

# Material Safety Data Sheet



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

## 1. Product and company identification

<b>Product name</b>	: Genomic DNA High-Throughput ULS Labeling Kit Agilent Part Number 5190-0450	
<b>Material uses</b>	: Analytical chemistry. Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	
<b>Supplier/Manufacturer</b>	: Agilent Technologies, Inc. Logistics Center - Americas 500 Ships Landing Way New Castle, Delaware 19720	
<b>Part No. (Chemical Kit)</b>	: 5190-0450	
<b>Part No.</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	5190-0454
	: DNA ULS Labeling Module Agilent Part Number 5190-0455	5190-0455
<b>Validation date</b>	: 03/31/2011	
<b>In case of emergency</b>	: 1-302-633-8777 1-877-4 Agilent (Information Telephone Number)	

## 2. Hazards identification

<b>Physical state</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Liquid.
	: DNA ULS Labeling Module Agilent Part Number 5190-0455	Liquid.
<b>Odor</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Sulfurous. [Slight]
	: DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available.
<b>OSHA/HCS status</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	: DNA ULS Labeling Module Agilent Part Number 5190-0455	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Emergency overview</b>		
<b>Signal word</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	WARNING!
	: DNA ULS Labeling Module Agilent Part Number 5190-0455	WARNING!
<b>Hazard statements</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
	: DNA ULS Labeling Module Agilent Part Number 5190-0455	HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL

## 2. Hazards identification

		DATA. POSSIBLE REPRODUCTIVE HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS IN MALES, BASED ON ANIMAL DATA.
<b>Precautions</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Do not ingest. Avoid breathing vapor or mist. Avoid contact with eyes, skin and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Avoid exposure during pregnancy. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.
<b>Routes of entry</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Not available.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available.
<b><u>Potential acute health effects</u></b>		
<b>Inhalation</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Toxic by inhalation. Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
<b>Ingestion</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Harmful if swallowed.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Harmful if swallowed.
<b>Skin</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Irritating to skin.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Harmful in contact with skin. Irritating to skin.
<b>Eyes</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Irritating to eyes.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Irritating to eyes.
<b><u>Potential chronic health effects</u></b>		
<b>Chronic effects</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Contains material that may cause target organ damage, based on animal data.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Contains material that may cause target organ damage, based on animal data.
<b>Carcinogenicity</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	No known significant effects or critical hazards.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	No known significant effects or critical hazards.
<b>Mutagenicity</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	No known significant effects or critical hazards.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	No known significant effects or critical hazards.

## 2. Hazards identification

<b>Teratogenicity</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Developmental effects</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Fertility effects</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	No known significant effects or critical hazards. Contains material which may impair male fertility, based on animal data.
<b>Target organs</b>	: Agilent-CGH Block Agilent Part Number 5190-0454  DNA ULS Labeling Module Agilent Part Number 5190-0455	Contains material which may cause damage to the following organs: upper respiratory tract, skin, eyes. Contains material which may cause damage to the following organs: kidneys, liver, cardiovascular system, upper respiratory tract, skin, eye, lens or cornea, stomach.
<b><u>Over-exposure signs/symptoms</u></b>		
<b>Inhalation</b>	: Agilent-CGH Block Agilent Part Number 5190-0454  DNA ULS Labeling Module Agilent Part Number 5190-0455	Adverse symptoms may include the following: respiratory tract irritation coughing Adverse symptoms may include the following: respiratory tract irritation coughing reduced fetal weight increase in fetal deaths skeletal malformations
<b>Ingestion</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	No specific data. Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations
<b>Skin</b>	: Agilent-CGH Block Agilent Part Number 5190-0454  DNA ULS Labeling Module Agilent Part Number 5190-0455	Adverse symptoms may include the following: irritation redness Adverse symptoms may include the following: irritation redness reduced fetal weight increase in fetal deaths skeletal malformations
<b>Eyes</b>	: Agilent-CGH Block Agilent Part Number 5190-0454  DNA ULS Labeling Module Agilent Part Number 5190-0455	Adverse symptoms may include the following: pain or irritation watering redness Adverse symptoms may include the following: pain or irritation watering redness reduced fetal weight increase in fetal deaths skeletal malformations

