

SAFETY DATA SHEET



Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380

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

1.1 Product identifier

Product name : Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380
Part no. (chemical kit) : 5188-5380
Part no. : 2X Hi-RPM Hybridization Buffer 5188-6420
10X aCGH Blocking Agent 5190-0405

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

Material uses : Analytical reagent.
2X Hi-RPM Hybridization Buffer 25 ml
10X aCGH Blocking Agent 5 x 1.4 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

2.1 Classification of the substance or mixture

Product definition : 2X Hi-RPM Hybridization Buffer Mixture
10X aCGH Blocking Agent Mixture

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

2X Hi-RPM Hybridization Buffer

H315 SKIN CORROSION/IRRITATION - Category 2
H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
H412 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

10X aCGH Blocking Agent

H315 SKIN CORROSION/IRRITATION - Category 2
H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
H335 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3



SECTION 2: Hazards identification

Ingredients of unknown toxicity	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: > 60% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: > 60% Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: > 60%
Ingredients of unknown ecotoxicity	: <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 17.9% Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 83.2%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms	: <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	 
Signal word	: <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Warning Warning
Hazard statements	: <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	H319 - Causes serious eye irritation. H315 - Causes skin irritation. H412 - Harmful to aquatic life with long lasting effects. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H335 - May cause respiratory irritation.
<u>Precautionary statements</u>		
Prevention	: <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	P280 - Wear protective gloves. Wear eye or face protection. P273 - Avoid release to the environment. P280 - Wear protective gloves. Wear eye or face protection. P261 - Avoid breathing dust.
Response	: <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
Storage	: <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not applicable. P405 - Store locked up.

Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380

SECTION 2: Hazards identification

Disposal	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	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	: <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not applicable. - 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride - Trometamol
Supplemental label elements	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not applicable. Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not applicable. Not applicable.
<u>Special packaging requirements</u>		
Tactile warning of danger	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not applicable. Not applicable.

2.3 Other hazards

Other hazards which do not result in classification	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	None known. None known.
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SECTION 3: Composition/information on ingredients

3.1 Substances	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Mixture Mixture
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Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
<input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer Lithium chloride	EC: 231-212-3 CAS: 7447-41-8	≤12	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
Lithium dodecyl sulphate	EC: 218-058-2 CAS: 2044-56-6	≤6.4	Flam. Sol. 1, H228 Acute Tox. 4, H302 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335	[1]
Polyoxyethylene octyl phenyl ether	CAS: 9002-93-1	≤6.4	Aquatic Chronic 3, H412 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1] [5]
Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyloxy)-1-disiloxanyl]propyl] ether	CAS: 134180-76-0	≤3	Aquatic Chronic 2, H411 Acute Tox. 4, H312 Acute Tox. 4, H332 Eye Irrit. 2, H319 Aquatic Chronic 3, H412	[1]

Date of issue/Date of revision : 23/10/2018

3/20

Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380

SECTION 3: Composition/information on ingredients

10X aCGH Blocking Agent 2-Amino-2-(hydroxymethyl) propane-1,3-diol hydrochloride	EC: 214-684-5 CAS: 1185-53-1	≥10 - ≤25	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
Trometamol	EC: 201-064-4 CAS: 77-86-1	≥10 - ≤25	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 See Section 16 for the full text of the H statements declared above.	[1]

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: <input checked="" type="checkbox"/> Hi-RPM Hybridization Buffer	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.
	10X aCGH Blocking Agent	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	: <input checked="" type="checkbox"/> Hi-RPM Hybridization Buffer	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.
	10X aCGH Blocking Agent	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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 necessary, call a poison center or physician. 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.

