

# SAFETY DATA SHEET



Oligo aCGH/ChIP-on-Chip Hybridization Kit, Part Number 5188-5220

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

### 1.1 Product identifier

**Product name** : Oligo aCGH/ChIP-on-Chip Hybridization Kit, Part Number 5188-5220  
**Part No. (Kit)** : 5188-5220  
**Part No.** : 2X HI-RPM Hybridization Buffer 5188-6417  
10X aCGH Blocking Agent 5188-6416

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

Identified uses	
Analytical chemistry. For Research Use Only. Not for use in diagnostic procedures.	
2X HI-RPM Hybridization Buffer	5 x 1.4 ml
10X aCGH Blocking Agent	25 Hybs lyophilised

### 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

##### 10X aCGH Blocking Agent

H315 SKIN CORROSION/IRRITATION - Category 2  
H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2



## SECTION 2: Hazards identification

<b>Ingredients of unknown toxicity</b>	: 2X HI-RPM Hybridization Buffer	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: 1 - 10%
	10X aCGH Blocking Agent	Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
		Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%
<b>Ingredients of unknown ecotoxicity</b>	: 2X HI-RPM Hybridization Buffer	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: 1 - 10%
	2X HI-RPM Hybridization Buffer	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 6.4%
	10X aCGH Blocking Agent	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 5.7%

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

<b>Hazard pictograms</b>	: 2X HI-RPM Hybridization Buffer	
	10X aCGH Blocking Agent	
<b>Signal word</b>	: 2X HI-RPM Hybridization Buffer	Warning
	10X aCGH Blocking Agent	Warning
<b>Hazard statements</b>	: 2X HI-RPM Hybridization Buffer	H319 - Causes serious eye irritation.
		H315 - Causes skin irritation.
	10X aCGH Blocking Agent	H319 - Causes serious eye irritation.
		H315 - Causes skin irritation.
<b><u>Precautionary statements</u></b>		
<b>Prevention</b>	: 2X HI-RPM Hybridization Buffer	P280 - Wear protective gloves. Wear eye or face protection.
		P264 - Wash hands thoroughly after handling.
	10X aCGH Blocking Agent	P280 - Wear protective gloves. Wear eye or face protection.
		P264 - Wash hands thoroughly after handling.
<b>Response</b>	: 2X HI-RPM Hybridization Buffer	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	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.
		P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>Storage</b>	: 2X HI-RPM Hybridization Buffer	Not applicable.
		Not applicable.
	10X aCGH Blocking Agent	Not applicable.

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## SECTION 2: Hazards identification

<b>Disposal</b>	: 2X HI-RPM Hybridization Buffer	Not applicable.
	10X aCGH Blocking Agent	Not applicable.
<b>Hazardous ingredients</b>	: 2X HI-RPM Hybridization Buffer	Not applicable.
	10X aCGH Blocking Agent	Not applicable.
<b>Supplemental label elements</b>	: 2X HI-RPM Hybridization Buffer	Not applicable.
	10X aCGH Blocking Agent	Not applicable.
<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: 2X HI-RPM Hybridization Buffer	Not applicable.
	10X aCGH Blocking Agent	Not applicable.
<b>Special packaging requirements</b>		
<b>Tactile warning of danger</b>	: 2X HI-RPM Hybridization Buffer	Not applicable.
	10X aCGH Blocking Agent	Not applicable.

### 2.3 Other hazards

<b>Other hazards which do not result in classification</b>	: 2X HI-RPM Hybridization Buffer	None known.
	10X aCGH Blocking Agent	None known.

## SECTION 3: Composition/information on ingredients

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

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
2X HI-RPM Hybridization Buffer				
4-Morpholineethanesulfonic acid, hydrate (1:1)	EC: 224-632-3 CAS: 145224-94-8	≤10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335	[1]
Lithium chloride	EC: 231-212-3 CAS: 7447-41-8	≤10	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319	[1]
Lithium dodecyl sulphate	EC: 218-058-2 CAS: 2044-56-6	≤3	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	≤2	Aquatic Chronic 3, H412 Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318	[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	≤1.5	Aquatic Chronic 2, H411 Acute Tox. 4, H312 Acute Tox. 4, H332 Eye Irrit. 2, H319 Aquatic Chronic 3, H412	[1]

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**SECTION 3: Composition/information on ingredients**

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

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

Type

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

**SECTION 4: First aid measures**

**4.1 Description of first aid measures**

<b>Eye contact</b>	: 2X 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.
<b>Inhalation</b>	: 2X 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 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.

