Section 1. Identification

This product is considered an article. This Safety Data Sheet is written based on the encapsulated substance or mixture in this article.

1.1 Product identifier

Product name: RRHD pH Method Development Kit, Part Number 5190-6152
Part no. (chemical kit): 5190-6152
Part no.: RRHD SB-C18 857700-902
RRHD Eclipse Plus C18 959757-902
RRHD Extend - C18 757700-902

Validation date: 10/27/2022

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Analytical chemistry.
LC column
Solvent volume: <10 ml
RRHD SB-C18 2.1 x 50mm, 1.8μm, 1200bar
RRHD Eclipse Plus C18 2.1 x 50mm, 1.8μm
RRHD Extend - C18 2.1 x 50mm, 1.8μm, 1200bar

1.3 Details of the supplier of the safety data sheet

Supplier/Manufacturer: Agilent Technologies, Inc.
5301 Stevens Creek Blvd
Santa Clara, CA 95051, USA
800-227-9770

1.4 Emergency telephone number

In case of emergency: CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product’s directions for use it may present potential health and safety hazards.

2.1 Classification of the substance or mixture

OSHA/HCS status:
RRHD SB-C18
RRHD Eclipse Plus C18
RRHD Extend - C18

Classification of the substance or mixture

**RRHD SB-C18**
H225  FLAMMABLE LIQUIDS - Category 2
H319  EYE IRRITATION - Category 2A
H373  SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

**RRHD Eclipse Plus C18**
H225  FLAMMABLE LIQUIDS - Category 2
H319  EYE IRRITATION - Category 2A
H373  SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Section 2. Hazards identification

RRHD Extend - C18
H225 FLAMMABLE LIQUIDS - Category 2
H319 EYE IRRITATION - Category 2A
H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

2.2 GHS label elements

Hazard pictograms: RRHD SB-C18

RRHD Eclipse Plus C18

RRHD Extend - C18

Signal word: RRHD SB-C18 Danger
RRHD Eclipse Plus C18 Danger
RRHD Extend - C18 Danger

Hazard statements:

RRHD SB-C18
H225 - Highly flammable liquid and vapor.
H319 - Causes serious eye irritation.
H373 - May cause damage to organs through prolonged or repeated exposure.

RRHD Eclipse Plus C18
H225 - Highly flammable liquid and vapor.
H319 - Causes serious eye irritation.
H373 - May cause damage to organs through prolonged or repeated exposure.

RRHD Extend - C18
H225 - Highly flammable liquid and vapor.
H319 - Causes serious eye irritation.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Prevention:

RRHD SB-C18
P280 - Wear eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 - Use explosion-proof electrical, ventilating or lighting equipment.
P242 - Use non-sparking tools.
P243 - Take action to prevent static discharges.
P233 - Keep container tightly closed.
P260 - Do not breathe vapor.

RRHD Eclipse Plus C18
P280 - Wear eye or face protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 - Use explosion-proof electrical, ventilating or lighting equipment.
P242 - Use non-sparking tools.
P243 - Take action to prevent static discharges.
P233 - Keep container tightly closed.
P260 - Do not breathe vapor.

Date of issue: 10/27/2022
Section 2. Hazards identification

**RRHD Extend - C18**
- P280 - Wear eye or face protection.
- P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P241 - Use explosion-proof electrical, ventilating or lighting equipment.
- P242 - Use non-sparking tools.
- P243 - Take action to prevent static discharges.
- P233 - Keep container tightly closed.
- P260 - Do not breathe vapor.

**Response**
- P314 - Get medical advice or attention if you feel unwell.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 - If eye irritation persists: Get medical advice or attention.

**RRHD Eclipse Plus C18**
- P314 - Get medical advice or attention if you feel unwell.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 - If eye irritation persists: Get medical advice or attention.

**RRHD Extend - C18**
- P314 - Get medical advice or attention if you feel unwell.
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 - If eye irritation persists: Get medical advice or attention.

**Storage**
- RRHD SB-C18
  - P403 + P235 - Store in a well-ventilated place. Keep cool.
- RRHD Eclipse Plus C18
  - P403 + P235 - Store in a well-ventilated place. Keep cool.
- RRHD Extend - C18
  - P403 + P235 - Store in a well-ventilated place. Keep cool.

**Disposal**
- RRHD SB-C18
  - P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- RRHD Eclipse Plus C18
  - P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
- RRHD Extend - C18
  - P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements**
- RRHD SB-C18
  - None known.
- RRHD Eclipse Plus C18
  - None known.
- RRHD Extend - C18
  - None known.