SECTION 4: First aid measures

Skin contact	: <input checked="" type="checkbox"/> Hi-RPM Hybridization Buffer	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	10X aCGH Blocking Agent	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: <input checked="" type="checkbox"/> Hi-RPM Hybridization Buffer	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.
	10X aCGH Blocking Agent	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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	: <input checked="" type="checkbox"/> Hi-RPM Hybridization Buffer	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.
	10X aCGH Blocking Agent	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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	: <input checked="" type="checkbox"/> Hi-RPM Hybridization Buffer	Causes serious eye irritation.
	10X aCGH Blocking Agent	Causes serious eye irritation.
Inhalation	: 2X Hi-RPM Hybridization Buffer	No known significant effects or critical hazards.
	10X aCGH Blocking Agent	May cause respiratory irritation.
Skin contact	: <input checked="" type="checkbox"/> Hi-RPM Hybridization Buffer	Causes skin irritation.
	10X aCGH Blocking Agent	Causes skin irritation.

SECTION 4: First aid measures

Ingestion : 2X Hi-RPM Hybridization Buffer No known significant effects or critical hazards.
 10X aCGH Blocking Agent No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : 2X Hi-RPM Hybridization Buffer Adverse symptoms may include the following:
 pain or irritation
 watering
 redness
 10X aCGH Blocking Agent Adverse symptoms may include the following:
 pain or irritation
 watering
 redness

Inhalation : 2X Hi-RPM Hybridization Buffer No specific data.
 10X aCGH Blocking Agent Adverse symptoms may include the following:
 respiratory tract irritation
 coughing

Skin contact : 2X Hi-RPM Hybridization Buffer Adverse symptoms may include the following:
 irritation
 redness
 10X aCGH Blocking Agent Adverse symptoms may include the following:
 irritation
 redness

Ingestion : 2X Hi-RPM Hybridization Buffer No specific data.
 10X aCGH Blocking Agent No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : 2X Hi-RPM Hybridization Buffer 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.
 10X aCGH Blocking Agent 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 : 2X Hi-RPM Hybridization Buffer No specific treatment.
 10X aCGH Blocking Agent No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : 2X Hi-RPM Hybridization Buffer Use an extinguishing agent suitable for the surrounding fire.
 10X aCGH Blocking Agent Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media : 2X Hi-RPM Hybridization Buffer None known.
 10X aCGH Blocking Agent None known.

SECTION 5: Firefighting measures

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: 2X Hi-RPM Hybridization Buffer	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	10X aCGH Blocking Agent	No specific fire or explosion hazard.
Hazardous combustion products	: 2X Hi-RPM Hybridization Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides
	10X aCGH Blocking Agent	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides halogenated compounds

5.3 Advice for firefighters

Special precautions for fire-fighters	: 2X Hi-RPM Hybridization Buffer	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.
	10X aCGH Blocking Agent	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.
Special protective equipment for fire-fighters	: 2X Hi-RPM Hybridization Buffer	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.
	10X aCGH Blocking Agent	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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer	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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	10X aCGH Blocking Agent	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. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal

SECTION 6: Accidental release measures

For emergency responders	: 2X Hi-RPM Hybridization Buffer	protective equipment. 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".
	10X aCGH Blocking Agent	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	: 2X Hi-RPM Hybridization Buffer	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). Water polluting material. May be harmful to the environment if released in large quantities.
	10X aCGH Blocking Agent	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).
6.3 Methods and material for containment and cleaning up		
Methods for cleaning up	: 2X Hi-RPM Hybridization Buffer	Stop leak if without risk. Move containers from spill area. 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.
	10X aCGH Blocking Agent	Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste 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	: 2 X Hi-RPM Hybridization Buffer	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	10X aCGH Blocking Agent	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380

SECTION 7: Handling and storage

Advice on general occupational hygiene	: 2X Hi-RPM Hybridization Buffer	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.
	10X aCGH Blocking Agent	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	: <input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer	Store in accordance with local regulations. 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. 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.
	10X aCGH Blocking Agent	Store in accordance with local regulations. 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. Store locked up. 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.

7.3 Specific end use(s)

Recommendations	: 2X Hi-RPM Hybridization Buffer	Industrial applications, Professional applications.
	10X aCGH Blocking Agent	Industrial applications, Professional applications.
Industrial sector specific solutions	: 2X Hi-RPM Hybridization Buffer	Not applicable.
	10X aCGH Blocking Agent	Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

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
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Date of issue/Date of revision : 23/10/2018

9/20

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

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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.

