

SAFETY DATA SHEET



RRHD Aqueous Method Development Kit, Part Number 5190-6154

SECTION 1: Identification of the substance/mixture and of the company/undertaking

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 Aqueous Method Development Kit, Part Number 5190-6154
Part no. (chemical kit)	:	5190-6154
Part no.	:	RRHD SB-Aq 857700-914 RRHD Eclipse Plus Ph-Hex 959757-912 RRHD Bonus-RP 857768-901

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

Material uses	:	Analytical chemistry. Column RRHD SB-Aq 2.1 x 50 mm, 1.8 um, 1200 bar Solvent Volume: 0.1 ml RRHD Eclipse Plus Ph-Hex 2.1 x 50 mm, 1.8 um Solvent Volume: 0.1 ml RRHD Bonus-RP 2.1 x 50 mm, 1.8 um, 1200 bar Solvent Volume: 0.1 ml
----------------------	---	---

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

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

Product definition	:	RRHD SB-Aq Mixture (encapsulated in article) RRHD Eclipse Plus Ph-Hex Mixture (encapsulated in article) Hex RRHD Bonus-RP Mixture (encapsulated in article)
---------------------------	---	--

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

SECTION 2: Hazards identification

Response	: RRHD SB-Aq	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 Ph-Hex	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 Bonus-RP	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-Aq RRHD Eclipse Plus Ph-Hex RRHD Bonus-RP	Not applicable. Not applicable. Not applicable.
Disposal	: RRHD SB-Aq RRHD Eclipse Plus Ph-Hex RRHD Bonus-RP	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	: RRHD SB-Aq RRHD Eclipse Plus Ph-Hex RRHD Bonus-RP	Not applicable. Not applicable. Not applicable.
Supplemental label elements	: RRHD SB-Aq RRHD Eclipse Plus Ph-Hex RRHD Bonus-RP	Not applicable. Not applicable. Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: RRHD SB-Aq RRHD Eclipse Plus Ph-Hex RRHD Bonus-RP	Not applicable. Not applicable. Not applicable.
<u>Special packaging requirements</u>		
Tactile warning of danger	: RRHD SB-Aq RRHD Eclipse Plus Ph-Hex RRHD Bonus-RP	Not applicable. Not applicable. Not applicable.
2.3 Other hazards		
Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII	: RRHD SB-Aq RRHD Eclipse Plus Ph-Hex RRHD Bonus-RP	This mixture does not contain any substances that are assessed to be a PBT or a vPvB. This mixture does not contain any substances that are assessed to be a PBT or a vPvB. This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
Other hazards which do not result in classification	: RRHD SB-Aq RRHD Eclipse Plus Ph-Hex RRHD Bonus-RP	None known. None known. None known.

RRHD Aqueous Method Development Kit, Part Number 5190-6154

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.

3.1 Substances : RRHD SB-Aq Mixture (encapsulated in article)
 RRHD Eclipse Plus Ph-Hex Mixture (encapsulated in article)
 RRHD Bonus-RP Mixture (encapsulated in article)

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
RRHD SB-Aq Acetonitrile	EC: 200-835-2 CAS: 75-05-8 Index: 608-001-00-3	≥10 - <25	Flam. Liq. 2, H225 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Eye Irrit. 2, H319	[1] [2]
RRHD Eclipse Plus Ph-Hex Acetonitrile	EC: 200-835-2 CAS: 75-05-8 Index: 608-001-00-3	≥10 - <25	Flam. Liq. 2, H225 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Eye Irrit. 2, H319	[1] [2]
RRHD Bonus-RP Acetonitrile	EC: 200-835-2 CAS: 75-05-8 Index: 608-001-00-3	≥10 - <25	Flam. Liq. 2, H225 Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Eye Irrit. 2, H319 See Section 16 for the full text of the H statements declared above.	[1] [2]

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.

