SAFETY DATA SHEET

Agilent Technologies

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

Identified uses : Analytical reagent.

2X Hi-RPM Hybridization Buffer	25 ml
10X aCGH Blocking Agent	100 reactions

Uses advised against : None known.

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Deutschland GmbH
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
H318	SERIOUS EYE DAMAGE/EYE IRRITATION	Category 1
H400	SHORT-TERM (ACUTE) AQUATIC HAZARD	Category 1
H411	LONG-TERM (CHRONIC) AQUATIC HAZARD	Category 2

2X Hi-RPM Hybridization Buffer	The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.
10X aCGH Blocking Agent	The product is not classified as hazardous according to Regulation (EC) 1272/2008 as amended.

SECTION 2: Hazards identification

Ingredients of unknown toxicity	:	2X Hi-RPM Hybridization Buffer	Percentage of the mixture consisting of ingredient(s) of unknown acute dermal toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown acute oral toxicity: 10 - 30%
		10X aCGH Blocking Agent	Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 30 - 60%
Ingredients of unknown ecotoxicity	:	2X Hi-RPM Hybridization Buffer	Contains 15.9% of components with unknown hazards to the aquatic environment

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 : 2X Hi-RPM Hybridization Buffer

Signal word	:	2X Hi-RPM Hybridization Buffer	Danger
		10X aCGH Blocking Agent	No signal word.
Hazard statements	:	2X Hi-RPM Hybridization Buffer	H315 - Causes skin irritation. H318 - Causes serious eye damage. H410 - Very toxic to aquatic life with long lasting effects.
		10X aCGH Blocking Agent	No known significant effects or critical hazards.

Precautionary statements

Prevention	:	2X Hi-RPM Hybridization Buffer	P280 - Wear protective gloves. Wear eye or face protection. P273 - Avoid release to the environment.
		10X aCGH Blocking Agent	Not applicable.
Response	:	2X Hi-RPM Hybridization Buffer	P391 - Collect spillage. P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
		10X aCGH Blocking Agent	Not applicable.
Storage	:	2X Hi-RPM Hybridization Buffer	Not applicable.
		10X aCGH Blocking Agent	Not applicable.
Disposal	:	2X Hi-RPM Hybridization Buffer	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		10X aCGH Blocking Agent	Not applicable.
Hazardous ingredients	:	2X Hi-RPM Hybridization Buffer	Polyoxyethylene octyl phenyl ether
Supplemental label elements	:	2X Hi-RPM Hybridization Buffer	Not applicable.
		10X aCGH Blocking Agent	Safety data sheet available on request.

SECTION 2: Hazards identification

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.

Special packaging requirements

Tactile warning of danger : 2X Hi-RPM Hybridization Buffer: Not applicable.
10X aCGH Blocking Agent: Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : 2X Hi-RPM Hybridization Buffer: This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
10X aCGH Blocking Agent: 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 : 2X Hi-RPM Hybridization Buffer: Contains one or more substances considered to have endocrine-disrupting properties.
10X aCGH Blocking Agent: None known.

Substances identified as having endocrine disruptor properties :

Ingredient name	Impact
2X Hi-RPM Hybridization Buffer	
Polyoxyethylene octyl phenyl ether	Environment

SECTION 3: Composition/information on ingredients

3.1 Substances : 2X Hi-RPM Hybridization Buffer: Mixture
10X aCGH Blocking Agent: Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
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	ATE [Oral] = 526 mg/kg ATE [Dermal] = 1488 mg/kg	[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 Aquatic Chronic 3, H412	ATE [Oral] = 500 mg/kg ATE [Inhalation (dusts and mists)] = 1.5 mg/l Eye Dam. 1, H318: C ≥ 20% Eye Irrit. 2, H319: 10% ≤ C < 20%	[1]
Polyoxyethylene octyl phenyl ether	CAS: 9002-93-1	≤6.4	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 1800 mg/kg M [Acute] = 10 M [Chronic] = 1	[1] [2]
Oxirane, 2-methyl-, polymer with oxirane, mono[3-	CAS: 134180-76-0	≤3	Acute Tox. 4, H332 Eye Irrit. 2, H319	ATE [Inhalation (vapours)] = 11 mg/l	[1]

SECTION 3: Composition/information on ingredients

[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy] -1-disiloxanyl]propyl] ether			Aquatic Chronic 3, H412		
10X aCGH Blocking Agent					
trometamol	EC: 201-064-4 CAS: 77-86-1	<10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 **See Section 16 for the full text of the H statements declared above.**	-	[1]

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

2X Hi-RPM Hybridization Buffer	[1] Substance classified with a health or environmental hazard [2] Substance of equivalent concern
10X aCGH Blocking Agent	[1] Substance classified with a health or environmental hazard

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact

: 2X Hi-RPM Hybridization Buffer: Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

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. Get medical attention if irritation occurs.

