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

1.1 Product Identifier
   
   Product Name   RNAscope® Fast Red B
   Product No    320459

1.2 Relevant identified uses of the substance or mixture and uses advised against
   
   Identified uses   For Research Use Only. Not for diagnostic use. [Update as necessary]

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 Corr. 1B H314
   - 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    Fast Red KL Salt
               Hydrochloric acid….%

   Label In Accordance with (EC) No. 1272/2008

Signal word   Danger

Hazard statements   H290  May be corrosive to metals
                   H314  Causes severe skin burns and eye damage
                   H371  May cause damage to organs

Precautionary Statements   P260  Do not breathe dust/fume/gas/mist/vapors/spray
                             P280  Wear protective gloves/protective clothing/face protection/eye protection
                             P305+P351+P338  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
                             P310  Immediately call a POISON CENTER or a doctor/physician.

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

3.2 Mixtures

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fast Red KL Salt</td>
<td>0.1-5%</td>
</tr>
<tr>
<td>Hydrochloric acid</td>
<td>1-10%</td>
</tr>
</tbody>
</table>

CAS-No: 677706-33-1
EC No.: None

CAS-No: 7647-01-0
EC No.: 231-595-7

Classification (EC 1272/2008)
Skin Corr. 1B H314 C: Corrosive
Xi: Irritant

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
Remove victim to well-ventilated area. If victim is not breathing, give artificial respiration. Seek medical attention.

Ingestion
If victim is conscious, rinse mouth with water. Do not give anything to an unconscious victim. Seek medical attention.

Skin Contact
Wash exposed area with soap and plenty of water. Remove any contaminated clothing. Seek medical attention.

Eye Contact
Wash eyes with plenty of water for at least 15 minutes. Have victim remove contact lenses. Be sure to wash under eyelids. Seek medical attention.

4.2 Most important symptoms and effects, both acute and delayed

General information
Avoid further exposure to product. Consult a physician.

4.3 Indication of any immediate medical attention and special treatment needed

Treat Symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. Use extinguisher media appropriate for surrounding fire.

5.2 Special hazards arising from the substance or mixture

Avoid inhalation of fumes, which may be toxic or irritating.

5.3 Advice for fire fighters

No specific fire fighting procedure given.

Protective equipment for fire fighters

Wear self-contained breathing apparatus and protective clothing to prevent contact with eyes and skin.

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.

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
Ingredient Comments
USA ACGIH Threshold Limit Values (Hydrochloric acid): C, 2 ppm
USA Occupational Exposure Limits (OSHA) (Hydrochloric Acid): C, 5 ppm

8.2 Exposure controls
Protective equipment

Engineering measures
No special controls needed.

Respiratory Equipment
Exceeding exposure limits is unlikely during normal usage. However, if irritation vapors are produced, respiratory protection is recommended. Attempt to reduce exposure levels to an acceptable range.

Hand Protection
Use chemically resistant gloves and a lab coat with sleeves.

Eye Protection
Wear chemical splash goggles and face shield when eye and face contact is possible due to splashing or spraying of material.

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

Hygiene measures
Avoid contact with eyes, skin and clothing. Wash hands thoroughly after handling and before eating or drinking.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties
Appearance Colorless to orange, clear solution

9.2 Other information
Solubility (in water) Soluble

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity
No specific reactivity hazards associated with this product.

10.2 Chemical stability
Stable under recommended storage conditions (see Section 7).

10.3 Possibility of hazardous reactions
Not determined

10.4 Conditions to avoid
Keep away from incompatible materials.

10.5 Incompatible Materials
Materials to avoid
Bases, amines, alkali metals, potassium permanganate

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions; carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen chloride gas.
SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
   Toxicological information
   Single STOT (specific target organ toxicity) Exp. 3 H335
   Route of entry
   Inhalation
   Target Organs
   Respiratory tract

SECTION 12: ECOLOGICAL INFORMATION

Eco toxicity
There are no data on the Eco toxicity of this product.

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
   No data available

12.6 Other adverse effects
   Not determined

SECTION 13: DISPOSAL CONSIDERATIONS

General Information
Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.

13.1 Waste treatment methods
   Disposal should be in accordance with applicable national, state and local regulations. Local regulations may be more stringent than national or state requirements. Verify local and state regulations before discharging into public sewers or landfills. Do not dump into any body of water. Contact a licensed professional waste disposal service for appropriate methods of disposal.

SECTION 14: TRANSPORT INFORMATION

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

14.6 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

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

SARA 302 Components
No chemicals in this product are subject to reporting requirements

SARA 313 Components
Hydrochloric acid, CAS 7647-01-0

SARA 311/312 Hazards
Acute Health Hazard (Hydrochloric Acid)

California Prop 65 components
This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

SECTION 16: OTHER INFORMATION

SDS No. Version 01
Date June 2015
Risk Phrases in Full
R34 Causes burns
R37 Irritating to respiratory system

Hazard Statements in Full
H290 May be corrosive to metals
H314 Causes skin irritation
H371 Harmful if inhaled

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.