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy

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

SECTION 4: First aid measures

4.1 Description of first aid measures

SECTION 4: First aid measures

Eye contact	: RRHD SB-Aq	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 Ph-Hex	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 Bonus-RP	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.
Inhalation	: RRHD SB-Aq	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 if adverse health effects persist or are severe. 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 Ph-Hex	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 if adverse health effects persist or are severe. 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 Bonus-RP	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 if adverse health effects persist or are severe. 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-Aq	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	RRHD Eclipse Plus Ph-Hex	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	RRHD Bonus-RP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes

SECTION 4: First aid measures

Ingestion	: RRHD SB-Aq	thoroughly before reuse. 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 if adverse health effects persist or are severe. 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.
	RRHD Eclipse Plus Ph-Hex	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 if adverse health effects persist or are severe. 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.
	RRHD Bonus-RP	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 if adverse health effects persist or are severe. 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.
Protection of first-aiders	: RRHD SB-Aq	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.
	RRHD Eclipse Plus Ph-Hex	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.
	RRHD Bonus-RP	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.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	: RRHD SB-Aq	Causes serious eye irritation.
	RRHD Eclipse Plus Ph-Hex	Causes serious eye irritation.
	RRHD Bonus-RP	Causes serious eye irritation.
Inhalation	: RRHD SB-Aq	No known significant effects or critical hazards.
	RRHD Eclipse Plus Ph-Hex	No known significant effects or critical hazards.
	RRHD Bonus-RP	No known significant effects or critical hazards.
Skin contact	: RRHD SB-Aq	No known significant effects or critical hazards.
	RRHD Eclipse Plus Ph-Hex	No known significant effects or critical hazards.
	RRHD Bonus-RP	No known significant effects or critical hazards.

RRHD Aqueous Method Development Kit, Part Number 5190-6154

SECTION 4: First aid measures

Ingestion	: RRHD SB-Aq	No known significant effects or critical hazards.
	RRHD Eclipse Plus Ph-Hex	No known significant effects or critical hazards.
	RRHD Bonus-RP	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: RRHD SB-Aq	Adverse symptoms may include the following: pain or irritation watering redness
	RRHD Eclipse Plus Ph-Hex	Adverse symptoms may include the following: pain or irritation watering redness
	RRHD Bonus-RP	Adverse symptoms may include the following: pain or irritation watering redness

Inhalation	: RRHD SB-Aq	No specific data.
	RRHD Eclipse Plus Ph-Hex	No specific data.
	RRHD Bonus-RP	No specific data.

Skin contact	: RRHD SB-Aq	No specific data.
	RRHD Eclipse Plus Ph-Hex	No specific data.
	RRHD Bonus-RP	No specific data.

Ingestion	: RRHD SB-Aq	No specific data.
	RRHD Eclipse Plus Ph-Hex	No specific data.
	RRHD Bonus-RP	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: RRHD SB-Aq	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 Ph-Hex	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 Bonus-RP	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	: RRHD SB-Aq	No specific treatment.
	RRHD Eclipse Plus Ph-Hex	No specific treatment.
	RRHD Bonus-RP	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: RRHD SB-Aq	Use dry chemical, CO ₂ , water spray (fog) or foam.
	RRHD Eclipse Plus Ph-Hex	Use dry chemical, CO ₂ , water spray (fog) or foam.
	RRHD Bonus-RP	Use dry chemical, CO ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	: RRHD SB-Aq	Do not use water jet.
	RRHD Eclipse Plus Ph-Hex	Do not use water jet.
	RRHD Bonus-RP	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

SECTION 5: Firefighting measures

Hazards from the substance or mixture	: RRHD SB-Aq	Highly flammable liquid and vapour. 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.
	RRHD Eclipse Plus Ph-Hex	Highly flammable liquid and vapour. 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.
	RRHD Bonus-RP	Highly flammable liquid and vapour. 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 combustion products	: RRHD SB-Aq	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides metal oxide/oxides cyanides
	RRHD Eclipse Plus Ph-Hex	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides metal oxide/oxides cyanides
	RRHD Bonus-RP	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides metal oxide/oxides cyanides
5.3 Advice for firefighters		
Special precautions for fire-fighters	: RRHD SB-Aq	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.
	RRHD Eclipse Plus Ph-Hex	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.
	RRHD Bonus-RP	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-Aq	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	RRHD Eclipse Plus Ph-Hex	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	RRHD Bonus-RP	Fire-fighters should wear appropriate protective equipment

RRHD Aqueous Method Development Kit, Part Number 5190-6154

SECTION 5: Firefighting measures

and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: RRHD SB-Aq	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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	RRHD Eclipse Plus Ph-Hex	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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	RRHD Bonus-RP	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 spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: RRHD SB-Aq	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	RRHD Eclipse Plus Ph-Hex	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	RRHD Bonus-RP	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
6.2 Environmental precautions	: RRHD SB-Aq	Avoid dispersal of spilt 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 Ph-Hex	Avoid dispersal of spilt 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 Bonus-RP	Avoid dispersal of spilt 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 Aqueous Method Development Kit, Part Number 5190-6154

