

# SAFETY DATA SHEET

Agilent High Sensitivity DNA Reagents, Part Number 5067-4627

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Agilent High Sensitivity DNA Reagents, Part Number 5067-4627  
**Part No. (Chemical Kit)** : 5067-4627  
**Part No.** : 

<input checked="" type="checkbox"/> High Sensitivity DNA Reagent Kit I	G2938-85004
High Sensitivity DNA Markers	Not available.
High Sensitivity DNA Gel Matrix	Not available.
High Sensitivity DNA Dye	Not available.
High Sensitivity DNA Ladder	Not available.

**Validation date** : 10/30/2017

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

**Material uses** : Analytical chemistry.

High Sensitivity DNA Markers	4 x 200 µl
High Sensitivity DNA Gel Matrix	2 x 300 µl
High Sensitivity DNA Dye	1 x 40 µl
High Sensitivity DNA Ladder	1 x 20 µl

### 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

<b>OSHA/HCS status</b> : <input checked="" type="checkbox"/> High Sensitivity DNA Markers	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.
High Sensitivity DNA Gel Matrix	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.
High Sensitivity DNA Dye	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
High Sensitivity DNA Ladder	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.

### Classification of the substance or mixture

## Section 2. Hazards identification

### High Sensitivity DNA Dye

H227 FLAMMABLE LIQUIDS - Category 4  
 H320 EYE IRRITATION - Category 2B

**Ingredients of unknown toxicity** : High Sensitivity DNA Gel Matrix Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 10 - 30%  
 High Sensitivity DNA Dye Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 10 - 30%  
 High Sensitivity DNA Ladder Percentage of the mixture consisting of ingredient (s) of unknown oral toxicity: 1 - 10%

### 2.2 GHS label elements

**Signal word** : High Sensitivity DNA Markers No signal word.  
 High Sensitivity DNA Gel Matrix No signal word.  
 High Sensitivity DNA Dye Warning  
 High Sensitivity DNA Ladder No signal word.

**Hazard statements** : High Sensitivity DNA Markers No known significant effects or critical hazards.  
 High Sensitivity DNA Gel Matrix No known significant effects or critical hazards.  
 High Sensitivity DNA Dye H227 - Combustible liquid.  
 H320 - Causes eye irritation.  
 High Sensitivity DNA Ladder No known significant effects or critical hazards.

**Precautionary statements**

**Prevention** : High Sensitivity DNA Markers Not applicable.  
 High Sensitivity DNA Gel Matrix Not applicable.  
 High Sensitivity DNA Dye P280 - Wear protective gloves. Wear eye or face protection.  
 P210 - Keep away from flames and hot surfaces. -  
 No smoking.  
 P264 - Wash hands thoroughly after handling.  
 High Sensitivity DNA Ladder Not applicable.

**Response** : High Sensitivity DNA Markers Not applicable.  
 High Sensitivity DNA Gel Matrix Not applicable.  
 High Sensitivity DNA Dye 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.

**Storage** : High Sensitivity DNA Ladder Not applicable.  
 High Sensitivity DNA Markers Not applicable.  
 High Sensitivity DNA Gel Matrix Not applicable.  
 High Sensitivity DNA Dye P403 - Store in a well-ventilated place.  
 P235 - Keep cool.

**Disposal** : High Sensitivity DNA Ladder Not applicable.  
 High Sensitivity DNA Markers Not applicable.  
 High Sensitivity DNA Gel Matrix Not applicable.  
 High Sensitivity DNA Dye P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements** : High Sensitivity DNA Ladder Not applicable.  
 High Sensitivity DNA Markers None known.  
 High Sensitivity DNA Gel Matrix None known.  
 High Sensitivity DNA Dye None known.  
 High Sensitivity DNA Ladder None known.

### 2.3 Other hazards

## Section 2. Hazards identification

<b>Hazards not otherwise classified</b>	:	High Sensitivity DNA Markers	None known.
		High Sensitivity DNA Gel Matrix	None known.
		High Sensitivity DNA Dye	None known.
		High Sensitivity DNA Ladder	None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	:	High Sensitivity DNA Markers	Mixture
		High Sensitivity DNA Gel Matrix	Mixture
		High Sensitivity DNA Dye	Mixture
		High Sensitivity DNA Ladder	Mixture

Ingredient name	%	CAS number
High Sensitivity DNA Dye Dimethyl sulfoxide	≥90	67-68-5

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>	:	High Sensitivity DNA Markers	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.
		High Sensitivity DNA Gel Matrix	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.
		High Sensitivity DNA Dye	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. If irritation persists, get medical attention.
		High Sensitivity DNA Ladder	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.
<b>Inhalation</b>	:	High Sensitivity DNA Markers	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
		High Sensitivity DNA Gel Matrix	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.
		High Sensitivity DNA Dye	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

## Section 4. First aid measures

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.