**2.3 Other hazards**

**Hazards not otherwise classified**
- RRHD SB-C18
  - None known.
- RRHD Eclipse Plus C18
  - None known.
- RRHD Extend - C18
  - None known.

**Date of issue**: 10/27/2022
Section 3. Composition/information on ingredients

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product’s directions for use it may present potential health and safety hazards.

<table>
<thead>
<tr>
<th>Substance/mixture</th>
<th>%</th>
<th>CAS number</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRHD SB-C18</td>
<td>≥10 - &lt;22</td>
<td>75-05-8</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRHD Eclipse Plus C18</td>
<td>≥10 - &lt;22</td>
<td>75-05-8</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRHD Extend - C18</td>
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<td>75-05-8</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Contains: Organosilane bonded silica gel

Note: To the best of our knowledge, the acute and chronic toxicological properties of bonded silica gels have not been investigated. This product contains synthetic amorphous silica, and should not be confused with crystalline silica such as quartz, cristobalite, or tridymite, or with diatomaceous earth or other naturally occurring forms of amorphous silica that frequently contain crystalline forms of silica.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact: RRHD SB-C18

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

RRHD Eclipse Plus C18

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

RRHD Extend - C18

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Section 4. First aid measures

**Inhalation**

RRHD SB-C18
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

RRHD Eclipse Plus C18
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

RRHD Extend - C18
Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Skin contact**

RRHD SB-C18
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

RRHD Eclipse Plus C18
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse.

RRHD Extend - C18
Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get
Section 4. First aid measures

**Ingestion:**
- RRHD SB-C18
- RRHD Eclipse Plus C18
- RRHD Extend - C18

Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention following exposure or if feeling unwell. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Inhalation:**
- RRHD SB-C18
- RRHD Eclipse Plus C18
- RRHD Extend - C18

No known significant effects or critical hazards.

**Skin contact:**
- RRHD SB-C18
- RRHD Eclipse Plus C18
- RRHD Extend - C18

Causes serious eye irritation.

4.2 Most important symptoms/effects, acute and delayed

**Potential acute health effects**

- **Eye contact**: RRHD SB-C18, RRHD Eclipse Plus C18, RRHD Extend - C18
  - Causes serious eye irritation.

- **Inhalation**: RRHD SB-C18, RRHD Eclipse Plus C18, RRHD Extend - C18
  - No known significant effects or critical hazards.

- **Skin contact**: RRHD SB-C18, RRHD Eclipse Plus C18, RRHD Extend - C18
  - No known significant effects or critical hazards.

Date of issue: 10/27/2022
Section 4. First aid measures

**Protection of first-aiders**

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

**Over-exposure signs/symptoms**

**Eye contact**

<table>
<thead>
<tr>
<th>Product</th>
<th>Ingestion</th>
<th>Specific treatments</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRHD SB-C18</td>
<td>No specific data.</td>
<td>No specific treatment.</td>
</tr>
<tr>
<td>RRHD Extend - C18</td>
<td>No specific data.</td>
<td>No specific treatment.</td>
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**Inhalation**

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**Skin contact**

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**Ingestion**

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**Notes to physician**

In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

**Specific treatments**

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**Protection of first-aiders**

No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Date of issue: 10/27/2022
Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media:
- RRHD SB-C18
- RRHD Eclipse Plus C18
- RRHD Extend - C18

Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media:
- RRHD SB-C18
- RRHD Eclipse Plus C18
- RRHD Extend - C18

Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical:
- RRHD SB-C18
- RRHD Eclipse Plus C18
- RRHD Extend - C18

Decomposition products may include the following materials:
- carbon dioxide
- carbon monoxide
- nitrogen oxides
- metal oxide/oxides
- cyanides

Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Hazardous thermal decomposition products:
- RRHD SB-C18
- RRHD Eclipse Plus C18
- RRHD Extend - C18

Decomposition products may include the following materials:
- carbon dioxide
- carbon monoxide
- nitrogen oxides
- metal oxide/oxides
- cyanides

5.3 Advice for firefighters

Special protective actions for fire-fighters:
- RRHD SB-C18
- RRHD Eclipse Plus C18

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Section 5. Fire-fighting measures

RRHD Extend - C18

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters

RRHD SB-C18

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

RRHD Eclipse Plus C18

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

RRHD Extend - C18

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

RRHD SB-C18

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

RRHD Eclipse Plus C18

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

RRHD Extend - C18

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Section 6. Accidental release measures

6.2 Environmental precautions

RRHD SB-C18
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

RRHD Eclipse Plus C18
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

RRHD Extend - C18
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

RRHD SB-C18
Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

RRHD Eclipse Plus C18
Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
7.1 Precautions for safe handling

**Protective measures** : RRHD SB-C18

Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated.

Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

**RRHD Eclipse Plus C18**

Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated.

Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

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Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : RRHD SB-C18

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
### Section 7. Handling and storage

<table>
<thead>
<tr>
<th>Product</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRHD Eclipse Plus C18</td>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</td>
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<td>RRHD Extend - C18</td>
<td>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</td>
</tr>
<tr>
<td>RRHD SB-C18</td>
<td>Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</td>
</tr>
<tr>
<td>RRHD Eclipse Plus C18</td>
<td>Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</td>
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</tr>
</tbody>
</table>
Section 7. Handling and storage

7.3 Specific end use(s)

**Recommendations**
- RRHD SB-C18
- RRHD Eclipse Plus C18
- RRHD Extend - C18

**Industrial sector specific solutions**
- RRHD SB-C18
- RRHD Eclipse Plus C18
- RRHD Extend - C18

Section 8. Exposure controls/personal protection

Since the hazardous ingredient in this article is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

### 8.1 Control parameters

#### Occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Exposure limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRHD SB-C18 Acetonitrile</td>
<td>ACGIH TLV (United States, 1/2022).&lt;br&gt;Absorbed through skin.&lt;br&gt;TWA: 20 ppm 8 hours.&lt;br&gt;OSHA PEL 1989 (United States, 3/1989).&lt;br&gt;TWA: 40 ppm 8 hours.&lt;br&gt;TWA: 70 mg/m³ 8 hours.&lt;br&gt;STEL: 60 ppm 15 minutes.&lt;br&gt;STEL: 105 mg/m³ 15 minutes.&lt;br&gt;NIOSH REL (United States, 10/2020).&lt;br&gt;TWA: 20 ppm 10 hours.&lt;br&gt;TWA: 34 mg/m³ 10 hours.&lt;br&gt;OSHA PEL (United States, 5/2018).&lt;br&gt;TWA: 40 ppm 8 hours.&lt;br&gt;TWA: 70 mg/m³ 8 hours.</td>
</tr>
<tr>
<td>RRHD Eclipse Plus C18 Acetonitrile</td>
<td>ACGIH TLV (United States, 1/2022).&lt;br&gt;Absorbed through skin.&lt;br&gt;TWA: 20 ppm 8 hours.&lt;br&gt;OSHA PEL 1989 (United States, 3/1989).&lt;br&gt;TWA: 40 ppm 8 hours.&lt;br&gt;TWA: 70 mg/m³ 8 hours.&lt;br&gt;STEL: 60 ppm 15 minutes.&lt;br&gt;STEL: 105 mg/m³ 15 minutes.&lt;br&gt;NIOSH REL (United States, 10/2020).&lt;br&gt;TWA: 20 ppm 10 hours.&lt;br&gt;TWA: 34 mg/m³ 10 hours.&lt;br&gt;OSHA PEL (United States, 5/2018).&lt;br&gt;TWA: 40 ppm 8 hours.&lt;br&gt;TWA: 70 mg/m³ 8 hours.</td>
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<tr>
<td>RRHD Extend - C18 Acetonitrile</td>
<td>ACGIH TLV (United States, 1/2022).&lt;br&gt;Absorbed through skin.&lt;br&gt;TWA: 20 ppm 8 hours.&lt;br&gt;OSHA PEL 1989 (United States, 3/1989).&lt;br&gt;TWA: 40 ppm 8 hours.&lt;br&gt;TWA: 70 mg/m³ 8 hours.&lt;br&gt;STEL: 60 ppm 15 minutes.&lt;br&gt;STEL: 105 mg/m³ 15 minutes.&lt;br&gt;NIOSH REL (United States, 10/2020).</td>
</tr>
</tbody>
</table>
Section 8. Exposure controls/personal protection

### Biological exposure indices
No exposure indices known.

#### 8.2 Exposure controls

**Appropriate engineering controls**: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

**Environmental exposure controls**: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures**: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection**: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

**Skin protection**

**Hand protection**: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection**: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

**Other skin protection**: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection**: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state

RRHD SB-C18: Solid. (containing flammable liquid)
RRHD Eclipse Plus C18: Solid. (containing flammable liquid)
RRHD Extend - C18: Solid. (containing flammable liquid)

Color

RRHD SB-C18: Not available.
RRHD Extend - C18: Not available.

Odor

RRHD SB-C18: Not available.
RRHD Eclipse Plus C18: Not available.
RRHD Extend - C18: Not available.

Odor threshold

RRHD SB-C18: Not available.
RRHD Eclipse Plus C18: Not available.
RRHD Extend - C18: Not available.

pH

RRHD SB-C18: Not available.
RRHD Eclipse Plus C18: Not available.
RRHD Extend - C18: Not available.

