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

1.1 Product Identifier
   Product Name         RNAscope® Protease IV
   Product No           322336

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

   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
                                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>Propane – 1,2-diol</th>
<th>&lt;1 %</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS-No.: 57-55-6</td>
<td>EC No.: 200-338-0</td>
</tr>
<tr>
<td>Classification (EC 1272/2008)</td>
<td>Classification (67/548/EEC)</td>
</tr>
<tr>
<td>Not classified</td>
<td>Not classified</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>METHYL-2h OR METHYL-4 (3:1) Mixture of EC NO 220-239-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS No.: 55965-84-9</td>
</tr>
<tr>
<td>Classification (EC 1272/2008)</td>
</tr>
<tr>
<td>Acute Tox. 3 – H301</td>
</tr>
<tr>
<td>Acute Tox. 3 – H311</td>
</tr>
<tr>
<td>Acute Tox. 3 – H331</td>
</tr>
<tr>
<td>Skin Corr. 1B – H314</td>
</tr>
<tr>
<td>Skin Sens. 1 – H317</td>
</tr>
<tr>
<td>Aquatic Acute 1 – H400</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

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

General information
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 vapours.

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 in.
## 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

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

### 7.3 Specific end user(s)

The identified uses for this product are detailed 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 Control Parameters

#### Protective equipment

<table>
<thead>
<tr>
<th>Engineering measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Provide adequate ventilation. Observe occupational exposure limits and minimize the risk of inhalation of vapours.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Respiratory Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hand Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use suitable protective gloves if risk of skin contact.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Eye Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>If risk of splashing, wear safety goggles or face shield.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wear appropriate clothing to prevent any possibility of skin contact.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hygiene measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>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 if skin becomes wet or 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.</td>
</tr>
</tbody>
</table>

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Appearance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
</tr>
</tbody>
</table>

### 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

No available
10.4 **Conditions to avoid**

Avoid excessive heat for prolonged periods of time. Avoid contact with strong oxidizers.

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 vapours.

### SECTION 11: TOXICOLOGICAL INFORMATION

11.1 **Information on toxicological effects**

**Toxicological information**

No information available

**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**

**Acute Fish 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

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. Disposal 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 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
   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
   Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals
   Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and
   1907/2006 with amendments

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

SECTION 16: OTHER INFORMATION

Risk Phrases In Full
R34    Causes burns
R43    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 severe skin burns and eye damage.
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.