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

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: 2X Hi-RPM Hybridization Buffer	Liquid.
	10X aCGH Blocking Agent	Solid. [lyophilised]
Colour	: 2X Hi-RPM Hybridization Buffer	Not available.
	10X aCGH Blocking Agent	Not available.

Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380

SECTION 9: Physical and chemical properties

Odour	: 2X Hi-RPM Hybridization Buffer	Not available.
	10X aCGH Blocking Agent	Not available.
Odour threshold	: 2X Hi-RPM Hybridization Buffer	Not available.
	10X aCGH Blocking Agent	Not available.
pH	: 2X Hi-RPM Hybridization Buffer	6 to 6.2
	10X aCGH Blocking Agent	Not available.
Melting point/freezing point	: 2X Hi-RPM Hybridization Buffer	Not available.
	10X aCGH Blocking Agent	Not available.
Initial boiling point and boiling range	: 2X Hi-RPM Hybridization Buffer	Not available.
	10X aCGH Blocking Agent	Not available.
Flash point	: 2X Hi-RPM Hybridization Buffer	Not available.
	10X aCGH Blocking Agent	Not available.
Evaporation rate	: 2X Hi-RPM Hybridization Buffer	Not available.
	10X aCGH Blocking Agent	Not available.
Flammability (solid, gas)	: 2X Hi-RPM Hybridization Buffer	Not applicable.
	10X aCGH Blocking Agent	Not available.
Upper/lower flammability or explosive limits	: 2X Hi-RPM Hybridization Buffer	Not available.
	10X aCGH Blocking Agent	Not available.
Vapour pressure	: 2X Hi-RPM Hybridization Buffer	Not available.
	10X aCGH Blocking Agent	Not available.
Vapour density	: 2X Hi-RPM Hybridization Buffer	Not available.
	10X aCGH Blocking Agent	Not available.
Relative density	: 2X Hi-RPM Hybridization Buffer	Not available.
	10X aCGH Blocking Agent	Not available.
Solubility(ies)	: 2X Hi-RPM Hybridization Buffer	Easily soluble in the following materials: cold water and hot water.
	10X aCGH Blocking Agent	Soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: 2X Hi-RPM Hybridization Buffer	Not available.
	10X aCGH Blocking Agent	Not available.

Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380

SECTION 9: Physical and chemical properties

Auto-ignition temperature	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
Decomposition temperature	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
Viscosity	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
Explosive properties	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
Oxidising properties	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	The product is stable. The product is stable.
10.3 Possibility of hazardous reactions	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	No specific data. No specific data.
10.5 Incompatible materials	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials.
10.6 Hazardous decomposition products	: 2X Hi-RPM Hybridization Buffer 10X aCGH Blocking Agent	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2X Hi-RPM Hybridization Buffer				
Lithium chloride	LC50 Inhalation Dusts and mists	Rat	>5.57 mg/l	4 hours
	LD50 Dermal	Rabbit	1629 mg/kg	-
	LD50 Dermal	Rat	1488 mg/kg	-
	LD50 Oral	Rat	526 mg/kg	-
Lithium dodecyl sulphate	LD50 Oral	Rat	>5000 mg/kg	-
Polyoxyethylene octyl phenyl ether	LD50 Oral	Rat	1800 mg/kg	-
Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-(trimethylsilyloxy)-1-disiloxanyl]propyl] ether	LC50 Inhalation Dusts and mists	Rat	1.08 mg/l	4 hours
	LD50 Dermal	Rabbit	1550 mg/kg	-
	LD50 Oral	Rat	3200 mg/kg	-
10X aCGH Blocking Agent				
Trometamol	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-

Acute toxicity estimates

Route	ATE value
2X Hi-RPM Hybridization Buffer	
Oral	2583.6 mg/kg
Dermal	9381.9 mg/kg
Inhalation (dusts and mists)	16.33 mg/l

