

# SAFETY DATA SHEET



Genomic DNA High-Throughput ULS Labeling Kit, Part Number 5190-0450

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Genomic DNA High-Throughput ULS Labeling Kit, Part Number 5190-0450  
**Part No. (Chemical Kit)** : 5190-0450  
**Part No.** : CGH Block 5190-0454  
 10x Labeling Solution LK017G  
 Cy3, Cy5 LK106B\_LK107B  
**Validation date** : 6/27/2017

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

**Material uses** : Analytical chemistry.  
 Contains: Part No. 5190-0454 and 5190-0455 (LK017G, LK106B\_LK107B)  
 CGH Block 2.6 ml  
 10x Labeling Solution 0.1 ml  
 Cy3, Cy5 0.0125 ml

### 1.3 Details of the supplier of the safety data sheet

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

### 1.4 Emergency telephone number

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

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

**OSHA/HCS status** : CGH Block This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).  
 10x Labeling Solution While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.  
 Cy3, Cy5 This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

### Classification of the substance or mixture

#### CGH Block

H315 SKIN IRRITATION - Category 2  
 H319 EYE IRRITATION - Category 2A

#### Cy3, Cy5

H227 FLAMMABLE LIQUIDS - Category 4  
 H319 EYE IRRITATION - Category 2A  
 H350 CARCINOGENICITY - Category 1B  
 H360 TOXIC TO REPRODUCTION (Unborn child) - Category 1B  
 H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3  
 H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (liver) - Category 2

## Section 2. Hazards identification

**Ingredients of unknown toxicity** : CGH Block

10x Labeling Solution

Cy3, Cy5

Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10%  
 Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10%  
 Percentage of the mixture consisting of ingredient (s) of unknown oral toxicity: 1 - 10%  
 Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10%  
 Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10%

### 2.2 GHS label elements

**Hazard pictograms** : CGH Block

Cy3, Cy5



**Signal word** : CGH Block  
 10x Labeling Solution  
 Cy3, Cy5

Warning  
 No signal word.  
 Danger

**Hazard statements** : CGH Block  
 10x Labeling Solution  
 Cy3, Cy5

H319 - Causes serious eye irritation.  
 H315 - Causes skin irritation.  
 No known significant effects or critical hazards.  
 H227 - Combustible liquid.  
 H319 - Causes serious eye irritation.  
 H350 - May cause cancer.  
 H360 - May damage the unborn child.  
 H336 - May cause drowsiness or dizziness.  
 H373 - May cause damage to organs through prolonged or repeated exposure. (liver)




### Precautionary statements

**Prevention** : CGH Block

10x Labeling Solution  
 Cy3, Cy5

P280 - Wear protective gloves. Wear eye or face protection.  
 P264 - Wash hands thoroughly after handling.  
 Not applicable.  
 P201 - Obtain special instructions before use.  
 P202 - Do not handle until all safety precautions have been read and understood.  
 P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.  
 P210 - Keep away from flames and hot surfaces. - No smoking.  
 P271 - Use only outdoors or in a well-ventilated area.  
 P260 - Do not breathe vapor.  
 P264 - Wash hands thoroughly after handling.

## Section 2. Hazards identification

<b>Response</b>	:  GH Block	P302 + P352 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
	10x Labeling Solution Cy3, Cy5	Not applicable. P314 - Get medical attention if you feel unwell. P308 + P313 - IF exposed or concerned: Get medical attention. P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
<b>Storage</b>	:  GH Block	Not applicable.
	10x Labeling Solution Cy3, Cy5	Not applicable. P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool.
<b>Disposal</b>	:  GH Block	Not applicable.
	10x Labeling Solution Cy3, Cy5	Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	: CGH Block	None known.
	10x Labeling Solution Cy3, Cy5	None known.
<b>2.3 Other hazards</b>		
<b>Hazards not otherwise classified</b>	: CGH Block	None known.
	10x Labeling Solution Cy3, Cy5	None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	: CGH Block	Mixture
	10x Labeling Solution	Mixture
	Cy3, Cy5	Mixture

## Section 3. Composition/information on ingredients

Ingredient name	%	CAS number
<b>CGH Block</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride sodium diethyldithiocarbamate	≤3 <3	1185-53-1 148-18-5
<b>10x Labeling Solution</b> Trometamol	<10	77-86-1
<b>Cy3, Cy5</b> N,N-Dimethylformamide Sodium chloride	≥25 - ≤50 ≥10 - ≤20	68-12-2 7647-14-5

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

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

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

## Section 4. First aid measures

### 4.1 Description of necessary first aid measures

<b>Eye contact</b>	: CGH Block	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 Labeling Solution	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.
	Cy3, Cy5	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>	: CGH Block	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 Labeling Solution	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.