Melting point/freezing point

RRHD SB-C18: Not available.
RRHD Eclipse Plus C18: Not available.
RRHD Extend - C18: Not available.

Boiling point, initial boiling point, and boiling range

RRHD SB-C18: Not available.
RRHD Eclipse Plus C18: Not available.
RRHD Extend - C18: Not available.

Flash point

RRHD SB-C18: Closed cup: -18 to 23°C (-0.4 to 73.4°F)
RRHD Eclipse Plus C18: Closed cup: -18 to 23°C (-0.4 to 73.4°F)
RRHD Extend - C18: Closed cup: -18 to 23°C (-0.4 to 73.4°F)

Evaporation rate

RRHD SB-C18: Not available.
RRHD Eclipse Plus C18: Not available.
RRHD Extend - C18: Not available.

Flammability

RRHD SB-C18: Contains: Flammable liquid
RRHD Eclipse Plus C18: Contains: Flammable liquid
RRHD Extend - C18: Contains: Flammable liquid

Lower and upper explosion limit/flammability limit

RRHD SB-C18: Not available.
RRHD Eclipse Plus C18: Not available.
RRHD Extend - C18: Not available.

Vapor pressure

<table>
<thead>
<tr>
<th>Ingredient name</th>
<th>Vapor Pressure at 20°C</th>
<th>Vapor pressure at 50°C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mm Hg</td>
<td>kPa</td>
</tr>
<tr>
<td><strong>RRHD SB-C18</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetonitrile</td>
<td>70.89</td>
<td>9.5</td>
</tr>
<tr>
<td>water</td>
<td>23.8</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>RRHD Eclipse Plus C18</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetonitrile</td>
<td>70.89</td>
<td>9.5</td>
</tr>
<tr>
<td>water</td>
<td>23.8</td>
<td>3.2</td>
</tr>
<tr>
<td><strong>RRHD Extend - C18</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date of issue: 10/27/2022
Section 9. Physical and chemical properties and safety characteristics

<table>
<thead>
<tr>
<th>Relative vapor density</th>
<th>RRHD SB-C18</th>
<th>Not available.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRHD Eclipse Plus C18</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>RRHD Extend - C18</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>RRHD SB-C18</td>
<td>Not available.</td>
</tr>
<tr>
<td>RRHD Eclipse Plus C18</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>RRHD Extend - C18</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>RRHD SB-C18</td>
<td>Insoluble</td>
</tr>
<tr>
<td>RRHD Eclipse Plus C18</td>
<td>Soluble</td>
<td></td>
</tr>
<tr>
<td>RRHD Extend - C18</td>
<td>Insoluble</td>
<td></td>
</tr>
<tr>
<td>Mobile phase</td>
<td>Soluble</td>
<td></td>
</tr>
<tr>
<td>Stationary phase</td>
<td>Insoluble</td>
<td></td>
</tr>
<tr>
<td>Mobile phase</td>
<td>Soluble</td>
<td></td>
</tr>
<tr>
<td>Stationary phase</td>
<td>Insoluble</td>
<td></td>
</tr>
</tbody>
</table>

| Partition coefficient: n-octanol/water | RRHD SB-C18 | Not applicable. |
|                                          | RRHD Eclipse Plus C18 | Not applicable. |
|                                          | RRHD Extend - C18      | Not applicable. |

<table>
<thead>
<tr>
<th>Auto-ignition temperature</th>
<th>Ingredient name</th>
<th>°C</th>
<th>°F</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRHD SB-C18</td>
<td>Acetonitrile</td>
<td>524</td>
<td>975.2</td>
<td></td>
</tr>
<tr>
<td>RRHD Eclipse Plus C18</td>
<td>Acetonitrile</td>
<td>524</td>
<td>975.2</td>
<td></td>
</tr>
<tr>
<td>RRHD Extend - C18</td>
<td>Acetonitrile</td>
<td>524</td>
<td>975.2</td>
<td></td>
</tr>
</tbody>
</table>

| Decomposition temperature | RRHD SB-C18 | Not available. |
| RRHD Eclipse Plus C18     | Not available. |
| RRHD Extend - C18         | Not available. |

| Viscosity                 | RRHD SB-C18 | Not available. |
| RRHD Eclipse Plus C18     | Not available. |
| RRHD Extend - C18         | Not available. |

| Particle characteristics  | RRHD SB-C18 | Not applicable. |
| RRHD Eclipse Plus C18     | Not applicable. |
| RRHD Extend - C18         | Not applicable. |

| Median particle size      | RRHD SB-C18 | Not applicable. |
| RRHD Eclipse Plus C18     | Not applicable. |
| RRHD Extend - C18         | Not applicable. |