## 2. Hazards identification

<b>Medical conditions aggravated by over-exposure</b>	: Agilent-CGH Block Agilent Part Number 5190-0454  DNA ULS Labeling Module Agilent Part Number 5190-0455	Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.  Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.
---	--	--

See toxicological information (Section 11)

## 3. Composition/information on ingredients

Name	CAS number	%
<b>Agilent-CGH Block Agilent Part Number 5190-0454</b> Carbamic acid, diethyldithio-, sodium salt, trihydrate 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride	20624-25-3 1185-53-1	5 - 10 5 - 10
<b>DNA ULS Labeling Module Agilent Part Number 5190-0455</b> Trometamol N,N-Dimethylformamide Sodium chloride	77-86-1 68-12-2 7647-14-5	30 - 60 10 - 30 1 - 5

**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.**

## 4. First aid measures

<b>Eye contact</b>	: Agilent-CGH Block Agilent Part Number 5190-0454  DNA ULS Labeling Module Agilent Part Number 5190-0455	Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.  Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
<b>Skin contact</b>	: Agilent-CGH Block Agilent Part Number 5190-0454  DNA ULS Labeling Module Agilent Part Number 5190-0455	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.  In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
<b>Inhalation</b>	: Agilent-CGH Block Agilent Part Number 5190-0454  DNA ULS Labeling Module Agilent Part Number 5190-0455	Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.  Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

## 4. First aid measures

<b>Ingestion</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
<b>Protection of first-aiders</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	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.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	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.
<b>Notes to physician</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	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.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	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.

## 5. Fire-fighting measures

<b>Flammability of the product</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	In a fire or if heated, a pressure increase will occur and the container may burst.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Extinguishing media</b>		
<b>Suitable</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Use an extinguishing agent suitable for the surrounding fire.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Use an extinguishing agent suitable for the surrounding fire.
<b>Not suitable</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	None known.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	None known.
<b>Special exposure hazards</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	No action shall be taken involving any personal risk or without suitable training.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	No action shall be taken involving any personal risk or without suitable training.

## 5. Fire-fighting measures

<b>Hazardous thermal decomposition products</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides halogenated compounds metal oxide/oxides
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides
<b>Special protective equipment for fire-fighters</b>	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.	

## 6. Accidental release measures

<b>Personal precautions</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	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 (see Section 8).
	DNA ULS Labeling Module Agilent Part Number 5190-0455	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. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
<b>Environmental precautions</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	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).
	DNA ULS Labeling Module Agilent Part Number 5190-0455	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).
<b>Methods for cleaning up</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	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.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	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

## 6. Accidental release measures

via a licensed waste disposal contractor.

## 7. Handling and storage

### Handling

: Agilent-CGH Block Agilent Part Number 5190-0454

Put on appropriate personal protective equipment (see Section 8). 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. Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

DNA ULS Labeling Module Agilent Part Number 5190-0455

Put on appropriate personal protective equipment (see Section 8). 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. Avoid exposure - obtain special instructions before use. 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 when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

### Storage

: Agilent-CGH Block Agilent Part Number 5190-0454

Do not store above the following temperature: -20°C (-4°F). 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.

DNA ULS Labeling Module Agilent Part Number 5190-0455

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.