## Section 4. First aid measures

	Cy3, Cy5	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
<b>Skin contact</b>	: CGH Block	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 Labeling Solution	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	Cy3, Cy5	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. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Ingestion</b>	: CGH Block	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 Labeling Solution	Wash out mouth with water. 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. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	Cy3, Cy5	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

## Section 4. First aid measures

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 necessary, call a poison center or 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.

### 4.2 Most important symptoms/effects, acute and delayed

#### Potential acute health effects

<b>Eye contact</b>	: CGH Block 10x Labeling Solution Cy3, Cy5	Causes serious eye irritation. No known significant effects or critical hazards. Causes serious eye irritation.
<b>Inhalation</b>	: CGH Block 10x Labeling Solution Cy3, Cy5	No known significant effects or critical hazards. No known significant effects or critical hazards. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
<b>Skin contact</b>	: CGH Block 10x Labeling Solution Cy3, Cy5	Causes skin irritation. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: CGH Block 10x Labeling Solution Cy3, Cy5	No known significant effects or critical hazards. No known significant effects or critical hazards. Can cause central nervous system (CNS) depression.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	: CGH Block  10x Labeling Solution Cy3, Cy5	Adverse symptoms may include the following: pain or irritation watering redness No specific data. Adverse symptoms may include the following: pain or irritation watering redness
<b>Inhalation</b>	: CGH Block 10x Labeling Solution Cy3, Cy5	No specific data. No specific data. Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations

## Section 4. First aid measures

<b>Skin contact</b>	: CGH Block  10x Labeling Solution Cy3, Cy5	Adverse symptoms may include the following: irritation redness No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
<b>Ingestion</b>	: CGH Block 10x Labeling Solution Cy3, Cy5	No specific data. No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations

### 4.3 Indication of immediate medical attention and special treatment needed, if necessary

<b>Notes to physician</b>	: CGH Block  10x Labeling Solution  Cy3, Cy5	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. 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. 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.
<b>Specific treatments</b>	: CGH Block 10x Labeling Solution Cy3, Cy5	No specific treatment. No specific treatment. No specific treatment.
<b>Protection of first-aiders</b>	: CGH Block  10x Labeling Solution  Cy3, Cy5	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. No action shall be taken involving any personal risk or without suitable training. 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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: CGH Block  10x Labeling Solution  Cy3, Cy5	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam.
-------------------------------------	--	--

## Section 5. Fire-fighting measures

**Unsuitable extinguishing media** : CGH Block  
 10x Labeling Solution  
 Cy3, Cy5

None known.  
 None known.  
 Do not use water jet.

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

**Specific hazards arising from the chemical** : CGH Block  
 10x Labeling Solution  
 Cy3, Cy5

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

**Hazardous thermal decomposition products** : CGH Block  
 10x Labeling Solution  
 Cy3, Cy5

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

### 5.3 Advice for firefighters

**Special protective actions for fire-fighters** : CGH Block  
 10x Labeling Solution  
 Cy3, Cy5

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



## Section 5. Fire-fighting measures

<b>Special protective equipment for fire-fighters</b>	: CGH Block	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	10x Labeling Solution	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Cy3, Cy5	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	: CGH Block	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	10x Labeling Solution	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
	Cy3, Cy5	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	: CGH Block	If specialized 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 Labeling Solution	If specialized 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".
	Cy3, Cy5	If specialized 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".

## Section 6. Accidental release measures

<b>6.2 Environmental precautions</b>	: CGH Block	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	10x Labeling Solution	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Cy3, Cy5	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### 6.3 Methods and materials for containment and cleaning up

<b>Methods for cleaning up</b>	: CGH Block	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 Labeling Solution	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.
	Cy3, Cy5	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: CGH Block	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor 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 Labeling Solution	Put on appropriate personal protective equipment (see Section 8).
	Cy3, Cy5	Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator

## Section 7. Handling and storage

when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.