Section 10. Stability and reactivity

10.1 Reactivity

| RRHD SB-C18 | No specific test data related to reactivity available for this product or its ingredients. |
| RRHD Eclipse Plus C18 | No specific test data related to reactivity available for this product or its ingredients. |
| RRHD Extend - C18 | No specific test data related to reactivity available for this product or its ingredients. |
Section 10. Stability and reactivity

10.2 Chemical stability
- RRHD SB-C18: The product is stable.
- RRHD Eclipse Plus C18: The product is stable.
- RRHD Extend - C18: The product is stable.

10.3 Possibility of hazardous reactions
- RRHD SB-C18: Under normal conditions of storage and use, hazardous reactions will not occur.
- RRHD Eclipse Plus C18: Under normal conditions of storage and use, hazardous reactions will not occur.
- RRHD Extend - C18: Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid
- RRHD SB-C18: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- RRHD Eclipse Plus C18: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
- RRHD Extend - C18: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

10.5 Incompatible materials
- RRHD SB-C18: Reactive or incompatible with the following materials: oxidizing materials
- RRHD Eclipse Plus C18: Reactive or incompatible with the following materials: oxidizing materials
- RRHD Extend - C18: Reactive or incompatible with the following materials: oxidizing materials

10.6 Hazardous decomposition products
- RRHD SB-C18: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- RRHD Eclipse Plus C18: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- RRHD Extend - C18: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRHD SB-C18</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>17100 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2460 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td>RRHD Eclipse Plus C18</td>
<td>LC50 Inhalation Vapor</td>
<td>Rat</td>
<td>17100 ppm</td>
<td>4 hours</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>2460 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Date of issue: 10/27/2022
## Section 11. Toxicological information

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RRHD Extend - C18</strong></td>
<td>Acetonitrile</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 uL 500 mg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 uL 500 mg</td>
</tr>
<tr>
<td><strong>RRHD Eclipse Plus C18</strong></td>
<td>Acetonitrile</td>
<td>Eyes - Moderate irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 uL 500 mg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 100 uL 500 mg</td>
</tr>
</tbody>
</table>

### Irritation/Corrosion

**Product/ingredient name** | **Result** | **Species** | **Score** | **Exposure** | **Observation** |
--- | --- | --- | --- | --- | --- |
**RRHD SB-C18** | Acetonitrile | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 uL 500 mg | - |
| | | Skin - Mild irritant | Rabbit | - | 24 hours 100 uL 500 mg | - |
**RRHD Eclipse Plus C18** | Acetonitrile | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 uL 500 mg | - |
| | | Skin - Mild irritant | Rabbit | - | 24 hours 100 uL 500 mg | - |
**RRHD Extend - C18** | Acetonitrile | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 uL 500 mg | - |
| | | Skin - Mild irritant | Rabbit | - | 24 hours 100 uL 500 mg | - |

### Sensitization

Not available.

### Mutagenicity

**Conclusion/Summary** : Not available.

### Carcinogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

**Conclusion/Summary** : Not available.

### Teratogenicity

**Conclusion/Summary** : Not available.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

<table>
<thead>
<tr>
<th>Name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RRHD SB-C18</strong></td>
<td>Acetonitrile</td>
<td>Category 2</td>
<td>-</td>
</tr>
<tr>
<td><strong>RRHD Eclipse Plus C18</strong></td>
<td>Acetonitrile</td>
<td>Category 2</td>
<td>-</td>
</tr>
<tr>
<td><strong>RRHD Extend - C18</strong></td>
<td>Acetonitrile</td>
<td>Category 2</td>
<td>-</td>
</tr>
</tbody>
</table>

### Aspiration hazard

Date of issue : 10/27/2022
Section 11. Toxicological information

Information on the likely routes of exposure:
- **RRHD SB-C18**
  - Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
- **RRHD Eclipse Plus C18**
  - Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
- **RRHD Extend - C18**
  - Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects:

**Eye contact**
- **RRHD SB-C18**
  - Causes serious eye irritation.
- **RRHD Eclipse Plus C18**
  - Causes serious eye irritation.
- **RRHD Extend - C18**
  - Causes serious eye irritation.

**Inhalation**
- **RRHD SB-C18**
  - No known significant effects or critical hazards.
- **RRHD Eclipse Plus C18**
  - No known significant effects or critical hazards.
- **RRHD Extend - C18**
  - No known significant effects or critical hazards.

