SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

1.1 Product Identifier
   Product Name   RNAscope® FL AMP 4 Alt B
   Product No   320856

1.2 Relevant identified uses of the substance or mixture and uses advised against
   Identified uses   For Research Use Only. Not for diagnostic use.

1.3 Details of the supplier of the safety data sheet
   Company:    Advanced Cell Diagnostics Telephone: 1-800-343-7475
                7707 Gateway Blvd. Fax: 1-612-656-4400
                Newark, CA 94560 Internet: www.acdbio.com
                Tel: (510) 576-8800
                Email address   info@acdbio.com

   Canada:    21 Canmotor Ave. Telephone: 1-855-668-8722
                Toronto, ON M8Z4E6 Canada Fax: 902-827-6402
                Email address: Canada.inquiries@bio-techne.com

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

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

1.4 Emergency Telephone Number
   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

SECTION 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]

   Signal Word Warning
   Hazard Statements
       H317 May cause an allergic skin reaction.
Precautionary Statements

P261  Avoid breathing vapor/spray.
P272  Contaminated work clothing should not be allowed out of the workplace.
P280  Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352  IF ON SKIN: Wash with plenty of soap and water.
P333+P313  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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

<table>
<thead>
<tr>
<th>Mixture of 5-Chloro-2-methyl-4-isothiazolin-3-one and 2-Methyl-2H-isothiazol-3-one (3:1)</th>
<th>≤ 0.0025%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS # 55965-84-9</td>
<td></td>
</tr>
<tr>
<td>EC: 613-167-00-5</td>
<td></td>
</tr>
<tr>
<td>Classification (EC 1272/2008)</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 – H317</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4: FIRST AID AND MEASURES

4.1 Description of first aid measures

General information
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.

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.

In case of Eye Contact
Flush with copious amounts of water for at least 15 minutes. 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 Indication of any immediate medical attention and special treatment needed.

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.

SECTION 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
No specific firefighting procedure given.

Protective equipment for fire fighters
Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.
SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Do not act 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 material 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.

SECTION 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.

Specific end user(s)
Not applicable.

SECTION 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
Engineering measures
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.

Protective equipment

Eye 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.

Eye Protection
If risk of splashing, wear safety goggles or face shield.

Body Protection
Wear appropriate protective clothing.

Respiratory Equipment
No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.
SECTION 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>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 information

Not available

SECTION 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.

SECTION 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.

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.
RNAscope® FL AMP 4 Alt B

Aspiration Hazard
 Classified based on available data.

Symptoms/Routes of Exposure
 Inhala tion: 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.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
 No data available.

12.2 Persistence and degradability
 No data available

12.3 Bioaccumulative potential
 No data available on bioaccumulation

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

SECTION 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.

SECTION 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 Packing 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 user
 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.
SECTION 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

Statutory Instruments

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.

SECTION 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.