Inhalation

: 2X Hi-RPM Hybridization Buffer: Get medical attention immediately. Call a poison center or physician. 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. 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. Get medical attention if symptoms occur. 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

: 2X Hi-RPM Hybridization Buffer: Get medical attention immediately. Call a poison center or physician. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SECTION 4: First aid measures

		10X aCGH Blocking Agent	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	:	2X Hi-RPM Hybridization Buffer	Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. 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. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Protection of first-aiders	:	2X Hi-RPM Hybridization Buffer	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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
		10X aCGH Blocking Agent	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	:	2X Hi-RPM Hybridization Buffer	Causes serious eye damage.
		10X aCGH Blocking Agent	No known significant effects or critical hazards.
Inhalation	:	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	No known significant effects or critical hazards.
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 watering redness
		10X aCGH Blocking Agent	No specific data.

SECTION 4: First aid measures

Inhalation	:	2X Hi-RPM Hybridization Buffer	No specific data.
		10X aCGH Blocking Agent	No specific data.
Skin contact	:	2X Hi-RPM Hybridization Buffer	Adverse symptoms may include the following: pain or irritation redness blistering may occur
		10X aCGH Blocking Agent	No specific data.
Ingestion	:	2X Hi-RPM Hybridization Buffer	Adverse symptoms may include the following: stomach pains
		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.

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 very toxic to aquatic life. This material is toxic 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

SECTION 5: Firefighting measures

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	:	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. Do not breathe 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. Put on appropriate personal protective equipment.
For emergency responders	:	2X Hi-RPM Hybridization Buffer	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. Collect spillage.
		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

SECTION 6: Accidental release measures

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. May be harmful to the environment if released. Dispose of spillages under controlled conditions.
		10X aCGH Blocking Agent	Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled 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	:	2X Hi-RPM Hybridization Buffer	Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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).
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	:	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. 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.
		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. 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

SECTION 7: Handling and storage

before handling or use.

Seveso Directive - Reporting thresholds

Danger criteria

Category	Notification and MAPP threshold	Safety report threshold
2X Hi-RPM Hybridization Buffer E1	100 tonne	200 tonne

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 available.
		10X aCGH Blocking Agent	Not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Biological exposure indices

No exposure indices known.

Recommended monitoring procedures : 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 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
2X Hi-RPM Hybridization Buffer					
Lithium chloride	DNEL	Long term Oral	7.32 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	10 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	10 mg/m³	Workers	Systemic
	DNEL	Short term Oral	21.96 mg/kg bw/day	General population	Systemic
	DNEL	Short term Inhalation	30 mg/m³	General population	Systemic
	DNEL	Short term Inhalation	30 mg/m³	Workers	Systemic
	DNEL	Short term Dermal	50 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	73.2 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	73.2 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Dermal	100 mg/kg	Workers	Systemic

SECTION 8: Exposure controls/personal protection

			bw/day		
Lithium dodecyl sulphate	DNEL	Long term Inhalation	2.26 mg/m³	General population	Systemic
	DNEL	Long term Oral	2.6 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	7.6 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	260 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	433.3 mg/kg bw/day	Workers	Systemic
10X aCGH Blocking Agent					
Trometamol	DNEL	Long term Oral	8.3 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	29 mg/m³	General population	Systemic
	DNEL	Long term Dermal	83.3 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	117.5 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	166.7 mg/kg bw/day	Workers	Systemic

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.

SECTION 8: Exposure controls/personal protection

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 :
- 2X Hi-RPM Hybridization Buffer: Liquid.
- 10X aCGH Blocking Agent: Solid. [Lyophilized]

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

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.

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.

Flammability :
- 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 applicable.

Flash point :

Ingredient name	Closed cup °C	Closed cup Method	Open cup °C	Open cup Method
2X Hi-RPM Hybridization Buffer				
Polyoxyethylene octyl phenyl ether	>109.85	-	-	-

Auto-ignition temperature :

Ingredient name	°C	Method
2X Hi-RPM Hybridization Buffer		
lithium dodecyl sulphate	366	-

Decomposition temperature :
- 2X Hi-RPM Hybridization Buffer: Not available.
- 10X aCGH Blocking Agent: Not available.