## 8. Exposure controls/personal protection

Ingredient	Exposure limits
DNA ULS Labeling Module Agilent Part Number 5190-0455 N,N-Dimethylformamide	<p><b>ACGIH TLV (United States, 2/2010). Absorbed through skin.</b>                      TWA: 30 mg/m<sup>3</sup> 8 hour(s).                      TWA: 10 ppm 8 hour(s).</p> <p><b>NIOSH REL (United States, 6/2009). Absorbed through skin.</b>                      TWA: 30 mg/m<sup>3</sup> 10 hour(s).                      TWA: 10 ppm 10 hour(s).</p> <p><b>OSHA PEL (United States, 11/2006). Absorbed through skin.</b>                      TWA: 30 mg/m<sup>3</sup> 8 hour(s).                      TWA: 10 ppm 8 hour(s).</p> <p><b>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.</b>                      TWA: 30 mg/m<sup>3</sup> 8 hour(s).                      TWA: 10 ppm 8 hour(s).</p>

**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.

**Engineering measures** : 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.

**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.

### Personal protection

**Respiratory** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

**Hands** : 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.

**Eyes** : 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 or dusts.

**Skin** : 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.

**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.

**Other protection** : Not available.

## 9. Physical and chemical properties

<b>Physical state</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Liquid.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Liquid.
<b>Flash point</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	[Product does not sustain combustion.]
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Closed cup: >93.3°C (>199.9°F) [Product does not sustain combustion.]

## 9. Physical and chemical properties

<b>Auto-ignition temperature</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available. Not available.
<b>Flammable limits</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available. Not available.
<b>Color</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Yellowish. [Light] Not available.
<b>Odor</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Sulfurous. [Slight] Not available.
<b>pH</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available. Not available.
<b>Boiling/condensation point</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available. Not available.
<b>Melting/freezing point</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available. Not available.
<b>Specific gravity</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available. Not available.
<b>Vapor pressure</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available. Not available.
<b>Vapor density</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available. Not available.
<b>Volatility</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available. Not available.
<b>Odor threshold</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available. Not available.
<b>Evaporation rate</b>	: Agilent-CGH Block Agilent Part Number 5190-0454 DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available. Not available.

## 9. Physical and chemical properties

<b>Viscosity</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Not available.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available.
<b>Solubility</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Not available.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Not available.

## 10. Stability and reactivity

<b>Chemical stability</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	The product is stable.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	The product is stable.
<b>Conditions to avoid</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	No specific data.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	No specific data.
<b>Materials to avoid</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	No specific data.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	No specific data.
<b>Hazardous decomposition products</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
<b>Possibility of hazardous reactions</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	Under normal conditions of storage and use, hazardous reactions will not occur.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	Under normal conditions of storage and use, hazardous reactions will not occur.

## 11. Toxicological information

### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
<b>Agilent-CGH Block Agilent Part Number 5190-0454</b> Carbamic acid, diethyldithio-, sodium salt, trihydrate	LD50 Oral	Rat	1500 mg/kg	-
<b>DNA ULS Labeling Module Agilent Part Number 5190-0455</b> Trometamol N,N-Dimethylformamide	LD50 Oral	Rat	>3000 mg/kg	-
	LC50 Inhalation Gas.	Rat	3421 ppm	1 hours
	LC50 Inhalation Gas.	Rat	1948 ppm	4 hours
	LD50 Dermal	Rabbit	4720 mg/kg	-
	LD50 Dermal	Rat	>3.2 g/kg	-
	LD50 Oral	Rat	2000 mg/kg	-
Sodium chloride	LC50 Inhalation Dusts and mists	Rat	>42 g/m <sup>3</sup>	1 hours
	LD50 Oral	Rat	3000 mg/kg	-

### Chronic toxicity

**Conclusion/Summary** : Not available.

## 11. Toxicological information

### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>DNA ULS Labeling Module Agilent Part Number 5190-0455</b>					
Trometamol	Skin - Moderate irritant	Rabbit	-	-	-
	Skin - Severe irritant	Rabbit	-	-	-
N,N-Dimethylformamide	Eyes - Severe irritant	Rabbit	-	-	-
	Skin - Mild irritant	Human	-	-	-
Sodium chloride	Eyes - Moderate irritant	Rabbit	-	-	-
	Skin - Mild irritant	Rabbit	-	-	-