**Skin contact**
- **RRHD SB-C18**
  - No known significant effects or critical hazards.
- **RRHD Eclipse Plus C18**
  - No known significant effects or critical hazards.
- **RRHD Extend - C18**
  - No known significant effects or critical hazards.

**Ingestion**
- **RRHD SB-C18**
  - No known significant effects or critical hazards.
- **RRHD Eclipse Plus C18**
  - No known significant effects or critical hazards.
- **RRHD Extend - C18**
  - No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics:

**Eye contact**
- **RRHD SB-C18**
  - Adverse symptoms may include the following:
    - pain or irritation
    - watering
    - redness
- **RRHD Eclipse Plus C18**
  - Adverse symptoms may include the following:
    - pain or irritation
    - watering
    - redness
- **RRHD Extend - C18**
  - Adverse symptoms may include the following:
    - pain or irritation
    - watering
    - redness

**Inhalation**
- **RRHD SB-C18**
  - No specific data.
- **RRHD Eclipse Plus C18**
  - No specific data.
- **RRHD Extend - C18**
  - No specific data.

**Skin contact**
- **RRHD SB-C18**
  - No specific data.
- **RRHD Eclipse Plus C18**
  - No specific data.
- **RRHD Extend - C18**
  - No specific data.

**Ingestion**
- **RRHD SB-C18**
  - No specific data.
- **RRHD Eclipse Plus C18**
  - No specific data.
- **RRHD Extend - C18**
  - No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure:

**Short term exposure**
- **Potential immediate effects**
  - Not available.
- **Potential delayed effects**
  - Not available.

**Long term exposure**
- **Potential immediate effects**
  - Not available.
- **Potential delayed effects**
  - Not available.
Section 11. Toxicological information

Potential chronic health effects

**General**
- RRHD SB-C18: May cause damage to organs through prolonged or repeated exposure.
- RRHD Extend - C18: May cause damage to organs through prolonged or repeated exposure.
- RRHD Eclipse Plus C18: May cause damage to organs through prolonged or repeated exposure.

**Carcinogenicity**
- RRHD SB-C18: No known significant effects or critical hazards.
- RRHD Extend - C18: No known significant effects or critical hazards.
- RRHD Eclipse Plus C18: No known significant effects or critical hazards.

**Mutagenicity**
- RRHD SB-C18: No known significant effects or critical hazards.
- RRHD Extend - C18: No known significant effects or critical hazards.
- RRHD Eclipse Plus C18: No known significant effects or critical hazards.

**Reproductive toxicity**
- RRHD SB-C18: No known significant effects or critical hazards.
- RRHD Extend - C18: No known significant effects or critical hazards.
- RRHD Eclipse Plus C18: No known significant effects or critical hazards.

Numerical measures of toxicity

**Acute toxicity estimates**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Oral (mg/kg)</th>
<th>Dermal (mg/kg)</th>
<th>Inhalation (gases) (ppm)</th>
<th>Inhalation (vapors) (mg/l)</th>
<th>Inhalation (dusts and mists) (mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRHD SB-C18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRHD SB-C18 Acetonitrile</td>
<td>2463.1</td>
<td>5418.7</td>
<td>N/A</td>
<td>54.2</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>500</td>
<td>1100</td>
<td></td>
<td>11</td>
<td>N/A</td>
</tr>
<tr>
<td>RRHD Eclipse Plus C18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRHD Eclipse Plus C18 Acetonitrile</td>
<td>2463.1</td>
<td>5418.7</td>
<td>N/A</td>
<td>54.2</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>500</td>
<td>1100</td>
<td></td>
<td>11</td>
<td>N/A</td>
</tr>
<tr>
<td>RRHD Extend - C18</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RRHD Extend - C18 Acetonitrile</td>
<td>2463.1</td>
<td>5418.7</td>
<td>N/A</td>
<td>54.2</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>500</td>
<td>1100</td>
<td></td>
<td>11</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Section 12. Ecological information