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. 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. 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.

### Advice on general occupational hygiene

: CGH Block

10x Labeling Solution

Cy3, Cy5

### 7.2 Conditions for safe storage, including any incompatibilities

: CGH Block

10x Labeling Solution

Cy3, Cy5

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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food

## Section 7. Handling and storage

and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

### 7.3 Specific end use(s)

<b>Recommendations</b>	: CGH Block 10x Labeling Solution Cy3, Cy5	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	: CGH Block 10x Labeling Solution Cy3, Cy5	Not applicable. Not applicable. Not applicable.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
<b>CGH Block</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride sodium diethyldithiocarbamate	None. None.
<b>10x Labeling Solution</b> Trometamol	None.
<b>Cy3, Cy5</b> N,N-Dimethylformamide	<b>ACGIH TLV (United States, 3/2015).</b> <b>Absorbed through skin.</b> TWA: 10 ppm 8 hours. TWA: 30 mg/m <sup>3</sup> 8 hours. <b>OSHA PEL 1989 (United States, 3/1989).</b> <b>Absorbed through skin.</b> TWA: 10 ppm 8 hours. TWA: 30 mg/m <sup>3</sup> 8 hours. <b>NIOSH REL (United States, 10/2013).</b> <b>Absorbed through skin.</b> TWA: 10 ppm 10 hours. TWA: 30 mg/m <sup>3</sup> 10 hours. <b>OSHA PEL (United States, 2/2013).</b> <b>Absorbed through skin.</b> TWA: 10 ppm 8 hours. TWA: 30 mg/m <sup>3</sup> 8 hours.
Sodium chloride	None.

### 8.2 Exposure controls

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

## 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.

### 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 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	: CGH Block	Liquid.
	10x Labeling Solution	Liquid.
	Cy3, Cy5	Liquid.
<b>Color</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>Odor</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>Odor threshold</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>pH</b>	: CGH Block	Not available.
	10x Labeling Solution	7
	Cy3, Cy5	Not available.

## Section 9. Physical and chemical properties

<b>Melting point</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>Boiling point</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>Flash point</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Closed cup: 61 to 93.3°C (141.8 to 199.9°F)
<b>Evaporation rate</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>Flammability (solid, gas)</b>	: CGH Block	Not applicable.
	10x Labeling Solution	Not applicable.
	Cy3, Cy5	Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>Vapor pressure</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>Vapor density</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>Relative density</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>Solubility</b>	: CGH Block	Soluble in the following materials: cold water and hot water.
	10x Labeling Solution	Easily soluble in the following materials: cold water and hot water.
	Cy3, Cy5	Soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>Auto-ignition temperature</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>Decomposition temperature</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.
<b>Viscosity</b>	: CGH Block	Not available.
	10x Labeling Solution	Not available.
	Cy3, Cy5	Not available.

## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: CGH Block	No specific test data related to reactivity available for this product or its ingredients.
	10x Labeling Solution	No specific test data related to reactivity available for this product or its ingredients.
	Cy3, Cy5	No specific test data related to reactivity available for this product or its ingredients.

## Section 10. Stability and reactivity

<b>10.2 Chemical stability</b>	: CGH Block 10x Labeling Solution Cy3, Cy5	The product is stable. The product is stable. The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: CGH Block  10x Labeling Solution  Cy3, Cy5	Under normal conditions of storage and use, hazardous reactions will not occur. 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>	: CGH Block 10x Labeling Solution Cy3, Cy5	No specific data. No specific data. Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
<b>10.5 Incompatible materials</b>	: CGH Block  10x Labeling Solution  Cy3, Cy5	May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. Reactive or incompatible with the following materials: oxidizing materials
<b>10.6 Hazardous decomposition products</b>	: CGH Block  10x Labeling Solution  Cy3, Cy5	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. 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
<b>CGH Block</b> sodium diethyldithiocarbamate	LD50 Oral	Rat	1500 mg/kg	-
<b>10x Labeling Solution</b> Trometamol	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
<b>Cy3, Cy5</b> N,N-Dimethylformamide	LC50 Inhalation Vapor	Rat	3421 ppm	1 hours
	LC50 Inhalation Vapor	Rat	1948 ppm	4 hours
	LD50 Dermal	Rabbit	4720 mg/kg	-
	LD50 Oral	Rat	2000 mg/kg	-
Sodium chloride	LD50 Oral	Rat	3000 mg/kg	-