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

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.

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.

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.

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

High Sensitivity DNA Ladder

**Skin contact** : High Sensitivity DNA Markers

High Sensitivity DNA Gel Matrix

High Sensitivity DNA Dye

High Sensitivity DNA Ladder

**Ingestion** : High Sensitivity DNA Markers

High Sensitivity DNA Gel Matrix

High Sensitivity DNA Dye

High Sensitivity DNA Ladder

## Section 4. First aid measures

unless directed to do so by medical personnel. Get medical attention if symptoms occur.

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

#### Potential acute health effects

<b>Eye contact</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. Causes eye irritation. No known significant effects or critical hazards.
<b>Inhalation</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

<b>Eye contact</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye  High Sensitivity DNA Ladder	No specific data. No specific data. Adverse symptoms may include the following: irritation watering redness No specific data.
<b>Inhalation</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No specific data. No specific data. No specific data. No specific data.
<b>Skin contact</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No specific data. No specific data. No specific data. No specific data.
<b>Ingestion</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No specific data. No specific data. No specific data. No specific data.

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

<b>Notes to physician</b>	: High Sensitivity DNA Markers	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	High Sensitivity DNA Gel Matrix	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.
	High Sensitivity DNA Dye	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	High Sensitivity DNA Ladder	Treat symptomatically. Contact poison treatment

## Section 4. First aid measures

<b>Specific treatments</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	specialist immediately if large quantities have been ingested or inhaled. No specific treatment. No specific treatment. No specific treatment.
<b>Protection of first-aiders</b>	: High Sensitivity DNA Markers  High Sensitivity DNA Gel Matrix  High Sensitivity DNA Dye  High Sensitivity DNA Ladder	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. 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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: High Sensitivity DNA Markers  High Sensitivity DNA Gel Matrix  High Sensitivity DNA Dye High Sensitivity DNA Ladder	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. Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	None known. None known. Do not use water jet. None known.

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

<b>Specific hazards arising from the chemical</b>	: High Sensitivity DNA Markers  High Sensitivity DNA Gel Matrix  High Sensitivity DNA Dye  High Sensitivity DNA Ladder	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. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix	No specific data. Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides

## Section 5. Fire-fighting measures

High Sensitivity DNA Dye	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
High Sensitivity DNA Ladder	No specific data.

### 5.3 Advice for firefighters

#### Special protective actions for fire-fighters

: High Sensitivity DNA Markers	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.
High Sensitivity DNA Gel Matrix	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.
High Sensitivity DNA Dye	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.
High Sensitivity DNA Ladder	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

#### Special protective equipment for fire-fighters

: High Sensitivity DNA Markers	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
High Sensitivity DNA Gel Matrix	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
High Sensitivity DNA Dye	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
High Sensitivity DNA Ladder	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

#### For non-emergency personnel

: High Sensitivity DNA Markers	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.
High Sensitivity DNA Gel Matrix	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.

## Section 6. Accidental release measures

	High Sensitivity DNA Dye	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.
	High Sensitivity DNA Ladder	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.
<b>For emergency responders :</b>	High Sensitivity DNA Markers	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".
	High Sensitivity DNA Gel Matrix	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".
	High Sensitivity DNA Dye	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".
	High Sensitivity DNA Ladder	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".
<b>6.2 Environmental precautions</b>	: High Sensitivity DNA Markers	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).
	High Sensitivity DNA Gel Matrix	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).
	High Sensitivity DNA Dye	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).
	High Sensitivity DNA Ladder	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



## Section 6. Accidental release measures

<b>Methods for cleaning up</b>	: High Sensitivity DNA Markers	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.
	High Sensitivity DNA Gel Matrix	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.
	High Sensitivity DNA Dye	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.
	High Sensitivity DNA Ladder	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.

## Section 7. Handling and storage

### 7.1 Precautions for safe handling

<b>Protective measures</b>	: High Sensitivity DNA Markers	Put on appropriate personal protective equipment (see Section 8).
	High Sensitivity DNA Gel Matrix	Put on appropriate personal protective equipment (see Section 8).
	High Sensitivity DNA Dye	Put on appropriate personal protective equipment (see Section 8). 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. 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.
	High Sensitivity DNA Ladder	Put on appropriate personal protective equipment (see Section 8).
<b>Advice on general occupational hygiene</b>	: High Sensitivity DNA Markers	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
	High Sensitivity DNA Gel Matrix	Eating, drinking and smoking should be prohibited

## Section 7. Handling and storage

High Sensitivity DNA Dye

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.

High Sensitivity DNA Ladder

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

: High Sensitivity DNA Markers

Storage temperature: 4°C (39.2°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. See Section 10 for incompatible materials before handling or use.