SECTION 9: Physical and chemical properties

pH : 2X Hi-RPM Hybridization Buffer: 6 to 6.2

10X aCGH Blocking Agent: 7.5 [Conc. (% w/w): 100%]

Viscosity : 2X Hi-RPM Hybridization Buffer: Not available.

10X aCGH Blocking Agent: Not applicable.

Solubility(ies) :

Media	Result
2X Hi-RPM Hybridization Buffer	
water	Soluble
10X aCGH Blocking Agent	
water	Soluble

Partition coefficient: n-octanol/water : 2X Hi-RPM Hybridization Buffer: Not applicable.

10X aCGH Blocking Agent: Not applicable.

Vapour pressure :

Ingredient name	Vapour Pressure at 20˚C			Vapour pressure at 50˚C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
2X Hi-RPM Hybridization Buffer						
water	17.5	2.3	-	92.258	12.3	-
Polyoxyethylene octyl phenyl ether	0.997581	0.13	-	-	-	-

Evaporation rate : 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.

Vapour density : 2X Hi-RPM Hybridization Buffer: Not available.

10X aCGH Blocking Agent: Not applicable.

Explosive properties : 2X Hi-RPM Hybridization Buffer: Not available.

10X aCGH Blocking Agent: Not available.

Oxidising properties : 2X Hi-RPM Hybridization Buffer: Not available.

10X aCGH Blocking Agent: Not available.

Particle characteristics

Median particle size : 2X Hi-RPM Hybridization Buffer: Not applicable.

10X aCGH Blocking Agent: Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2X Hi-RPM Hybridization Buffer				
Lithium chloride	LC50 Inhalation Dusts and mists	Rat - Male, Female	>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	-
10X aCGH Blocking Agent				
Trometamol	LD50 Dermal	Rat	>5000 mg/kg	-

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)

SECTION 11: Toxicological information

2X Hi-RPM Hybridization Buffer					
2X Hi-RPM Hybridization Buffer	2598.7	10804.4	N/A	565.6	23.1
Lithium chloride	526	1488	N/A	N/A	N/A
Lithium dodecyl sulphate	500	N/A	N/A	N/A	1.5
Polyoxyethylene octyl phenyl ether	1800	N/A	N/A	N/A	N/A
Oxirane, 2-methyl-, polymer with oxirane, mono[3-[1,3,3,3-tetramethyl-1-[(trimethylsilyl)oxy] -1-disiloxanyl]propyl] ether	N/A	N/A	N/A	11	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2X Hi-RPM Hybridization Buffer					
Lithium chloride	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Severe irritant	Rabbit	-	24 hours 500 mg	-
Polyoxyethylene octyl phenyl ether	Skin - Mild irritant	Rabbit	-	24 hours 500 uL	-
10X aCGH Blocking Agent					
Trometamol	Skin - Moderate irritant	Rabbit	-	25 %	-
	Skin - Severe 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

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	-	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, Eyes.
10X aCGH Blocking Agent	Not available.

Potential acute health effects

Inhalation :

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

SECTION 11: Toxicological information

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	No known significant effects or critical hazards.
Eye contact	:	2X Hi-RPM Hybridization Buffer	Causes serious eye damage.
		10X aCGH Blocking Agent	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation	:	2X Hi-RPM Hybridization Buffer	No specific data.
		10X aCGH Blocking Agent	No specific data.
Ingestion	:	2X Hi-RPM Hybridization Buffer	Adverse symptoms may include the following: stomach pains
		10X aCGH Blocking Agent	No specific data.
Skin contact	:	2X Hi-RPM Hybridization Buffer	Adverse symptoms may include the following: pain or irritation redness blistering may occur
		10X aCGH Blocking Agent	No specific data.
Eye contact	:	2X Hi-RPM Hybridization Buffer	Adverse symptoms may include the following: pain watering redness
		10X aCGH Blocking Agent	No specific data.

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

Conclusion/Summary : Not available.

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.

SECTION 11: Toxicological information

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

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

2X Hi-RPM Hybridization Buffer Adverse symptoms may include the following: May cause skin sensitisation.