**12.1 Toxicity**

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRHD SB-C18 Acetonitrile</td>
<td>Acute IC50 3685000 µg/l Fresh water Acute LC50 3600000 µg/l Fresh water Acute LC50 1000000 µg/l Fresh water Chronic NOEC 1000000 µg/l Fresh water Chronic NOEC 160000 µg/l Fresh water</td>
<td>Aquatic plants - Lemna minor Daphnia - Daphnia magna Fish - Pimephales promelas Aquatic plants - Lemna minor Daphnia - Daphnia magna</td>
<td>96 hours 48 hours 96 hours 96 hours 21 days</td>
</tr>
<tr>
<td>RRHD Eclipse Plus C18 Acetonitrile</td>
<td>Acute IC50 3685000 µg/l Fresh water Acute LC50 3600000 µg/l Fresh water Acute LC50 1000000 µg/l Fresh water Chronic NOEC 1000000 µg/l Fresh water Chronic NOEC 160000 µg/l Fresh water</td>
<td>Aquatic plants - Lemna minor Daphnia - Daphnia magna Fish - Pimephales promelas Aquatic plants - Lemna minor Daphnia - Daphnia magna</td>
<td>96 hours 48 hours 96 hours 96 hours 21 days</td>
</tr>
<tr>
<td>RRHD Extend - C18 Acetonitrile</td>
<td>Acute IC50 3685000 µg/l Fresh water Acute LC50 3600000 µg/l Fresh water Acute LC50 1000000 µg/l Fresh water Chronic NOEC 1000000 µg/l Fresh water Chronic NOEC 160000 µg/l Fresh water</td>
<td>Aquatic plants - Lemna minor Daphnia - Daphnia magna Fish - Pimephales promelas Aquatic plants - Lemna minor Daphnia - Daphnia magna</td>
<td>96 hours 48 hours 96 hours 96 hours 21 days</td>
</tr>
</tbody>
</table>

Date of issue: 10/27/2022
### Section 12. Ecological information

<table>
<thead>
<tr>
<th>Acetonitrile</th>
<th>Acute IC₅₀ 3685000 µg/l Fresh water</th>
<th>Acute LC₅₀ 3600000 µg/l Fresh water</th>
<th>Chronic NOEC 10000 µg/l Fresh water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetonitrile</td>
<td>Fish - Pimephales promelas</td>
<td>Aquatic plants - Lemna minor</td>
<td>96 hours</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td>Daphnia - Daphnia magna</td>
<td>Daphnia - Daphnia magna</td>
<td>96 hours</td>
</tr>
</tbody>
</table>

#### 12.2 Persistence and degradability

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Test</th>
<th>Result</th>
<th>Dose</th>
<th>Inoculum</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RRHD SB-C18</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetonitrile</td>
<td>OECD 310 Ready Biodegradability - CO₂ in Sealed Vessels (Headspace Test)</td>
<td>70 % - Readily - 21 days</td>
<td>-</td>
<td>Activated sludge</td>
</tr>
<tr>
<td><strong>RRHD Eclipse Plus C18</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetonitrile</td>
<td>OECD 310 Ready Biodegradability - CO₂ in Sealed Vessels (Headspace Test)</td>
<td>70 % - Readily - 21 days</td>
<td>-</td>
<td>Activated sludge</td>
</tr>
<tr>
<td><strong>RRHD Extend - C18</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acetonitrile</td>
<td>OECD 310 Ready Biodegradability - CO₂ in Sealed Vessels (Headspace Test)</td>
<td>70 % - Readily - 21 days</td>
<td>-</td>
<td>Activated sludge</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Aquatic half-life</th>
<th>Photolysis</th>
<th>Biodegradability</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RRHD SB-C18</strong></td>
<td></td>
<td></td>
<td>Readily</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td></td>
<td></td>
<td>Readily</td>
</tr>
<tr>
<td><strong>RRHD Eclipse Plus C18</strong></td>
<td></td>
<td></td>
<td>Readily</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td></td>
<td></td>
<td>Readily</td>
</tr>
<tr>
<td><strong>RRHD Extend - C18</strong></td>
<td></td>
<td></td>
<td>Readily</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td></td>
<td></td>
<td>Readily</td>
</tr>
</tbody>
</table>

#### 12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogPₐw</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RRHD SB-C18</strong></td>
<td>-0.34</td>
<td>3</td>
<td>low</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RRHD Eclipse Plus C18</strong></td>
<td>-0.34</td>
<td>3</td>
<td>low</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>RRHD Extend - C18</strong></td>
<td>-0.34</td>
<td>3</td>
<td>low</td>
</tr>
<tr>
<td>Acetonitrile</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 12.4 Mobility in soil

**Date of issue:** 10/27/2022
Section 12. Ecological information

Soil/water partition coefficient (KOC) : Not available.

