at least 15 minutes. Consult a doctor.

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

4.2 Most important symptoms and effects, both acute and delayed
To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

4.3 Indication of immediate medical attention and special treatment needed
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

5. FIRE-FIGHTING MEASURES
5.1 Extinguishing Media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
In combustion, may emit toxic fumes.

5.3 Precautions for fire-fighters
Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures
Do not take action without suitable protective clothing - see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapors, mist, dust or gas.

6.2 Environmental precautions
Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up
Cover spillage with suitable absorbent material. Hold all material for appropriate disposal as described under section 13 of SDS.

6.4 Reference to other sections
For required PPE see section 8. For disposal see section 13.

7. HANDLING AND STORAGE
7.1 Precautions for safe handling
Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use.

7.3 Specific end uses
Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1 Control parameters
Components with workplace 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
<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Lyophilized white powder or clear liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Little to none</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH</td>
<td>No data available.</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>No data available.</td>
</tr>
<tr>
<td>Boiling Point / Range</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available.</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Upper / Lower Flammability or</td>
<td>No data available.</td>
</tr>
<tr>
<td>Explosive Limits</td>
<td>Oxidizing Properties</td>
</tr>
<tr>
<td>pH</td>
<td>No data available.</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>No data available.</td>
</tr>
<tr>
<td>Boiling Point / Range</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available.</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>No data available.</td>
</tr>
<tr>
<td>Upper / Lower Flammability or</td>
<td>No data available.</td>
</tr>
<tr>
<td>Explosive Limits</td>
<td>Oxidizing Properties</td>
</tr>
</tbody>
</table>

9.2 Other safety information

No data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity
Stable under recommended transport or storage conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

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

10.4 Conditions to avoid
Heat, moisture.

10.5 Incompatible materials
Strong acids/alkalis, strong oxidizing/reducing agents.

10.6 Hazardous decomposition products
Strong acids/alkalis, strong oxidizing/reducing agents.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity
Classified based on available data.

Skin Corrosion / Irritation
Classified based on available data.

Serious Eye Damage / Irritation
Classified based on available data.

Respiratory or Skin Sensitization
Classified based on available data.

Germ Cell Mutagenicity
Classified based on available data.

Carcinogenicity
Classified based on available data.

Reproductive Toxicity
Classified based on available data.

Specific Target Organ Toxicity - Single Exposure
Classified based on available data.

Specific Target Organ Toxicity - Repeated Exposure
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.
12. **ECOLOGICAL INFORMATION**

12.1 **Toxicity**
No data available.

12.2 **Persistence and degradability**
No data available.

12.3 **Bio accumulative potential**
No data available.

12.4 **Mobility in soil**
No data available.

12.5 **Results of PBT and vPvB assessment**
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:** 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: Wash Buffer Concentrate (contains Proclin 300 Mixture)

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified Uses: For research use only.

1.3 Details of the supplier of the safety data sheet
Company: R&D Systems, Inc. a Bio-Techne Brand
614 McKinley Place NE
Minneapolis, MN 55413, USA
Telephone: 1-800-343-7475
Fax: 1-612-656-4400
Internet: www.rndsystems.com
Email address: info@bio-techne.com

Canada: 461 North Service Rd West
Unit B37
Oakville, ON L6M 2V5
Telephone: 1-855-668-8722
Fax: 902-827-6402
Email address: Canada.inquiries@bio-techne.com

United Kingdom: 19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB
Telephone: 44 (0)1235 529449
Fax: 44 (0)1235 533420
Email address: info.emea@bio-techne.com

China: 1193 Changning Road
Unit 1901, Raffles Changning Office
Shanghai, China
Telephone: 86-400-821-3475
Fax: 76 (021)52371001
Email address: techsupport.cn@bio-techne.com

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

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
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/vapors/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P380 Wear protective gloves/protective clothing/eye protection/face protection.
P303+362 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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Index No.</th>
<th>Classification</th>
<th>Conc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proclin 300 Mixture &lt;0.1% (active 96118-96-6 ingredients)</td>
<td></td>
<td></td>
<td></td>
<td>H317</td>
<td></td>
</tr>
</tbody>
</table>
4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice
Consult a doctor and show this safety data sheet.

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

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

In Case of Eye Contact
Flush with copious amounts of water for at least 15 minutes. Consult a doctor.

