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

1.1 Product Identifier
   Product Name   RNAscope® VS Duplex AMP 1
   Product No    323311

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
   Supplier    Advanced Cell Diagnostics
   7707 Gateway Blvd.
   Newark, CA 94560
   Tel: (510) 576-8800

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
   Classification (EC 1272/2008)
   Physical and Chemical   Not classified
   Human health   Repr. 1B – H360D
   Environment   Not classified
   Classification (1999/45/EEC)  Repr. Cat. 2;R61.
   The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

2.2 Label elements
   Contains   FORMAMIDE
   METHYL-2H or METHYL-4 (3:1) Mixture of EC No. 220-239-6
   Label In Accordance with (EC) No. 1272/2008

   Signal word   Danger
   Hazard statements
   H360D   May damage the unborn child.
   H317   May cause allergic skin reaction

   Precautionary Statements
   P201   Obtain special instructions before use.
   P308+P313   IF exposed or concerned: Get medical advice/attention.
   P280   Wear protective gloves/protective clothing/eye protection/face protection.
   P501   Dispose of contents/container in accordance with national regulations.

   Supplemental Precautionary Statements
   P272   Contaminated work clothing should not be allowed out of the workplace.
   P261   Avoid breathing vapor/spray.
   P321   Specific treatment (see medical advice on this label.)
   P302+P352   IF ON SKIN: Wash with plenty of soap and water.
   P333+P313   If skin irritation or rash occurs: Get medical advice/attention.
   P363   Wash contaminated clothing before reuse.
   P405   Store locked up.

   Supplemental label information
   RCH002   Restricted to professional users

2.3 Other Hazards
   Not classified as PBT/vPvB by current EU criteria.
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

<table>
<thead>
<tr>
<th>Formamide</th>
<th>&gt;30%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No: 75-12-7</td>
<td></td>
</tr>
<tr>
<td>EC No.: 200-842-0</td>
<td></td>
</tr>
</tbody>
</table>

| Classification (EC 1272/2008) | CAS-No: 55965-84-9 | EC No.: |
| Classification (67/548/EEC)   | Acute Tox. 3 – H301 | T;R23/24/25 |
| Repr. Cat. 2;R61             | Acute Tox. 3 – H311 | C;R34 |
|                              | Acute Tox. 3 – H331 | R43 |
|                              | Skin Corr. 1 – H314 | N;R50/53 |
|                              | Skin Sens. 1 – H317 |    |
|                              | Aquatic Acute 1 – H400 |    |
|                              | Aquatic Chronic 1 – H410 |    |

The full text for all R-Phrases and Hazard Statements are Displayed in Section 16.

SECTION 4: FIRST AID AND MEASURES

4.1 Description of first aid measures

General information
Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

Inhalation
Move the exposed person to fresh air at once. Provide rest, warmth, and fresh air. Get medical attention if any discomfort continues. Perform artificial respiration if breathing has stopped. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.

Ingestion
DO NOT INDUCE VOMITING! NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Rinse mouth thoroughly. Provide rest, warmth and fresh air. Get medical attention.

Skin Contact
Remove affected person from source of contamination. Wash the skin immediately with soap and water. Get medical attention promptly if symptoms occur after washing.

Eye Contact
Remove victim immediately from source of exposure. Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

4.2 Most important symptoms and effects, both acute and delayed

General information
No specific information

4.3 Indication of any immediate medical attention and special treatment needed

Treat Symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Extinguishing Media
This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials. Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

5.3 Advice for fire fighters

Special Fire Fighting Procedures
Cool containers exposed to flames with water until well after the fire is out. Move container from fire area if it can be done without risk. Dike and collect extinguishing water.
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Protective equipment for fire fighters
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
   Wear protective clothing as described in Section 8 of this safety data sheet.

6.2 Environmental Precautions
   Do not discharge into drains, water courses or onto the ground.

6.3 Methods and material for containment and cleaning up
   Small spills may be contained and cleaned up with paper towels or absorbent pads. Absorb large spills with sand or vermiculite and place in a closed container for waste disposal. Avoid physical contact during removal. Stop leak if possible without risk. Absorb in vermiculite, dry sand or earth and place into containers. Flush with plenty of water to clean spillage area. Do not contaminate water sources or sewer.