SECTION 6: Accidental release measures

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	: RRHD SB-Aq	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 Ph-Hex	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 Bonus-RP	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.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	: RRHD SB-Aq	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. 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 Ph-Hex	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. 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 Bonus-RP	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and

SECTION 7: Handling and storage

		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.
Advice on general occupational hygiene	: RRHD SB-Aq	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.
	RRHD Eclipse Plus Ph-Hex	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.
	RRHD Bonus-RP	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.

7.2 Conditions for safe storage, including any incompatibilities

Storage	: RRHD SB-Aq	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 oxidising 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	RRHD Eclipse Plus Ph-Hex	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 oxidising 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	RRHD Bonus-RP	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 oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept

RRHD Aqueous Method Development Kit, Part Number 5190-6154

SECTION 7: Handling and storage

upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
RRHD SB-Aq P5c	5000 tonne	50000 tonne
RRHD Eclipse Plus Ph-Hex P5c	5000 tonne	50000 tonne
RRHD Bonus-RP P5c	5000 tonne	50000 tonne

7.3 Specific end use(s)

Recommendations	: RRHD SB-Aq	Industrial applications, Professional applications.
	RRHD Eclipse Plus Ph-Hex	Industrial applications, Professional applications.
	RRHD Bonus-RP	Industrial applications, Professional applications.
Industrial sector specific solutions	: RRHD SB-Aq	Not available.
	RRHD Eclipse Plus Ph-Hex	Not available.
	RRHD Bonus-RP	Not available.

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

Product/ingredient name	Exposure limit values
RRHD SB-Aq Acetonitrile	NAOSH (Ireland, 1/2020). Absorbed through skin. OELV-8hr: 40 ppm 8 hours. OELV-8hr: 70 mg/m ³ 8 hours.
RRHD Eclipse Plus Ph-Hex Acetonitrile	NAOSH (Ireland, 1/2020). Absorbed through skin. OELV-8hr: 40 ppm 8 hours. OELV-8hr: 70 mg/m ³ 8 hours.
RRHD Bonus-RP Acetonitrile	NAOSH (Ireland, 1/2020). Absorbed through skin. OELV-8hr: 40 ppm 8 hours. OELV-8hr: 70 mg/m ³ 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace

SECTION 8: Exposure controls/personal protection

atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
RRHD SB-Aq Acetonitrile	DNEL	Short term Oral	0.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	4.8 mg/m ³	General population	Local
	DNEL	Long term Inhalation	4.8 mg/m ³	General population	Systemic
	DNEL	Short term Inhalation	22 mg/m ³	General population	Local
	DNEL	Long term Dermal	32.2 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	68 mg/m ³	Workers	Local
	DNEL	Long term Inhalation	68 mg/m ³	Workers	Local
	DNEL	Short term Inhalation	68 mg/m ³	Workers	Systemic
	DNEL	Long term Inhalation	68 mg/m ³	Workers	Systemic
	DNEL	Short term Inhalation	220 mg/m ³	General population	Systemic
	RRHD Eclipse Plus Ph-Hex Acetonitrile	DNEL	Short term Oral	0.6 mg/kg bw/day	General population
DNEL		Long term Inhalation	4.8 mg/m ³	General population	Local
DNEL		Long term Inhalation	4.8 mg/m ³	General population	Systemic
DNEL		Short term Inhalation	22 mg/m ³	General population	Local
DNEL		Long term Dermal	32.2 mg/kg bw/day	Workers	Systemic
DNEL		Short term Inhalation	68 mg/m ³	Workers	Local
DNEL		Long term Inhalation	68 mg/m ³	Workers	Local
DNEL		Short term Inhalation	68 mg/m ³	Workers	Systemic
DNEL		Long term Inhalation	68 mg/m ³	Workers	Systemic
DNEL		Short term Inhalation	220 mg/m ³	General population	Systemic
RRHD Bonus-RP Acetonitrile		DNEL	Short term Oral	0.6 mg/kg bw/day	General population
	DNEL	Long term Inhalation	4.8 mg/m ³	General population	Local
	DNEL	Long term Inhalation	4.8 mg/m ³	General population	Systemic
	DNEL	Short term Inhalation	22 mg/m ³	General population	Local
	DNEL	Long term Dermal	32.2 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	68 mg/m ³	Workers	Local

SECTION 8: Exposure controls/personal protection

	DNEL	Inhalation Long term	68 mg/m ³	Workers	Local
	DNEL	Inhalation Short term	68 mg/m ³	Workers	Systemic
	DNEL	Inhalation Long term	68 mg/m ³	Workers	Systemic
	DNEL	Inhalation Short term	220 mg/m ³	General population	Systemic

PNECs

No PNECs available

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, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

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.

