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

1.1 Product Identifiers

Product Name: RNAscope™ HiPlex Pro AMP 1
Product Number: 322074

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

Identified Uses: For research use only. Not for use in diagnostic procedures.

1.3 Details of the supplier of the safety data sheet

Company: Advanced Cell Diagnostics
7707 Gateway Blvd
Newark, CA, 94560, USA
Telephone: 1-510-576-8800
Fax: 1-510-576-6798
Internet: www.acdbio.com
Email address: info.acd@bio-techne.com

1.4 Emergency Telephone Number

For chemical emergency, spill, leak, fire, exposure, or accident call CHEMTREC day or night: Within U.S. 1-800-424-9300 Worldwide 1-703-527-3887
Bio-Technne 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

Carcinogenicity – Category 2
Reproductive Toxicity – Category 1B
Specific target organ toxicity, repeated exposure - Category 2

2.2 Label Elements


Pictogram(s):

Signal word: DANGER.
Hazard Statement(s):
H351 Suspected of causing cancer
H360 May damage fertility or the unborn child
H373 May cause damage to organs through prolonged or repeated exposure

Precautionary Statement(s):
P203 Obtain, read and follow all safety instructions before use.
P280 Wear protective gloves/protective clothing/eye protection/face protection
P318 If exposed or concerned, get medical advice.
P319 Get medical help if you feel unwell.
P405 Store Locked up.
P501 Dispose of contents/container to an approved waste disposal plant.

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>Formamide</td>
<td>75-12-7</td>
<td>200-8420</td>
<td>616-052-00-8</td>
<td>H351, H360, H373</td>
<td>≤30%</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. Keep product and empty container away from heat and sources of ignition

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
Formamide 75-12-17
TWA 10 ppm ACGIH
TWA 10 ppm 15 mg/m³ NIOSH REL
TWA 20 ppm 30 mg/m³ OSHA P0
STEL 30 ppm 45 mg/m³ OSHA P0

82 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>Clear liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Ammonia like</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available.</td>
</tr>
<tr>
<td>pH</td>
<td>4-5</td>
</tr>
<tr>
<td>Melting / Freezing Point</td>
<td>No data available.</td>
</tr>
<tr>
<td>Boiling Point / Range</td>
<td>210°C</td>
</tr>
<tr>
<td>Flash Point</td>
<td>175°C</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</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, flames, sparks, moisture.

10.5 Incompatible materials
Strong oxidizing agents. Strong reducing agents.

10.6 Hazardous decomposition products
Nitrogen oxides, carbon monoxide, carbon dioxide, hydrogen cyanide, ammonia.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Toxicity
LD50 Oral (rat) – 5577 mg/kg LC50
Inhalation (rat) – >3900 ppm.

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
No data available.
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: May cause gastrointestinal upset.
Skin: May irritate the skin.
Eyes: There may be irritation and redness.

Delayed / Immediate Effects: No known symptoms

Additional Information
No known symptoms.
Classified based on available data

12. ECOLOGICAL INFORMATION

12.1 Toxicity
LC50 – 9135 mg/L, 96 h (brachydanio rerio).

12.2 Persistence and degradability
No data available.

12.3 Bioaccumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
No data available.

12.6 Other adverse effects
No data available.

13. DISPOSAL CONSIDERATIONS

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

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

14. TRANSPORT INFORMATION

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

14.1 UN Number
Does not meet the criteria for classification as hazardous for transport.

14.2 UN proper shipping name
Does not meet the criteria for classification as hazardous for transport.

14.3 Transport hazard class(es)
Does not meet the criteria for classification as hazardous for transport.

14.4 Packaging group
Does not meet the criteria for classification as hazardous for transport.

14.5 Environmental hazards
Does not meet the criteria for classification as hazardous for transport.

14.6 Special precautions for users
Does not meet the criteria for classification as hazardous for transport.

14.7 Additional Transport Information
Does not meet the criteria for classification as hazardous for transport.

15. REGULATORY INFORMATION

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

TSCA (Toxic Substances Control Act) : Listed
SARA 313 : Listed
SARA 311/312 : Listed
CERCLA Reportable Quantity : None.
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