## SECTION 4: First aid measures

<b>Skin contact</b>	: 2X 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.
<b>Ingestion</b>	: 2X 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.
<b>Protection of first-aiders</b>	: 2X 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. 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

<b>Eye contact</b>	: 2X HI-RPM Hybridization Buffer	Causes serious eye irritation.
	10X aCGH Blocking Agent	Causes serious eye irritation.
<b>Inhalation</b>	: 2X HI-RPM Hybridization Buffer	No known significant effects or critical hazards.
	10X aCGH Blocking Agent	No known significant effects or critical hazards.
<b>Skin contact</b>	: 2X 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 No specific data.

**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.

### 5.2 Special hazards arising from the substance or mixture



## SECTION 5: Firefighting measures

<b>Hazards from the substance or mixture</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	In a fire or if heated, a pressure increase will occur and the container may burst. No specific fire or explosion hazard.
<b>Hazardous combustion products</b>	: 2X HI-RPM Hybridization Buffer  10X aCGH Blocking Agent	Decomposition products may include the following materials:  carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides  Decomposition products may include the following materials:  carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides halogenated compounds

### 5.3 Advice for firefighters

<b>Special precautions for fire-fighters</b>	: 2X HI-RPM Hybridization Buffer  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.  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.
<b>Special protective equipment for fire-fighters</b>	: 2X HI-RPM Hybridization Buffer  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.  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

<b>For non-emergency personnel</b>	: 2X HI-RPM Hybridization Buffer  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. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.  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 protective equipment.
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## SECTION 6: Accidental release measures

<b>For emergency responders</b>	: 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".
<b>6.2 Environmental precautions</b>	: 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).
	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).
<b>6.3 Methods and material for containment and cleaning up</b>		
<b>Methods for cleaning up</b>	: 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.
<b>6.4 Reference to other sections</b>	: 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

<b>Protective measures</b>	: 2X 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. 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. 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.
<b>Advice on general occupational hygiene</b>	: 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



## SECTION 7: Handling and storage

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

<b>Storage</b>	: 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. 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)

<b>Recommendations</b>	: 2X HI-RPM Hybridization Buffer	Industrial applications, Professional applications.
	10X aCGH Blocking Agent	Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	: 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 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

## SECTION 8: Exposure controls/personal protection

### 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

<b>Physical state</b>	: 2X HI-RPM	Liquid.
	Hybridization Buffer	
<b>Colour</b>	10X aCGH Blocking Agent	Solid. [lyophilised pellets]
<b>Odour</b>	: 2X HI-RPM	Not available.
	Hybridization Buffer	
<b>Odour threshold</b>	10X aCGH Blocking Agent	Not available.
<b>Odour threshold</b>	: 2X HI-RPM	Not available.
	Hybridization Buffer	
<b>Odour threshold</b>	10X aCGH Blocking Agent	Not available.

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**SECTION 9: Physical and chemical properties**

<b>pH</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	6.1 Not available.
<b>Melting point/freezing point</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
<b>Initial boiling point and boiling range</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
<b>Flash point</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
<b>Evaporation rate</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
<b>Flammability (solid, gas)</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not applicable. Not available.
<b>Upper/lower flammability or explosive limits</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
<b>Vapour pressure</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
<b>Vapour density</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
<b>Relative density</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
<b>Solubility(ies)</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Soluble in the following materials: cold water and hot water. Soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
<b>Auto-ignition temperature</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
<b>Decomposition temperature</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.

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## SECTION 9: Physical and chemical properties

<b>Viscosity</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
<b>Explosive properties</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	Not available. Not available.
<b>Oxidising properties</b>	: 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

<b>10.1 Reactivity</b>	: 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.
<b>10.2 Chemical stability</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	The product is stable. The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: 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.
<b>10.4 Conditions to avoid</b>	: 2X HI-RPM Hybridization Buffer 10X aCGH Blocking Agent	No specific data. No specific data.
<b>10.5 Incompatible materials</b>	: 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.
<b>10.6 Hazardous decomposition products</b>	: 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.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

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## SECTION 11: Toxicological information

Product/ingredient name	Result	Species	Dose	Exposure
<b>2X HI-RPM Hybridization Buffer</b>				
Lithium chloride	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-disiloxany]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	-
<b>10X aCGH Blocking Agent</b>				
Trometamol	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-

### Acute toxicity estimates

Route	ATE value
<b>2X HI-RPM Hybridization Buffer</b>	
Oral	5883.4 mg/kg
Dermal	91553.3 mg/kg
Inhalation (dusts and mists)	29.51 mg/l