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2X Hi-RPM Hybridization Buffer					
Lithium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 milligrams	-
Polyoxyethylene octyl phenyl ether	Eyes - Moderate irritant	Rabbit	-	24 hours 10 microliters	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 microliters	-
Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-(trimethylsilyloxy)-1-disiloxanyl]propyl] ether	Skin - Mild irritant	Rabbit	-	-	-
	Eyes - Severe irritant	Rabbit	-	-	-
10X aCGH Blocking Agent					
Trometamol	Skin - Moderate irritant	Rabbit	-	25 Percent	-
	Skin - Severe irritant	Rabbit	-	500 milligrams	-

Sensitiser

Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380

SECTION 11: Toxicological information

Product/ingredient name	Route of exposure	Species	Result
2X Hi-RPM Hybridization Buffer Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-(trimethylsilyloxy)-1-disiloxanyl]propyl] ether	skin	Guinea pig	Not sensitizing

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)

Product/ingredient name	Category	Route of exposure	Target organs
2X Hi-RPM Hybridization Buffer Lithium dodecyl sulphate	Category 3	Not applicable.	Respiratory tract irritation
10X aCGH Blocking Agent 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation
Trometamol	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : 2X Hi-RPM Hybridization Buffer Routes of entry anticipated: Oral, Dermal, Inhalation.
10X aCGH Blocking Agent Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Inhalation : 2X Hi-RPM Hybridization Buffer No known significant effects or critical hazards.
10X aCGH Blocking Agent May cause respiratory irritation.

Ingestion : 2X Hi-RPM Hybridization Buffer No known significant effects or critical hazards.
10X aCGH Blocking Agent No known significant effects or critical hazards.

Skin contact : 2X Hi-RPM Hybridization Buffer Causes skin irritation.
10X aCGH Blocking Agent Causes skin irritation.

SECTION 11: Toxicological information

Eye contact : Hi-RPM Hybridization Buffer Causes serious eye irritation.
10X aCGH Blocking Agent Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : 2X Hi-RPM Hybridization Buffer No specific data.
10X aCGH Blocking Agent Adverse symptoms may include the following:

respiratory tract irritation
coughing

Ingestion : Hi-RPM Hybridization Buffer No specific data.
10X aCGH Blocking Agent No specific data.

Skin contact : Hi-RPM Hybridization Buffer Adverse symptoms may include the following:

irritation
redness

10X aCGH Blocking Agent Adverse symptoms may include the following:

irritation
redness

Eye contact : Hi-RPM Hybridization Buffer Adverse symptoms may include the following:

pain or irritation
watering
redness

10X aCGH Blocking Agent 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

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 : 2X Hi-RPM Hybridization Buffer No known significant effects or critical hazards.
10X aCGH Blocking Agent No known significant effects or critical hazards.

Carcinogenicity : 2X Hi-RPM Hybridization Buffer No known significant effects or critical hazards.
10X aCGH Blocking Agent No known significant effects or critical hazards.

Mutagenicity : 2X Hi-RPM Hybridization Buffer No known significant effects or critical hazards.
10X aCGH Blocking Agent No known significant effects or critical hazards.

Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380

SECTION 11: Toxicological information

Teratogenicity	: 2X Hi-RPM Hybridization Buffer	No known significant effects or critical hazards.
	: 10X aCGH Blocking Agent	No known significant effects or critical hazards.
Developmental effects	: 2X Hi-RPM Hybridization Buffer	No known significant effects or critical hazards.
	: 10X aCGH Blocking Agent	No known significant effects or critical hazards.
Fertility effects	: 2X Hi-RPM Hybridization Buffer	No known significant effects or critical hazards.
	: 10X aCGH Blocking Agent	No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
2X Hi-RPM Hybridization Buffer Lithium chloride	Acute EC50 112 mg/l Fresh water	Algae	72 hours
	Acute EC50 249 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 17000 µg/l Fresh water	Fish - Ptychocheilus lucius - Swim-up	96 hours
Polyoxyethylene octyl phenyl ether	Acute NOEC 25 mg/l Fresh water	Algae	72 hours
	Acute NOEC 63.4 mg/l Fresh water	Daphnia	48 hours
	Acute NOEC 59.4 mg/l Fresh water	Fish	96 hours
	Acute LC50 5.85 mg/l Fresh water	Crustaceans - Ceriodaphnia rigaudi - Neonate	48 hours
	Acute LC50 11.2 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[trimethylsilyl]oxy]-1-disiloxanyl]propyl] ether	Acute LC50 4500 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	EC50 28.2 mg/l	Algae	72 hours
10X aCGH Blocking Agent Trometamol	EC50 1.1 mg/l	Daphnia	48 hours
	Acute EC50 >980 mg/l Fresh water	Daphnia	48 hours
	Acute NOEC 520 mg/l Fresh water	Daphnia	48 hours

