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

1.1 Product Identifier
Product Name   RNAscope® 2.5 HD Duplex AMP 4
Product No    322504

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   Skin Sens. 1 – H317
Environment   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**

### 3.2 Mixtures

<table>
<thead>
<tr>
<th>Sodium Hydroxide</th>
<th>&lt; 1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.: 1310-73-2</td>
<td>EC No.: 215-185-5</td>
</tr>
<tr>
<td>Skin Corr. 1A</td>
<td>H314</td>
</tr>
</tbody>
</table>

### METHYL-2H or METHYL-4 (3:1) Mixture of EC No. 220-239-6

| < 1% |
|------------------|------|
| CAS-No.: 55965-84-9 | EC No.: |
| Acute Tox. 3 – H301 | T;R23/24/25 |
| Acute Tox. 3 – H311 | C;R34 |
| Acute Tox. 3 – H331 | R43 |
| Skin Corr. 1B – 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**
Treat symptomatically.

**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**
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

**Skin contact**
May cause skin sensitization.

### 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 fire fighting 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
Avoid 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
Store in tightly closed original container in a dry, cool and well-ventilated place. Keep in original container.

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>Sodium Hydroxide</td>
<td>WEL</td>
<td></td>
<td>2 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>

WEL = Workplace Exposure Limit

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
There are no known 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 available.

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
In case of fire, toxic gases (CO, CO₂, NOₓ) may be formed.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Toxicological information
No information available.

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

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
No data available.

12.2 Persistence and degradability
Degradability
No data available

12.3 Bioaccumulative potential
Bioaccumulative potential
No data available on bioaccumulation

12.4 Mobility in soil
Mobility
No data available

Surface tension
Not determined.

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.
R35   Causes severe burns.
R61   May cause sensitization by skin contact.
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.