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.

SECTION 9: Physical and chemical properties

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: RRHD SB-Aq	Solid. (containing flammable liquid)
	RRHD Eclipse Plus Ph-Hex	Solid. (containing flammable liquid)
	RRHD Bonus-RP	Solid. (containing flammable liquid)
Colour	: RRHD SB-Aq	White.
	RRHD Eclipse Plus Ph-Hex	White.
	RRHD Bonus-RP	White.
Odour	: RRHD SB-Aq	Not available.
	RRHD Eclipse Plus Ph-Hex	Not available.
	RRHD Bonus-RP	Not available.
Odour threshold	: RRHD SB-Aq	Not available.
	RRHD Eclipse Plus Ph-Hex	Not available.
	RRHD Bonus-RP	Not available.
Melting point/freezing point	: RRHD SB-Aq	Not available.
	RRHD Eclipse Plus Ph-Hex	Not available.
	RRHD Bonus-RP	Not available.
Initial boiling point and boiling range	: RRHD SB-Aq	Not available.
	RRHD Eclipse Plus Ph-Hex	Not available.
	RRHD Bonus-RP	Not available.
Flammability (solid, gas)	: RRHD SB-Aq	Contains: Flammable liquid
	RRHD Eclipse Plus Ph-Hex	Contains: Flammable liquid
	RRHD Bonus-RP	Not applicable.
Upper/lower flammability or explosive limits	: RRHD SB-Aq	Not available.
	RRHD Eclipse Plus Ph-Hex	Not available.
	RRHD Bonus-RP	Not available.
Flash point	: RRHD SB-Aq	Closed cup: -18 to 23°C (-0.4 to 73.4°F)
	RRHD Eclipse Plus Ph-Hex	Closed cup: -18 to 23°C (-0.4 to 73.4°F)
	RRHD Bonus-RP	Closed cup: -18 to 23°C (-0.4 to 73.4°F)

Auto-ignition temperature	: Ingredient name	°C	°F	Method
	RRHD SB-Aq			
	Acetonitrile	524	975.2	
	RRHD Eclipse Plus Ph-Hex			
	Acetonitrile	524	975.2	
	RRHD Bonus-RP			
	Acetonitrile	524	975.2	

Decomposition temperature	: RRHD SB-Aq	Not available.
	RRHD Eclipse Plus Ph-Hex	Not available.
	RRHD Bonus-RP	Not available.

RRHD Aqueous Method Development Kit, Part Number 5190-6154

SECTION 9: Physical and chemical properties

pH	:	RRHD SB-Aq	Not available.
		RRHD Eclipse Plus Ph-Hex	Not available.
		RRHD Bonus-RP	Not available.
Viscosity	:	RRHD SB-Aq	Not available.
		RRHD Eclipse Plus Ph-Hex	Not available.
		RRHD Bonus-RP	Not available.
Solubility(ies)	:	RRHD SB-Aq	Mobile phase: Soluble Stationary phase: Insoluble
		RRHD Eclipse Plus Ph-Hex	Mobile phase: Soluble Stationary phase: Insoluble
		RRHD Bonus-RP	Mobile phase: Soluble Stationary phase: Insoluble
Partition coefficient: n-octanol/water	:	RRHD SB-Aq	Not applicable.
		RRHD Eclipse Plus Ph-Hex	Not applicable.
		RRHD Bonus-RP	Not applicable.
Vapour pressure	:		

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
RRHD SB-Aq						
Acetonitrile	70.89	9.5				
water	23.8	3.2		92.258	12.3	
RRHD Eclipse Plus Ph-Hex						
Acetonitrile	70.89	9.5				
water	23.8	3.2		92.258	12.3	
RRHD Bonus-RP						
Acetonitrile	70.89	9.5				
water	23.8	3.2		92.258	12.3	