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

4.2 Most important symptoms and effects, both acute and delayed

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

4.3 Indication of immediate medical attention and special treatment needed

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

5. FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

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

5.2 Special hazards arising from the substance or mixture

In combustion, may emit toxic fumes.

5.3 Precautions for fire-fighters

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

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

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

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

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

6.4 Reference to other sections

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

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

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

7.2 Conditions for safe storage, including any incompatibilities

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

7.3 Specific end uses

Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components with workplace 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Lyophilized white powder or clear liquid</td>
<td>Vapor Pressure: No data available.</td>
</tr>
<tr>
<td>Odor</td>
<td>Little to none</td>
<td>Vapor Density: No data available.</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available.</td>
<td>Relative Density: No data available.</td>
</tr>
<tr>
<td>pH</td>
<td>No data available.</td>
<td>Solubility: No data available.</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>No data available.</td>
<td>Partition Coefficient: No data available.</td>
</tr>
<tr>
<td>Boiling Point / Range</td>
<td>No data available.</td>
<td>Auto Ignition Temperature: No data available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available.</td>
<td>Decomposition Temperature: No data available.</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available.</td>
<td>Viscosity: No data available.</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>No data available.</td>
<td>Explosive Properties: No data available.</td>
</tr>
<tr>
<td>Upper / Lower Flammability or Explosive Limits</td>
<td>No data available.</td>
<td>Oxidizing Properties: No data available.</td>
</tr>
</tbody>
</table>

9.2 Other safety information
No data available.

10. STABILITY AND REACTIVITY

10.1 Reactivity
Stable under recommended transport or storage conditions.

10.2 Chemical stability
Stable under recommended storage conditions.

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

10.4 Conditions to avoid
Heat, moisture.

10.5 Incompatible materials
Strong acids/alkalis, strong oxidizing/reducing agents.

10.6 Hazardous decomposition products
Strong acids/alkalis, strong oxidizing/reducing agents.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity
Classified based on available data.

Skin Corrosion / Irritation
Classified based on available data.

Serious Eye Damage / Irritation
Classified based on available data.

Respiratory or Skin Sensitization
Classified based on available data.

Germ Cell Mutagenicity
Classified based on available data.

Carcinogenicity
Classified based on available data.

Reproductive Toxicity
Classified based on available data.

Specific Target Organ Toxicity - Single Exposure
Classified based on available data.

Specific Target Organ Toxicity - Repeated Exposure
No data available.
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

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available.

12.2 Persistence and degradability
No data available.

12.3 Bio accumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
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.

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: 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: 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: For research use only.

1.3 Details of the supplier of the safety data sheet

Company: R&D Systems, Inc. a Bio-Techne Brand

614 McKinley Place NE

Minneapolis, MN 55413, USA

Telephone: 1-800-343-7475

Fax: 1-612-656-4400

Internet: www.rndsystems.com

Email address: info@bio-techne.com

Canada: 461 North Service Rd West

Unit B37

Oakville, ON L6M 2V5

Telephone: 1-855-668-8722

Fax: 902-827-6402

Email address: Canada.inquiries@bio-techne.com

United Kingdom: 19 Barton Lane

Abitingdon Science Park

Abitingdon, OX14 3NB

Telephone: 44 (0)1235 529449

Fax: 44 (0)1235 533420

Email address: info.emea@bio-techne.com

China: 1193 Changning Road

Unit 1901, Raffles Changning Office

Shanghai, China

Telephone: 86-400-821-3475

Fax: 76 (021)52371001

Email address: techsupport.cn@bio-techne.com

1.4 Emergency Telephone Number

Contact CHEMTREC day or night: Within U.S. 1-800-262-8200 Worldwide 1-703-741-5500

Bio-Techne Tel: US: 612-379-2956 or 800-343-7475 / Europe: +44 (0)1235-529449 / China 86-400-821-3475