High Sensitivity DNA Gel Matrix

Storage temperature: 4°C (39.2°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. See Section 10 for incompatible materials before handling or use.

High Sensitivity DNA Dye

Storage temperature: 4°C (39.2°F). 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 and drink. 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. See Section 10 for incompatible materials before

## Section 7. Handling and storage

High Sensitivity DNA Ladder

handling or use.

Storage temperature: 4°C (39.2°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. See Section 10 for incompatible materials before handling or use.

### 7.3 Specific end use(s)

<b>Recommendations</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not applicable. Not applicable. Not applicable. Not applicable.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
High Sensitivity DNA Dye Dimethyl sulfoxide	<b>AIHA WEEL (United States, 10/2011).</b> TWA: 250 ppm 8 hours.

### 8.2 Exposure controls

<b>Appropriate engineering controls</b>	: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
<b>Environmental exposure controls</b>	: 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

<b>Hygiene measures</b>	: 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.
<b>Eye/face protection</b>	: 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

## Section 8. Exposure controls/personal 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>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Liquid. Liquid. Liquid. Liquid.
<b>Color</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not available. Not available. Not available. Not available.
<b>Odor</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Odorless. Odorless. Slight Not available.
<b>Odor threshold</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not available. Not available. Not available. Not available.
<b>pH</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	6.5 to 8 Not available. Not available. Not available.
<b>Melting point</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	0°C (32°F) Not available. 18.4°C (65.1°F) 0°C (32°F)
<b>Boiling point</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	100°C (212°F) Not available. 189°C (372.2°F) 100°C (212°F)
<b>Flash point</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not available. Not available. Closed cup: 89°C (192.2°F) Not available.

## Section 9. Physical and chemical properties

<b>Evaporation rate</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not available. Not available. Not available. Not available.
<b>Flammability (solid, gas)</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not applicable. Not applicable. Not applicable. Not applicable.
<b>Lower and upper explosive (flammable) limits</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye  High Sensitivity DNA Ladder	Not available. Not available. Lower: 2.6% Upper: 42 to 63% Not available.
<b>Vapor pressure</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not available. Not available. 0.056 kPa (0.42 mm Hg) [room temperature] Not available.
<b>Vapor density</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not available. Not available. 2.7 [Air = 1] Not available.
<b>Relative density</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not available. Not available. 1.1 Not available.
<b>Solubility</b>	: High Sensitivity DNA Markers  High Sensitivity DNA Gel Matrix  High Sensitivity DNA Dye  High Sensitivity DNA Ladder	Easily soluble in the following materials: cold water and hot water.  Easily soluble in the following materials: cold water and hot water.  Easily soluble in the following materials: cold water and hot water.  Easily soluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not available. Not available. Not available. Not available.
<b>Auto-ignition temperature</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not available. Not applicable. Not available. Not available.
<b>Decomposition temperature</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not available. Not available. Not available. Not available.
<b>Viscosity</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	Not available. Not available. Not available. Not available.

## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	<ul style="list-style-type: none"> <li>: High Sensitivity DNA Markers</li> <li>High Sensitivity DNA Gel Matrix</li> <li>High Sensitivity DNA Dye</li> <li>High Sensitivity DNA Ladder</li> </ul>	<p>No specific test data related to reactivity available for this product or its ingredients.</p> <p>No specific test data related to reactivity available for this product or its ingredients.</p> <p>No specific test data related to reactivity available for this product or its ingredients.</p> <p>No specific test data related to reactivity available for this product or its ingredients.</p>
<b>10.2 Chemical stability</b>	<ul style="list-style-type: none"> <li>: High Sensitivity DNA Markers</li> <li>High Sensitivity DNA Gel Matrix</li> <li>High Sensitivity DNA Dye</li> <li>High Sensitivity DNA Ladder</li> </ul>	<p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p> <p>The product is stable.</p>
<b>10.3 Possibility of hazardous reactions</b>	<ul style="list-style-type: none"> <li>: High Sensitivity DNA Markers</li> <li>High Sensitivity DNA Gel Matrix</li> <li>High Sensitivity DNA Dye</li> <li>High Sensitivity DNA Ladder</li> </ul>	<p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p> <p>Under normal conditions of storage and use, hazardous reactions will not occur.</p>
<b>10.4 Conditions to avoid</b>	<ul style="list-style-type: none"> <li>: High Sensitivity DNA Markers</li> <li>High Sensitivity DNA Gel Matrix</li> <li>High Sensitivity DNA Dye</li>   <li>High Sensitivity DNA Ladder</li> </ul>	<p>No specific data.</p> <p>No specific data.</p> <p>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. Do not allow vapor to accumulate in low or confined areas.</p> <p>No specific data.</p>
<b>10.5 Incompatible materials</b>	<ul style="list-style-type: none"> <li>: High Sensitivity DNA Markers</li> <li>High Sensitivity DNA Gel Matrix</li> <li>High Sensitivity DNA Dye</li>   <li>High Sensitivity DNA Ladder</li> </ul>	<p>May react or be incompatible with oxidizing materials.</p> <p>May react or be incompatible with oxidizing materials.</p> <p>Reactive or incompatible with the following materials: oxidizing materials</p> <p>May react or be incompatible with oxidizing materials.</p>
<b>10.6 Hazardous decomposition products</b>	<ul style="list-style-type: none"> <li>: High Sensitivity DNA Markers</li>   <li>High Sensitivity DNA Gel Matrix</li>   <li>High Sensitivity DNA Dye</li>   <li>High Sensitivity DNA Ladder</li> </ul>	<p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p> <p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p> <p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p> <p>Under normal conditions of storage and use, hazardous decomposition products should not be produced.</p>

