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

1.1 Product Identifier
   Product Name: RNAscope® VS Duplex AMP 4
   Product No: 323314

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
   Address: 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: Not classified
   Environment: Not classified

   Classification (1999/45/EEC): Not classified

   The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

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

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

   Precautionary Statements:
   P280 Wear protective gloves/protective clothing/eye protection/face protection.
   P501 Dispose of contents/container in accordance with national regulations.

   Supplementary 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.

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>CAS-No: 55965-84-9</th>
<th>EC No.:</th>
</tr>
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<tbody>
<tr>
<td>Classification (EC 1272/2008)</td>
<td>Classification (67/548/EEC)</td>
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<tr>
<td>Acute Tox. 3 – H301</td>
<td>T;R23/24/25</td>
</tr>
<tr>
<td>Acute Tox. 3 – H311</td>
<td>C;R34</td>
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<tr>
<td>Acute Tox. 3 – H331</td>
<td>R43</td>
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<tr>
<td>Skin Corr. 1B – H314</td>
<td>N;R50/53</td>
</tr>
<tr>
<td>Skin Sens. 1 – H317</td>
<td>Aquatic Acute 1 – H400</td>
</tr>
<tr>
<td>Aquatic Chronic 1 – H410</td>
<td></td>
</tr>
</tbody>
</table>

The full test 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

**Inhalation**
Move the exposed person to fresh air at once. Rinse nose and mouth with water. Get medical attention if any discomfort continues.

**Ingestion**
NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Rinse mouth thoroughly. Get medical attention if any discomfort continues.

**Skin Contact**
Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention if any discomfort continues.

**Eye Contact**
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. Get medical attention if any discomfort continues.

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**
No specific firefighting procedure given.

**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

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 spilling, skin and eye contact.

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
Ingredient Comments
No exposure limits noted for ingredient(s).

8.2 Exposure controls
Protective equipment

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

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

Hand Protection
Use suitable protective gloves if risk of skin contact.

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

Other Protection
Wear appropriate clothing to prevent any possibility of skin 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. Use appropriate skin cream to prevent drying of skin. 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 excessive heat for prolonged periods of time. 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
No data on the toxicity of the formulation are available. The classification of the formulation is calculated based on the composition of hazardous components.

Health warnings
INHALATION: In high concentrations, vapors may irritate throat and respiratory system and cause coughing.
INGESTION: May cause discomfort if swallowed. SKIN CONTACT: Liquid may irritate skin. EYE CONTACT: Spray and vapor in the eyes may cause irritation and smarting.

SECTION 12: ECOLOGICAL INFORMATION

Eco toxicity
Not regarded as dangerous for the environment.

12.1 Toxicity
Acute Fish Toxicity
Not considered toxic to fish.

12.2 Persistence and degradability
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

Road Transport Notes:
Not classified.

Rail Transport Notes:
Not classified.

Sea Transport Notes:
Not classified.

Air Transport Notes:
Not classified.

14.1 UN Number
Not applicable.

14.2 UN proper shipping name
Not applicable.

14.3 Transport hazard class(es)
Not applicable.

14.4 Packing group
Not applicable.

14.5 Environmental hazards
Environmentally Hazardous Substance/Marine Pollutant
No

14.6 Special precautions for user
Not applicable

14.7 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

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. 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.
R61 May cause sensitization by skin contact.
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
H314 Causes skin irritation
H317 May cause an allergic skin reaction.
H331 Toxic if inhaled.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H410 Very toxic to aquatic life with long-lasting effects.
H400 Very toxic to aquatic life.

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.