12.2 Persistence and degradability

Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2X Hi-RPM Hybridization Buffer Lithium chloride Polyoxyethylene octyl phenyl ether	-	-	Readily
	-	-	Readily

12.3 Bioaccumulative potential

Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380

SECTION 12: Ecological information

Product/ingredient name	LogP _{ow}	BCF	Potential
<input checked="" type="checkbox"/> 2X Hi-RPM Hybridization Buffer Polyoxyethylene octyl phenyl ether	4.86	-	high
10X aCGH Blocking Agent Trometamol	-1.56	-	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

PBT : Not applicable.

vPvB : Not applicable.

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. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

ADR/RID / IMDG / IATA : Not regulated.

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.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : 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

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
2X Hi-RPM Hybridization Buffer Polyoxyethylene octyl phenyl ether	Substance of equivalent concern for environment	Listed	42	7/3/2017

Substances of very high concern

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
2X Hi-RPM Hybridization Buffer Polyoxyethylene octyl phenyl ether	Substance of equivalent concern for environment	Recommended	ED/169/2012	2/10/2014

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

: 2X Hi-RPM Hybridization Buffer	Not applicable.
: 10X aCGH Blocking Agent	Not applicable.

Other EU regulations

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

Ozone depleting substances (1005/2009/EU)

Not listed.

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

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

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

Australia : Not determined.

Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380

SECTION 15: Regulatory information

Canada	: Not determined.
China	: Not determined.
Europe	: Not determined.
Japan	: Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined.
Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: Not determined.
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]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

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

Classification	Justification
✔ 2X Hi-RPM Hybridization Buffer Skin Irrit. 2, H315 Eye Irrit. 2, H319 Aquatic Chronic 3, H412	Calculation method Calculation method Calculation method
10X aCGH Blocking Agent Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	Calculation method Calculation method Calculation method

Full text of abbreviated H statements

✔ 2X Hi-RPM Hybridization Buffer H228 H302 H312 H315 H318 H319 H332 H335 H411 H412	Flammable solid. Harmful if swallowed. Harmful in contact with skin. Causes skin irritation. Causes serious eye damage. Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation. Toxic to aquatic life with long lasting effects. Harmful to aquatic life with long lasting effects.
10X aCGH Blocking Agent H315 H319	Causes skin irritation. Causes serious eye irritation.

Date of issue/Date of revision : 23/10/2018

19/20

Agilent Oligo aCGH Hybridization Kit (100), Part Number 5188-5380

SECTION 16: Other information

H335	May cause respiratory irritation.
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[Full text of classifications \[CLP/GHS\]](#)

<p>2X Hi-RPM Hybridization Buffer Acute Tox. 4, H302 Acute Tox. 4, H312 Acute Tox. 4, H332 Aquatic Chronic 2, H411 Aquatic Chronic 3, H412 Eye Dam. 1, H318 Eye Irrit. 2, H319 Flam. Sol. 1, H228 Skin Irrit. 2, H315 STOT SE 3, H335</p> <p>10X aCGH Blocking Agent Eye Irrit. 2, H319 Skin Irrit. 2, H315 STOT SE 3, H335</p>	<p>ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (dermal) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 FLAMMABLE SOLIDS - Category 1 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3</p> <p>SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3</p>
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Date of issue/ Date of revision : 23/10/2018

Date of previous issue : 21/05/2018

Version : 3.1

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