Evaporation rate	:	RRHD SB-Aq	Not available.
		RRHD Eclipse Plus Ph-Hex	Not available.
		RRHD Bonus-RP	Not available.
Relative density	:	RRHD SB-Aq	Not available.
		RRHD Eclipse Plus Ph-Hex	Not available.
		RRHD Bonus-RP	Not available.
Vapour density	:	RRHD SB-Aq	Not available.
		RRHD Eclipse Plus Ph-Hex	Not available.
		RRHD Bonus-RP	Not available.
Oxidising properties	:	RRHD SB-Aq	Not available.
		RRHD Eclipse Plus Ph-Hex	Not available.
		RRHD Bonus-RP	Not available.

Particle characteristics

RRHD Aqueous Method Development Kit, Part Number 5190-6154

SECTION 9: Physical and chemical properties

Median particle size	: RRHD SB-Aq	Not applicable.
	RRHD Eclipse Plus Ph-Hex	Not applicable.
	RRHD Bonus-RP	Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: RRHD SB-Aq	No specific test data related to reactivity available for this product or its ingredients.
	RRHD Eclipse Plus Ph-Hex	No specific test data related to reactivity available for this product or its ingredients.
	RRHD Bonus-RP	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: RRHD SB-Aq	The product is stable.
	RRHD Eclipse Plus Ph-Hex	The product is stable.
	RRHD Bonus-RP	The product is stable.
10.3 Possibility of hazardous reactions	: RRHD SB-Aq	Under normal conditions of storage and use, hazardous reactions will not occur.
	RRHD Eclipse Plus Ph-Hex	Under normal conditions of storage and use, hazardous reactions will not occur.
	RRHD Bonus-RP	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: RRHD SB-Aq	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
	RRHD Eclipse Plus Ph-Hex	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
	RRHD Bonus-RP	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
10.5 Incompatible materials	: RRHD SB-Aq	Reactive or incompatible with the following materials: oxidising materials. Incompatible with hydrogen fluoride.
	RRHD Eclipse Plus Ph-Hex	Reactive or incompatible with the following materials: oxidising materials. Incompatible with hydrogen fluoride.
	RRHD Bonus-RP	Reactive or incompatible with the following materials: oxidising materials. Incompatible with hydrogen fluoride.
10.6 Hazardous decomposition products	: RRHD SB-Aq	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	RRHD Eclipse Plus Ph-Hex	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	RRHD Bonus-RP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

RRHD Aqueous Method Development Kit, Part Number 5190-6154

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
RRHD SB-Aq Acetonitrile	LC50 Inhalation Vapour LD50 Oral	Rat Rat	17100 ppm 2460 mg/kg	4 hours -
RRHD Eclipse Plus Ph-Hex Acetonitrile	LC50 Inhalation Vapour LD50 Oral	Rat Rat	17100 ppm 2460 mg/kg	4 hours -
RRHD Bonus-RP Acetonitrile	LC50 Inhalation Vapour LD50 Oral	Rat Rat	17100 ppm 2460 mg/kg	4 hours -

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
RRHD SB-Aq RRHD SB-Aq Acetonitrile	2958.6 500	6508.9 1100	N/A N/A	65.1 11	N/A N/A
RRHD Eclipse Plus Ph-Hex RRHD Eclipse Plus Ph-Hex Acetonitrile	2688.2 500	5914 1100	N/A N/A	59.1 11	N/A N/A
RRHD Bonus-RP RRHD Bonus-RP Acetonitrile	2688.2 500	5914 1100	N/A N/A	59.1 11	N/A N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
RRHD SB-Aq Acetonitrile	Eyes - Moderate irritant	Rabbit	-	24 hours 100 uL	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
RRHD Eclipse Plus Ph-Hex Acetonitrile	Eyes - Moderate irritant	Rabbit	-	24 hours 100 uL	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
RRHD Bonus-RP Acetonitrile	Eyes - Moderate irritant	Rabbit	-	24 hours 100 uL	-
	Skin - Mild irritant	Rabbit	-	500 mg	-