#### Irritation/Corrosion

## Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>10x Labeling Solution</b> Trometamol	Skin - Moderate irritant Skin - Severe irritant	Rabbit Rabbit	- -	25 Percent 500 milligrams	- -
<b>Cy3, Cy5</b> N,N-Dimethylformamide Sodium chloride	Eyes - Severe irritant Eyes - Moderate irritant	Rabbit Rabbit	- -	100 Percent 24 hours 100 milligrams	- -
	Eyes - Moderate irritant Skin - Mild irritant	Rabbit Rabbit	- -	10 milligrams 24 hours 500 milligrams	- -

### Sensitization

Not available.

### Mutagenicity

Not available.

### Carcinogenicity

Not available.

### Classification

Product/ingredient name	OSHA	IARC	NTP
<b>CGH Block</b> sodium diethyldithiocarbamate	-	3	-
<b>Cy3, Cy5</b> N,N-Dimethylformamide	-	3	-

### Reproductive toxicity

Not available.

### Teratogenicity

Not available.

### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
<b>CGH Block</b> 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	Category 3	Not applicable.	Respiratory tract irritation
<b>10x Labeling Solution</b> Trometamol	Category 3	Not applicable.	Respiratory tract irritation
<b>Cy3, Cy5</b> N,N-Dimethylformamide	Category 3	Not applicable.	Narcotic effects

### Specific target organ toxicity (repeated exposure)



## Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
<b>Cy3, Cy5</b> N,N-Dimethylformamide	Category 2	Not determined	liver

### Aspiration hazard

Not available.

### Information on the likely routes of exposure

: CGH Block  
10x Labeling Solution  
Cy3, Cy5

Routes of entry anticipated: Oral, Dermal, Inhalation.  
Routes of entry anticipated: Oral, Dermal, Inhalation.  
Routes of entry anticipated: Oral, Dermal, Inhalation.

### Potential acute health effects

#### Eye contact

: CGH Block  
10x Labeling Solution  
Cy3, Cy5

Causes serious eye irritation.  
No known significant effects or critical hazards.  
Causes serious eye irritation.

#### Inhalation

: CGH Block  
10x Labeling Solution  
Cy3, Cy5

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

#### Skin contact

: CGH Block  
10x Labeling Solution  
Cy3, Cy5

Causes skin irritation.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.

#### Ingestion

: CGH Block  
10x Labeling Solution  
Cy3, Cy5

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
Can cause central nervous system (CNS) depression.

### Symptoms related to the physical, chemical and toxicological characteristics

#### Eye contact

: CGH Block  
  
10x Labeling Solution  
Cy3, Cy5

Adverse symptoms may include the following:  
pain or irritation  
watering  
redness  
No specific data.  
Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

#### Inhalation

: CGH Block  
10x Labeling Solution  
Cy3, Cy5

No specific data.  
No specific data.  
Adverse symptoms may include the following:  
nausea or vomiting  
headache  
drowsiness/fatigue  
dizziness/vertigo  
unconsciousness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

## Section 11. Toxicological information

<b>Skin contact</b>	: CGH Block  10x Labeling Solution Cy3, Cy5	Adverse symptoms may include the following: irritation redness No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
<b>Ingestion</b>	: CGH Block 10x Labeling Solution Cy3, Cy5	No specific data. No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

**General** : CGH Block  
10x Labeling Solution  
Cy3, Cy5

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
May cause damage to organs through prolonged or repeated exposure.

**Carcinogenicity** : CGH Block  
10x Labeling Solution  
Cy3, Cy5

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.

**Mutagenicity** : CGH Block  
10x Labeling Solution  
Cy3, Cy5

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.

**Teratogenicity** : CGH Block  
10x Labeling Solution  
Cy3, Cy5

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
May damage the unborn child.

**Developmental effects** : CGH Block  
10x Labeling Solution  
Cy3, Cy5

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.