6.4 Reference to other sections
   Wear protective clothing as described in Section 8 of this safety data sheet.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling
   Avoid contact with eyes, skin and clothing. Do not ingest. Wash hands thoroughly after use.

7.2 Conditions for safe storage, including any incompatibilities
   Keep container tightly closed. Keep container in a cool, well-ventilated area.

7.3 Specific end user(s)
   The identified uses for this product are detained in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

<table>
<thead>
<tr>
<th>Name</th>
<th>STD</th>
<th>TWA – 8 Hrs</th>
<th>STEL – 15 Min</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formamide</td>
<td>WEL</td>
<td>20 ppm</td>
<td>37 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>30 ppm</td>
<td>56 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

WEL = Workplace Exposure Limit

8.2 Exposure controls
   Protective equipment

   Engineering measures
   Provide adequate general and local exhaust ventilation. Observe occupational exposure limits and minimize the risk of inhalation of vapors.

   Respiratory Equipment
   No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommned occupational exposure limit.

   Hand Protection
   Use protective gloves.

   Eye Protection
   Use approved safety goggles or face shield.

   Other Protection
   Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapor contact.

   Hygiene measures
   DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap & water if skin becomes contaminated. Promptly remove any clothing that becomes contaminated. When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
   Appearance: Liquid

9.2 Other information
   Not available

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
   No specific reactivity hazards associated with this product.

10.2 Chemical stability
   Stable under normal temperature conditions and recommended use.
10.3 Possibility of hazardous reactions
Not determined.

10.4 Conditions to avoid
Avoid head, flames and other sources of ignition. Avoid contact with strong oxidizers. Avoid contact with strong reducing agents.

10.5 Incompatible Materials
Materials to avoid
Strong oxidizing substances. Strong reducing agents.

10.6 Hazardous decomposition products
Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Toxicological information
This material is toxic.

Health warnings
INGESTION: May cause stomach pain or vomiting. INHALATION: May cause irritation to the respiratory system. SKIN CONTACT: May cause skin irritation/eczema. May cause sensitization by skin contact. EYE CONTACT: Irritating to eyes.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity
There are no data on the ecotoxicity of this product.

12.1 Toxicity
No data available.

12.2 Persistence and degradability
No data available

12.3 Bio accumulative potential
Bio accumulative potential
No data available on bioaccumulation

12.4 Mobility in soil
Mobility
No data available

12.5 Results of PBT and vPvB assessment
Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects
Not determined.

SECTION 13: DISPOSAL CONSIDERATIONS

General Information
Waste is classified as hazardous waste. Dispose to licensed waste disposal site in accordance with the local Waste Disposal Authority.

13.1 Waste treatment methods
Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION

14.1 UN Number
Not applicable.

14.2 UN proper shipping name
Not applicable.

14.3 Transport hazard class(es)
ADR/RID/AND Class
Not classified for transportation.

14.4 Environmental hazards
Environmentally Hazardous Substance/Marine Pollutant
No

14.5 Special precautions for user
Not applicable

14.6 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable
SECTION 15: REGULATORY INFORMATION

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

Environmental Listing

Statutory Instruments

Approved Code of Practice
Classification and Labelling of Substances and Preparations Dangerous for Supply. Safety Data Sheets for Substances and Preparations.

Guidance Notes
Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37. CHIP HSG(108).

EU Legislation

15.2 Chemical Safety Assessment
No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Risk Phrases in Full
R34 Causes burns.
R35 Causes severe burns.
R61 May cause harm to the unborn child.
NC Not classified.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Hazard Statements in Full
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H314 Causes skin irritation
H317 May cause an allergic skin reaction.
H331 Toxic if inhaled.
H360D May damage the unborn child.
H410 Very toxic to aquatic life with long-lasting effects.

Disclaimer
This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company’s knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user’s responsibility to satisfy himself as to the suitability of such information for his own particular use.