## Section 11. Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
High Sensitivity DNA Dye Dimethyl sulfoxide	LD50 Dermal	Rat	40000 mg/kg	-
	LD50 Oral	Rat	14500 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
High Sensitivity DNA Dye Dimethyl sulfoxide	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Eyes - Mild irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	100 milligrams	-

#### Sensitization

Not available.

#### Mutagenicity

Not available.

#### Carcinogenicity

Not available.

#### Reproductive toxicity

Not available.

#### Teratogenicity

Not available.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

#### Information on the likely routes of exposure

High Sensitivity DNA Markers	Not available.
High Sensitivity DNA Gel Matrix	Not available.
High Sensitivity DNA Dye	Routes of entry anticipated: Oral, Dermal, Inhalation.
High Sensitivity DNA Ladder	Not available.

#### Potential acute health effects

##### Eye contact

High Sensitivity DNA Markers	No known significant effects or critical hazards.
High Sensitivity DNA Gel Matrix	No known significant effects or critical hazards.
High Sensitivity DNA Dye	Causes eye irritation.
High Sensitivity DNA Ladder	No known significant effects or critical hazards.

## Section 11. Toxicological information

<b>Inhalation</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Skin contact</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Ingestion</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

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

<b>Eye contact</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye  High Sensitivity DNA Ladder	No specific data. No specific data. Adverse symptoms may include the following: irritation watering redness No specific data.
<b>Inhalation</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No specific data. No specific data. No specific data. No specific data.
<b>Skin contact</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No specific data. No specific data. No specific data. No specific data.
<b>Ingestion</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No specific data. No specific data. No specific data. No specific data.

### 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

<b>General</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.



## Section 11. Toxicological information

<b>Mutagenicity</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Teratogenicity</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Developmental effects</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Fertility effects</b>	: High Sensitivity DNA Markers High Sensitivity DNA Gel Matrix High Sensitivity DNA Dye High Sensitivity DNA Ladder	No known significant effects or critical hazards. 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

Not available.

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
High Sensitivity DNA Dye Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 34000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 100 µl/L Marine water	Algae - Ulva lactuca	72 hours

### 12.2 Persistence and degradability

Not available.

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
High Sensitivity DNA Dye Dimethyl sulfoxide	-1.35	3.16	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. 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.

**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)** : Not 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**

## Section 15. Regulatory information

### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : High Sensitivity DNA Markers Not applicable.  
 High Sensitivity DNA Gel Matrix Not applicable.  
 High Sensitivity DNA Dye Fire hazard  
 Immediate (acute) health hazard  
 High Sensitivity DNA Ladder Not applicable.

### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
High Sensitivity DNA Dye Dimethyl sulfoxide	≥90	Yes.	No.	No.	Yes.	No.

### State regulations

**Massachusetts** : None of the components are listed.

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: DIMETHYL SULFOXIDE; METHANE, SULFINYLBI-

**Pennsylvania** : None of the components are listed.

### International regulations

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

Not listed.

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

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

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

Not listed.

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

Not listed.

### Inventory list

**Australia** : Not determined.

**Canada** : Not determined.

**China** : Not determined.

**Europe** : Not determined.

**Japan** : **Japan inventory (ENCS)**: Not determined.  
**Japan inventory (ISHL)**: Not determined.

**Malaysia** : Not determined.

**New Zealand** : Not determined.

**Philippines** : Not determined.

**Republic of Korea** : Not determined.

## Section 15. Regulatory information

Taiwan	: Not determined.
Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: <input checked="" type="checkbox"/> Not determined.

## Section 16. Other information

### History

Date of issue	: 10/30/2017
Date of previous issue	: 02/16/2017.
Version	: 4.1

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.