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture


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/vapors/spray.
P284 Wash hands thoroughly after handling.
P264 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).
If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>Index No.</th>
<th>Classification</th>
<th>Conc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N-Dimethylformamide</td>
<td>68-12-2</td>
<td>200-679-5</td>
<td></td>
<td>H312 , H315 , H319 , H332 , H360</td>
<td>&lt; 25 %</td>
</tr>
<tr>
<td>Tetramethylbenzidine</td>
<td>54827-17-7</td>
<td>259-364-6</td>
<td>616-001-00-x</td>
<td>Not hazardous at this concentration.</td>
<td>&lt; 0.05 %</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Agency</th>
<th>8 Hour TWA ppm</th>
<th>15 Min STEL ppm</th>
</tr>
</thead>
<tbody>
<tr>
<td>N,N-Dimethylformamide</td>
<td>68-12-2</td>
<td>OSHA</td>
<td>10</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>UK-EH20</td>
<td>30</td>
<td>61</td>
</tr>
<tr>
<td>Tetramethylbenzidine</td>
<td>54827-17-7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Contains no substances with occupational exposure limit values.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Liquid</th>
<th>Vapor Pressure</th>
<th>No data available.</th>
<th>No data available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid</td>
<td>Vapor Pressure</td>
<td>No data available.</td>
<td>No data available.</td>
</tr>
<tr>
<td>Odor</td>
<td>No data available.</td>
<td>Vapor Density</td>
<td>No data available.</td>
<td>No data available.</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available.</td>
<td>Relative Density</td>
<td>No data available.</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH</td>
<td>No data available.</td>
<td>Solubility</td>
<td>No data available.</td>
<td>No data available.</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>No data available.</td>
<td>Partition Coefficient</td>
<td>No data available.</td>
<td>No data available.</td>
</tr>
<tr>
<td>Boiling Point / Range</td>
<td>No data available.</td>
<td>Auto Ignition Temperature</td>
<td>No data available.</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available.</td>
<td>Decomposition Temperature</td>
<td>No data available.</td>
<td>No data available.</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available.</td>
<td>Viscosity</td>
<td>No data available.</td>
<td>No data available.</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>No data available.</td>
<td>Explosive Properties</td>
<td>No data available.</td>
<td>No data available.</td>
</tr>
<tr>
<td>Upper / Lower Flammability or</td>
<td>No data available.</td>
<td>Oxidizing Properties</td>
<td>No data available.</td>
<td>No data available.</td>
</tr>
<tr>
<td>Explosive Limits</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 - No data available.

**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 - No data available.

**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 Bio accumulative 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.

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### 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.

14.7 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):**
- N,N-Dimethylformamide - Not applicable.
- 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.]

Tetramethylbenzidine  
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: 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
614 McKinley Place NE
Minneapolis, MN 55413, USA
Telephone: 1-800-343-7475
Fax: 1-612-656-4400
Internet: www.rndsystems.com
Email address: info@bio-techne.com

Canada:
614 McKinley Place NE
461 North Service Rd West
Oakville, ON L6M 2V5
Telephone: 1-855-668-8722
Fax: 902-827-6402
Email address: Canada.inquiries@bio-techne.com

United Kingdom:
19 Barton Lane
Abingdon Science Park
Abingdon, OX14 3NB
Telephone: 44 (0)1235 529449
Fax: 44 (0)1235 533420
Email address: info.emea@bio-techne.com

China:
1193 Changning Road
Unit 1901, Raffles Changning Office
Shanghai, China
Telephone: 86-400-821-3475
Fax: 76 (021)52371001
Email address: techsupport.cn@bio-techne.com

1.4 Emergency Telephone Number
Emergency Tel: US: 612-379-2956 or 800-343-7475 / Europe: +44(0)1235-529449 / China 86-400-821-3475

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 | 231-695-7 | 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. ACCIDENTAL 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

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No.</th>
<th>Agency</th>
<th>8 Hour TWA</th>
<th>15 Min STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrochloric Acid</td>
<td>7647-01-0</td>
<td>OSHA</td>
<td>5 ppm</td>
<td>7 mg.m⁻³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>EH40</td>
<td>5 ppm</td>
<td>8 mg.m⁻³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NIOSH</td>
<td>5 ppm</td>
<td>7 mg.m⁻³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACGIH</td>
<td>5 ppm</td>
<td>7 mg.m⁻³</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Pungent</td>
</tr>
<tr>
<td>Odor Threshold</td>
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</tr>
<tr>
<td>pH</td>
<td>~1 - 2</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
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</tr>
<tr>
<td>Boiling Point / Range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (Solid, Gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper / Lower Flammability or Explosive Limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
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<td>Vapor Density</td>
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<td>Relative Density</td>
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<td>Solubility(ies)</td>
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<td>Partition Coefficient</td>
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<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>

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 : Not applicable.

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

16. OTHER INFORMATION
Further Information
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