### Sensitizer

**Conclusion/Summary** : Not available.

### Carcinogenicity

#### Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
<b>DNA ULS Labeling Module Agilent Part Number 5190-0455</b>						
N,N-Dimethylformamide	A4	3	-	-	-	-

### Mutagenicity

**Conclusion/Summary** : Not available.

### Teratogenicity

**Conclusion/Summary** : Not available.

### Reproductive toxicity

**Conclusion/Summary** : Not available.

**Other adverse symptoms** : Agilent-CGH Block Agilent Part Number 5190-0454 Not available.  
DNA ULS Labeling Module Agilent Part Number 5190-0455 Not available.

## 12. Ecological information

**Ecotoxicity** : May cause long-term adverse effects in the aquatic environment.

### Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
<b>DNA ULS Labeling Module Agilent Part Number 5190-0455</b>			
N,N-Dimethylformamide	Acute EC50 4500000 ug/L Fresh water	Daphnia - Daphnia magna - <=6 hours	48 hours
	Acute LC50 >100000 ug/L Marine water	Crustaceans - Crangon crangon - Adult	48 hours
	Acute LC50 7100000 ug/L Fresh water	Fish - Lepomis macrochirus - Juvenile (Fledgling, Hatchling, Weanling) - 0.912 g	96 hours
Sodium chloride	Chronic NOEC 6 g/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute EC50 402600 to 469200 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 >5600 ppm Fresh water	Crustaceans - Asellus communis	48 hours
	Acute LC50 1000000 ug/L Fresh water	Fish - Morone saxatilis - LARVAE	96 hours

**Conclusion/Summary** : Not available.

## 12. Ecological information

- Partition coefficient: n-octanol/water** : Agilent-CGH Block Agilent Part Number 5190-0454 Not available.  
DNA ULS Labeling Module Agilent Part Number 5190-0455 Not available.
- Other adverse effects** : No known significant effects or critical hazards.

## 13. Disposal considerations

- Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. 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.

## 14. Transport information

- Regulatory information**  
**DOT / IMDG / IATA /** : Not regulated.

## 15. Regulatory information

- HCS Classification** : Agilent-CGH Block Agilent Part Number 5190-0454 Irritating material  
DNA ULS Labeling Module Agilent Part Number 5190-0455 Target organ effects  
Toxic material  
Irritating material  
Target organ effects
- U.S. Federal regulations** : **SARA 302/304/311/312 extremely hazardous substances:** No products were found.  
**SARA 302/304 emergency planning and notification:** No products were found.  
**SARA 302/304/311/312 hazardous chemicals:** Carbamic acid, diethyldithio-, sodium salt, trihydrate; N,N-Dimethylformamide  
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:**  
Carbamic acid, diethyldithio-, sodium salt, trihydrate: Delayed (chronic) health hazard;  
N,N-Dimethylformamide: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard
- 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

## 15. Regulatory information

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

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

### SARA 313

	Product name	CAS number	Concentration
<b>Form R - Reporting requirements</b>	<b>DNA ULS Labeling Module Agilent Part Number 5190-0455</b> N,N-Dimethylformamide	68-12-2	10 - 30
<b>Supplier notification</b>	<b>DNA ULS Labeling Module Agilent Part Number 5190-0455</b> N,N-Dimethylformamide	68-12-2	10 - 30

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

## 16. Other information

<b>Label requirements</b>	: Agilent-CGH Block Agilent Part Number 5190-0454	CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
	DNA ULS Labeling Module Agilent Part Number 5190-0455	HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. POSSIBLE REPRODUCTIVE HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS IN MALES, BASED ON ANIMAL DATA.

**Date of issue** : 03/31/2011

**Date of previous issue** : No previous validation.

**Version** : 2

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.