12.5 Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS #</th>
<th>Status</th>
<th>Reference number</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRHD SB-C18 Acetonitrile (I,T)</td>
<td>75-05-8</td>
<td>Listed</td>
<td>U003</td>
</tr>
<tr>
<td>RRHD Eclipse Plus C18 Acetonitrile (I,T)</td>
<td>75-05-8</td>
<td>Listed</td>
<td>U003</td>
</tr>
<tr>
<td>RRHD Extend - C18 Acetonitrile (I,T)</td>
<td>75-05-8</td>
<td>Listed</td>
<td>U003</td>
</tr>
</tbody>
</table>

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

This Safety Data Sheet is written based on the encapsulated substance or mixture in this article. Since the hazardous ingredient is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

DOT / TDG / Mexico / IMDG / : Not regulated.
IATA

Date of issue : 10/27/2022
Section 14. Transport information

Special provisions :
DOT: 47
TDG: 56
MX: 216
IATA: A46
IMDG: 216

Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

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

U.S. Federal regulations : TSCA 8(a) PAIR: Acetonitrile
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
Clean Water Act (CWA) 307: Acetonitrile

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed
Clean Air Act Section 602 Class I Substances : Not listed
Clean Air Act Section 602 Class II Substances : Not listed
DEA List I Chemicals (Precursor Chemicals) : Not listed
DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304
Composition/information on ingredients
No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312
Classification : RRHD SB-C18
RRHD Eclipse Plus C18
RRHD Extend - C18

Composition/information on ingredients

Date of issue : 10/27/2022
Section 15. Regulatory information

<table>
<thead>
<tr>
<th>Name</th>
<th>%</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>RRHD SB-C18</td>
<td>≥50 ≤75</td>
<td>COMBUSTIBLE DUSTS, FLAMMABLE LIQUIDS - Category 2, ACUTE TOXICITY (oral) - Category 4, ACUTE TOXICITY (dermal) - Category 4, ACUTE TOXICITY (inhalation) - Category 4, EYE IRRITATION - Category 2A, SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2</td>
</tr>
<tr>
<td>RRHD Eclipse Plus C18</td>
<td>≥50 ≤75</td>
<td>COMBUSTIBLE DUSTS, FLAMMABLE LIQUIDS - Category 2, ACUTE TOXICITY (oral) - Category 4, ACUTE TOXICITY (dermal) - Category 4, ACUTE TOXICITY (inhalation) - Category 4, EYE IRRITATION - Category 2A, SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2</td>
</tr>
<tr>
<td>RRHD Extend - C18</td>
<td>≥50 ≤75</td>
<td>COMBUSTIBLE DUSTS, FLAMMABLE LIQUIDS - Category 2, ACUTE TOXICITY (oral) - Category 4, ACUTE TOXICITY (dermal) - Category 4, ACUTE TOXICITY (inhalation) - Category 4, EYE IRRITATION - Category 2A, SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2</td>
</tr>
</tbody>
</table>

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

**State regulations**

- **Massachusetts**: The following components are listed: ACETONITRILE
- **New York**: The following components are listed: Acetonitrile
- **New Jersey**: The following components are listed: ACETONITRILE
- **Pennsylvania**: The following components are listed: ACETONITRILE

**California Prop. 65**

This product does not require a Safe Harbor warning under California Prop. 65.

**International regulations**

- **Chemical Weapon Convention List Schedules I, II & III Chemicals**

**Date of issue**: 10/27/2022
Section 15. Regulatory information

Not listed.

**Montreal Protocol**
Not listed.

**Stockholm Convention on Persistent Organic Pollutants**
Not listed.

**Rotterdam Convention on Prior Informed Consent (PIC)**
Not listed.

**UNECE Aarhus Protocol on POPs and Heavy Metals**
Not listed.

**Inventory list**

<table>
<thead>
<tr>
<th>Country</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Canada</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>China</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Eurasian Economic Union</td>
<td>Russian Federation inventory: All components are listed or exempted.</td>
</tr>
<tr>
<td>Japan</td>
<td>Japan inventory (CSCL): All components are listed or exempted. Japan inventory (ISHL): All components are listed or exempted.</td>
</tr>
<tr>
<td>New Zealand</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Philippines</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Taiwan</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>Thailand</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Turkey</td>
<td>All components are listed or exempted.</td>
</tr>
<tr>
<td>United States</td>
<td>All components are active or exempted.</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>Not determined.</td>
</tr>
</tbody>
</table>

Section 16. Other information

**Procedure used to derive the classification**

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RRHD SB-C18</strong> FLAMMABLE LIQUIDS - Category 2</td>
<td>On basis of test data</td>
</tr>
<tr>
<td>EYE IRRITATION - Category 2A</td>
<td>Calculation method</td>
</tr>
<tr>
<td>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2</td>
<td>Calculation method</td>
</tr>
<tr>
<td><strong>RRHD Eclipse Plus C18</strong> FLAMMABLE LIQUIDS - Category 2</td>
<td>On basis of test data</td>
</tr>
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<td>SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

**History**

- Date of issue: 10/27/2022
- Date of previous issue: 09/25/2019
- Version: 5
Section 16. Other information

Key to abbreviations:
- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- N/A = Not available
- UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

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