**Fertility effects** : CGH Block  
10x Labeling Solution  
Cy3, Cy5

No known significant effects or critical hazards.  
No known significant effects or critical hazards.  
No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

## Section 11. Toxicological information

Route	ATE value
<b>CGH Block</b> Oral	150000 mg/kg
<b>10x Labeling Solution</b> Oral	50505.1 mg/kg
<b>Cy3, Cy5</b> Oral	4285.7 mg/kg
Dermal	11800 mg/kg
Inhalation (vapors)	27.5 mg/l

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<b>CGH Block</b> sodium diethyldithiocarbamate	Acute EC50 1400 µg/l Fresh water	Algae - Chlorella pyrenoidosa	96 hours
	Acute LC50 910 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 6900 µg/l Fresh water	Fish - Poecilia reticulata	96 hours
<b>10x Labeling Solution</b> Trometamol	Acute EC50 >980 mg/l Fresh water	Daphnia	48 hours
	Acute NOEC 520 mg/l Fresh water	Daphnia	48 hours
<b>Cy3, Cy5</b> N,N-Dimethylformamide	Acute EC50 4500000 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 >100000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 7100000 µg/l Fresh water	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
	Chronic NOEC 1500 mg/l Fresh water	Daphnia - Daphnia magna	21 days
Sodium chloride	Chronic NOEC 1000 mg/l Fresh water	Fish - Pimephales promelas - Embryo	32 days
	Acute EC50 2430000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute EC50 28.85 mg/dm <sup>3</sup> Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute EC50 519.6 mg/l Fresh water	Crustaceans - Cypris subglobosa	48 hours
	Acute IC50 6.87 g/L Fresh water	Aquatic plants - Lemna minor	96 hours
	Acute LC50 1661 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1000000 µg/l Fresh water	Fish - Morone saxatilis - Larvae	96 hours
	Chronic LC10 781 mg/l Fresh water	Crustaceans - Hyalella azteca - Juvenile (Fledgling, Hatchling, Weanling)	3 weeks
Chronic NOEC 6 g/L Fresh water	Aquatic plants - Lemna minor	96 hours	
Chronic NOEC 0.314 g/L Fresh water	Daphnia - Daphnia pulex	21 days	
Chronic NOEC 100 mg/l Fresh water	Fish - Gambusia holbrooki - Adult	8 weeks	

### 12.2 Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
<b>CGH Block</b> sodium diethyldithiocarbamate	-	-	Readily

## Section 12. Ecological information

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
<b>CGH Block</b> sodium diethyldithiocarbamate	-1.1	-	low
<b>10x Labeling Solution</b> Trometamol	-1.56	-	low
<b>Cy3, Cy5</b> N,N-Dimethylformamide	-1.01	0.79	low

### 12.4 Mobility in soil

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

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

## Section 13. Disposal considerations

### 13.1 Waste treatment methods

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

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

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

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

## Section 14. Transport information

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

### Additional information

**DOT Classification** : **Reportable quantity**  
750 lbs / 340.5 kg  
Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

## Section 14. Transport information

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

**Transport in bulk according to 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

**U.S. Federal regulations** : TSCA 8(a) CDR Exempt/Partial exemption: Not determined

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** :

#### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
<b>CGH Block</b>						
2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	≤3	No.	No.	No.	Yes.	No.
sodium diethyldithiocarbamate	<3	No.	No.	No.	Yes.	No.
<b>10x Labeling Solution</b>						
Trometamol	<10	Yes.	No.	No.	Yes.	No.
<b>Cy3, Cy5</b>						
N,N-Dimethylformamide	≥25 - ≤50	Yes.	No.	No.	Yes.	Yes.
Sodium chloride	≥10 - ≤20	No.	No.	No.	Yes.	No.

### SARA 313

## Section 15. Regulatory information

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	<b>Cy3, Cy5</b> N,N-Dimethylformamide	68-12-2	≥25 - ≤50
<b>Supplier notification</b>	<b>Cy3, Cy5</b> N,N-Dimethylformamide	68-12-2	≥25 - ≤50

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

### State regulations

- Massachusetts** : The following components are listed: DIMETHYLFORMAMIDE
- New York** : The following components are listed: Dimethyl formamide
- New Jersey** : The following components are listed: DIMETHYLFORMAMIDE; FORMAMIDE, N,N-DIMETHYL-
- Pennsylvania** : The following components are listed: FORMAMIDE, N,N-DIMETHYL-
- California Prop. 65**

No products were found.

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

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

## Section 16. Other information

### History

**Date of issue** : 06/27/2017  
**Date of previous issue** : 06/27/2017.  
**Version** : 5

✔ Indicates information that has changed from previously issued version.

### Notice to reader

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