Sensitiser

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

SECTION 11: Toxicological information

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : RRHD SB-Aq Routes of entry anticipated: Oral, Dermal, Inhalation.
RRHD Eclipse Plus Ph-Hex Routes of entry anticipated: Oral, Dermal, Inhalation.
RRHD Bonus-RP Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Inhalation	: RRHD SB-Aq	No known significant effects or critical hazards.
	RRHD Eclipse Plus Ph-Hex	No known significant effects or critical hazards.
	RRHD Bonus-RP	No known significant effects or critical hazards.
Ingestion	: RRHD SB-Aq	No known significant effects or critical hazards.
	RRHD Eclipse Plus Ph-Hex	No known significant effects or critical hazards.
	RRHD Bonus-RP	No known significant effects or critical hazards.
Skin contact	: RRHD SB-Aq	No known significant effects or critical hazards.
	RRHD Eclipse Plus Ph-Hex	No known significant effects or critical hazards.
	RRHD Bonus-RP	No known significant effects or critical hazards.
Eye contact	: RRHD SB-Aq	Causes serious eye irritation.
	RRHD Eclipse Plus Ph-Hex	Causes serious eye irritation.
	RRHD Bonus-RP	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	: RRHD SB-Aq	No specific data.
	RRHD Eclipse Plus Ph-Hex	No specific data.
	RRHD Bonus-RP	No specific data.
Ingestion	: RRHD SB-Aq	No specific data.
	RRHD Eclipse Plus Ph-Hex	No specific data.
	RRHD Bonus-RP	No specific data.
Skin contact	: RRHD SB-Aq	No specific data.
	RRHD Eclipse Plus Ph-Hex	No specific data.
	RRHD Bonus-RP	No specific data.
Eye contact	: RRHD SB-Aq	Adverse symptoms may include the following: pain or irritation watering redness
	RRHD Eclipse Plus Ph-Hex	Adverse symptoms may include the following: pain or irritation watering redness
	RRHD Bonus-RP	Adverse symptoms may include the following: pain or irritation watering redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

SECTION 11: Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: RRHD SB-Aq	No known significant effects or critical hazards.
	RRHD Eclipse Plus Ph-Hex	No known significant effects or critical hazards.
	RRHD Bonus-RP	No known significant effects or critical hazards.
Carcinogenicity	: RRHD SB-Aq	No known significant effects or critical hazards.
	RRHD Eclipse Plus Ph-Hex	No known significant effects or critical hazards.
	RRHD Bonus-RP	No known significant effects or critical hazards.
Mutagenicity	: RRHD SB-Aq	No known significant effects or critical hazards.
	RRHD Eclipse Plus Ph-Hex	No known significant effects or critical hazards.
	RRHD Bonus-RP	No known significant effects or critical hazards.
Reproductive toxicity	: RRHD SB-Aq	No known significant effects or critical hazards.
	RRHD Eclipse Plus Ph-Hex	No known significant effects or critical hazards.
	RRHD Bonus-RP	No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
RRHD SB-Aq Acetonitrile	Acute IC50 3685000 µg/l Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 3600000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 1000000 µg/l Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 160000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
RRHD Eclipse Plus Ph-Hex Acetonitrile	Acute IC50 3685000 µg/l Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 3600000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 1000000 µg/l Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 160000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
RRHD Bonus-RP Acetonitrile	Acute IC50 3685000 µg/l Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 3600000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 1000000 µg/l Fresh water	Aquatic plants - Lemna minor	96 hours
	Chronic NOEC 160000 µg/l Fresh water	Daphnia - Daphnia magna	21 days

12.2 Persistence and degradability

RRHD Aqueous Method Development Kit, Part Number 5190-6154

SECTION 12: Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
RRHD SB-Aq Acetonitrile	OECD 310 Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)	70 % - Readily - 21 days	-	Activated sludge
RRHD Eclipse Plus Ph-Hex Acetonitrile	OECD 310 Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)	70 % - Readily - 21 days	-	Activated sludge
RRHD Bonus-RP Acetonitrile	OECD 310 Ready Biodegradability - CO2 in Sealed Vessels (Headspace Test)	70 % - Readily - 21 days	-	Activated sludge

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
RRHD SB-Aq Acetonitrile	-	-	Readily
RRHD Eclipse Plus Ph-Hex Acetonitrile	-	-	Readily
RRHD Bonus-RP Acetonitrile	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
RRHD SB-Aq Acetonitrile	-0.34	3	low
RRHD Eclipse Plus Ph-Hex Acetonitrile	-0.34	3	low
RRHD Bonus-RP Acetonitrile	-0.34	3	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

RRHD Aqueous Method Development Kit, Part Number 5190-6154

SECTION 12: Ecological information

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised 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.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : 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. Vapour 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

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.