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 - *Desmodesmus subspicatus*	72 hours
	Acute EC50 249 mg/l Fresh water	Daphnia - *Daphnia magna*	48 hours
	Acute LC50 17000 µg/l Fresh water	Fish - *Ptychocheilus lucius* - Swim-up	96 hours
	Acute NOEC 25 mg/l Fresh water	Algae - *Desmodesmus subspicatus*	72 hours
	Acute NOEC 63.4 mg/l Fresh water	Daphnia - *Daphnia magna*	48 hours
	Acute NOEC 59.4 mg/l Fresh water	Fish - *Oncorhynchus mykiss*	96 hours
Polyoxyethylene octyl phenyl ether	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
	Acute LC50 4500 µg/l Fresh water	Fish - *Pimephales promelas*	96 hours
	Chronic NOEC 0.004 mg/l Fresh water	Fish - *Gambusia holbrooki*	28 days
10X aCGH Blocking Agent			
Trometamol	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

Product/ingredient name	Test	Result	Dose	Inoculum
10X aCGH Blocking Agent Trometamol	OECD 301F Ready Biodegradability - Manometric Respirometry Test	97.1 % - Readily - 28 days	30 mg/l	-

SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2X Hi-RPM Hybridization Buffer			
Lithium chloride	-	-	Readily
Lithium dodecyl sulphate	-	-	Readily
Polyoxyethylene octyl phenyl ether	-	-	Readily
10X aCGH Blocking Agent			
Trometamol	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
2X Hi-RPM Hybridization Buffer			
Polyoxyethylene octyl phenyl ether	4.86	-	High
10X aCGH Blocking Agent			
Trometamol	-2.31	-	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.

12.6 Endocrine disrupting properties

2X Hi-RPM Hybridization Buffer — Contains one or more substances considered to have endocrine-disrupting properties.

12.7 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.

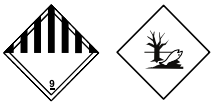
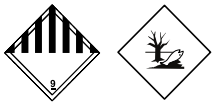
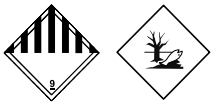
Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

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 : Dispose of material(s) and residues under controlled conditions. 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number or ID number	UN3082	UN3082	UN3082
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Polyoxyethylene octyl phenyl ether)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Polyoxyethylene octyl phenyl ether)	Environmentally hazardous substance, liquid, n.o.s. (Polyoxyethylene octyl phenyl ether)
14.3 Transport hazard class(es)	9 	9 	9 
14.4 Packing group	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes.

Additional information

Remarks: Excepted Quantity

ADR/RID : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
Hazard identification number 90
Limited quantity 5 L
Special provisions 274, 335, 601, 375
Tunnel code (-)

IMDG : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
Emergency schedules F-A, S-F
Special provisions 274, 335, 969

IATA : This product is not regulated as a dangerous good when transported in sizes of ≤5 L or ≤5 kg, provided the packagings meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8.
Quantity limitation Passenger and Cargo Aircraft: 450 L. Packaging instructions: 964. Cargo Aircraft Only: 450 L. Packaging instructions: 964. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y964.
Special provisions A97, A158, A197, A215

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 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

Ingredient name	Intrinsic property	Status	Reference number	Date of revision
2X Hi-RPM Hybridization Buffer Polyoxyethylene octyl phenyl ether	Endocrine disrupting properties 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	Endocrine disrupting properties for environment	Recommended	ED/169/2012	7/3/2017

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

Product / Ingredient name	Identifiers	Designation [Usage]
2X Hi-RPM Hybridization Buffer 2X Hi-RPM Hybridization Buffer	-	3

Label : 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.

Persistent Organic Pollutants

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category
2X Hi-RPM Hybridization Buffer E1

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

SECTION 15: Regulatory information

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.

Canada : Not determined.

China : Not determined.

Eurasian Economic Union : **Russian Federation inventory**: Not determined.

Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): 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]
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
2X Hi-RPM Hybridization Buffer	
Skin Irrit. 2, H315	Calculation method
Eye Dam. 1, H318	Calculation method
Aquatic Acute 1, H400	Calculation method
Aquatic Chronic 2, H411	Calculation method

Full text of abbreviated H statements

SECTION 16: Other information

2X Hi-RPM Hybridization Buffer	
H228	Flammable solid.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
10X aCGH Blocking Agent	
H315	Causes skin irritation.
H319	Causes serious eye irritation.

Full text of classifications [CLP/GHS]

2X Hi-RPM Hybridization Buffer	
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Sol. 1	FLAMMABLE SOLIDS - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE - Category 3
10X aCGH Blocking Agent	
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2

Date of issue/ Date of revision : 29/11/2023

Date of previous issue : No previous validation

Version : 1

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