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>2X HI-RPM Hybridization Buffer</b>					
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-disiloxany]propyl] ether	Skin - Mild irritant	Rabbit	-	-	-
	Eyes - Severe irritant	Rabbit	-	-	-
<b>10X aCGH Blocking Agent</b>					
Trometamol	Skin - Moderate irritant	Rabbit	-	25 Percent	-
	Skin - Severe irritant	Rabbit	-	500 milligrams	-

### Sensitiser

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## SECTION 11: Toxicological information

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

### Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
<b>2X HI-RPM Hybridization Buffer</b> 4-Morpholineethanesulfonic acid, hydrate (1:1)	Category 3	Not applicable.	Respiratory tract irritation
Lithium dodecyl sulphate	Category 3	Not applicable.	Respiratory tract irritation
<b>10X aCGH Blocking Agent</b> Trometamol	Category 3	Not applicable.	Respiratory tract irritation
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	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 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.

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

**Eye contact** : 2X 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 No specific data.



## SECTION 11: Toxicological information

<b>Ingestion</b>	: 2X HI-RPM Hybridization Buffer	No specific data.
	10X aCGH Blocking Agent	No specific data.
<b>Skin contact</b>	: 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
<b>Eye contact</b>	: 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

### 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

<b>General</b>	: 2X HI-RPM Hybridization Buffer	No known significant effects or critical hazards.
	10X aCGH Blocking Agent	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: 2X HI-RPM Hybridization Buffer	No known significant effects or critical hazards.
	10X aCGH Blocking Agent	No known significant effects or critical hazards.
<b>Mutagenicity</b>	: 2X HI-RPM Hybridization Buffer	No known significant effects or critical hazards.
	10X aCGH Blocking Agent	No known significant effects or critical hazards.
<b>Teratogenicity</b>	: 2X HI-RPM Hybridization Buffer	No known significant effects or critical hazards.
	10X aCGH Blocking Agent	No known significant effects or critical hazards.
<b>Developmental effects</b>	: 2X HI-RPM Hybridization Buffer	No known significant effects or critical hazards.
	10X aCGH Blocking Agent	No known significant effects or critical hazards.

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## SECTION 11: Toxicological information

**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
<b>2X HI-RPM Hybridization Buffer</b>			
Lithium chloride	Acute LC50 17000 µg/l Fresh water	Fish - Ptychocheilus lucius - Swim-up	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
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
<b>10X aCGH Blocking Agent</b>			
	Trometamol	EC50 1.1 mg/l	Daphnia
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

Not available.

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

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>2X HI-RPM Hybridization Buffer</b>			
Polyoxyethylene octyl phenyl ether	4.86	-	high
<b>10X aCGH Blocking Agent</b>			
Trometamol	-1.56	-	low

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

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## SECTION 12: Ecological information

**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 spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

**ADR/RID / IMDG / IATA** : Not regulated.

#### Additional information

**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

None of the components are listed.

#### Substances of very high concern

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

## SECTION 15: Regulatory information

<b>Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles</b>	: 2X HI-RPM Hybridization	Not applicable.
	Buffer	
	10X aCGH Blocking Agent	Not applicable.

### Other EU regulations

#### 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

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: Not determined.
<b>Europe</b>	: Not determined.
<b>Japan</b>	: <b>Japan inventory (ENCS):</b> Not determined. <b>Japan inventory (ISHL):</b> Not determined.
<b>Malaysia</b>	: Not determined.
<b>New Zealand</b>	: Not determined.
<b>Philippines</b>	: Not determined.
<b>Republic of Korea</b>	: Not determined.
<b>Taiwan</b>	: Not determined.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: Not determined.

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

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## 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
<b>2X HI-RPM Hybridization Buffer</b> Skin Irrit. 2, H315 Eye Irrit. 2, H319	Calculation method Calculation method
<b>10X aCGH Blocking Agent</b> Skin Irrit. 2, H315 Eye Irrit. 2, H319	Calculation method Calculation method

### Full text of abbreviated H statements

<b>2X HI-RPM Hybridization Buffer</b> 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.
<b>10X aCGH Blocking Agent</b> H315 H319 H335	Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

### Full text of classifications [CLP/GHS]

<b>2X HI-RPM Hybridization Buffer</b> 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	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
<b>10X aCGH Blocking Agent</b> Eye Irrit. 2, H319 Skin Irrit. 2, H315 STOT SE 3, H335	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2 SKIN CORROSION/IRRITATION - Category 2 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

**Date of issue/ Date of revision** : 05/11/2017

**Date of previous issue** : 05/11/2017.

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## **SECTION 16: Other information**

**Version** : 1

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