	ADR/RID	IMDG	IATA
14.1 UN number	Not regulated.	Not regulated.	Not regulated.
14.2 UN proper shipping name	-	-	-
14.3 Transport hazard class(es)	-	-	-
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

Remarks :Special provisions

ADR: 216

IATA: A46

IMDG: 216

14.6 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.

RRHD Aqueous Method Development Kit, Part Number 5190-6154

SECTION 14: Transport information

14.7 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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

Label	: RRHD SB-Aq	Not applicable.
	RRHD Eclipse Plus Ph-Hex	Not applicable.
	RRHD Bonus-RP	Not applicable.

Other EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Industrial emissions (integrated pollution prevention and control) - Water : Listed

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

RRHD SB-Aq
P5c

RRHD Eclipse Plus Ph-Hex
P5c

RRHD Bonus-RP
P5c

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

RRHD Aqueous Method Development Kit, Part Number 5190-6154

SECTION 15: Regulatory information

Not listed.

[Rotterdam Convention on Prior Informed Consent \(PIC\)](#)

Not listed.

[UNECE Aarhus Protocol on POPs and Heavy Metals](#)

Not listed.

[Inventory list](#)

Australia	: All components are listed or exempted.
Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
Europe	: All components are listed or exempted.
Japan	: Japan inventory (CSCL) : All components are listed or exempted. Japan inventory (ISHL) : All components are listed or exempted.
New Zealand	: All components are listed or exempted.
Philippines	: Not determined.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Thailand	: Not determined.
Turkey	: All components are listed or exempted.
United States	: All components are active or exempted.
Viet Nam	: Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

📄 Indicates information that has changed from previously issued version.

Abbreviations and acronyms	: ATE = Acute Toxicity Estimate CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008] DMEL = Derived Minimal Effect Level DNEL = Derived No Effect Level EUH statement = CLP-specific Hazard statement N/A = Not available PBT = Persistent, Bioaccumulative and Toxic PNEC = Predicted No Effect Concentration RRN = REACH Registration Number vPvB = Very Persistent and Very Bioaccumulative
-----------------------------------	---

[Procedure used to derive the classification according to Regulation \(EC\) No. 1272/2008 \[CLP/GHS\]](#)

Classification	Justification
RRHD SB-Aq Flam. Liq. 2, H225 Eye Irrit. 2, H319	On basis of test data Calculation method
RRHD Eclipse Plus Ph-Hex Flam. Liq. 2, H225 Eye Irrit. 2, H319	On basis of test data Calculation method
RRHD Bonus-RP Flam. Liq. 2, H225 Eye Irrit. 2, H319	On basis of test data Calculation method

[Full text of abbreviated H statements](#)

RRHD Aqueous Method Development Kit, Part Number 5190-6154

SECTION 16: Other information

<p>RRHD SB-Aq H225 H302 H312 H319 H332</p>	<p>Highly flammable liquid and vapour. Harmful if swallowed. Harmful in contact with skin. Causes serious eye irritation. Harmful if inhaled.</p>
<p>RRHD Eclipse Plus Ph-Hex H225 H302 H312 H319 H332</p>	<p>Highly flammable liquid and vapour. Harmful if swallowed. Harmful in contact with skin. Causes serious eye irritation. Harmful if inhaled.</p>
<p>RRHD Bonus-RP H225 H302 H312 H319 H332</p>	<p>Highly flammable liquid and vapour. Harmful if swallowed. Harmful in contact with skin. Causes serious eye irritation. Harmful if inhaled.</p>

Full text of classifications [CLP/GHS]

<p>RRHD SB-Aq Acute Tox. 4 Eye Irrit. 2 Flam. Liq. 2</p>	<p>ACUTE TOXICITY - Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2</p>
<p>RRHD Eclipse Plus Ph-Hex Acute Tox. 4 Eye Irrit. 2 Flam. Liq. 2</p>	<p>ACUTE TOXICITY - Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2</p>
<p>RRHD Bonus-RP Acute Tox. 4 Eye Irrit. 2 Flam. Liq. 2</p>	<p>ACUTE TOXICITY - Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE LIQUIDS - Category 2</p>

Date of issue/ Date of revision : 01/04/2022

Date of previous issue : No previous validation

Version : 1

Notice to reader

Disclaimer: The information contained in this document is based on Agilent’s state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.