SAFETY DATA SHEET

Agilent Technologies

Agilent High Sensitivity DNA Reagents, Part Number 5067-4627

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

1.1 Product identifier

Product name : Agilent High Sensitivity DNA Reagents, Part Number 5067-4627

Part No. (Kit) : 5067-4627

Part No. :

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.

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

Identified 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

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition :

High Sensitivity DNA Markers	Mixture
High Sensitivity DNA Gel Matrix	Mixture
High Sensitivity DNA Dye	Mixture
High Sensitivity DNA Ladder	Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

SECTION 2: Hazards identification

Ingredients of unknown toxicity	:	High Sensitivity DNA Gel Matrix	Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown inhalation toxicity: 10 - 30% Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
Ingredients of unknown ecotoxicity	:	High Sensitivity DNA Gel Matrix	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 6.5%

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Signal word	:	High Sensitivity DNA Markers	No signal word.
		High Sensitivity DNA Gel Matrix	No signal word.
		High Sensitivity DNA Dye	No signal word.
		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	No known significant effects or critical hazards.
		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	Not applicable.
		High Sensitivity DNA Ladder	Not applicable.
Response	:	High Sensitivity DNA Markers	Not applicable.
		High Sensitivity DNA Gel Matrix	Not applicable.
		High Sensitivity DNA Dye	Not applicable.
		High Sensitivity DNA Ladder	Not applicable.
Storage	:	High Sensitivity DNA Markers	Not applicable.
		High Sensitivity DNA Gel Matrix	Not applicable.
		High Sensitivity DNA Dye	Not applicable.
		High Sensitivity DNA Ladder	Not applicable.
Disposal	:	High Sensitivity DNA Markers	Not applicable.
		High Sensitivity DNA Gel Matrix	Not applicable.
		High Sensitivity DNA Dye	Not applicable.
		High Sensitivity DNA Ladder	Not applicable.

SECTION 2: Hazards identification

Supplemental label elements	:	High Sensitivity DNA Markers	Not applicable.
		High Sensitivity DNA Gel Matrix	Not applicable.
		High Sensitivity DNA Dye	Not applicable.
		High Sensitivity DNA Ladder	Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	:	High Sensitivity DNA Markers	Not applicable.
		High Sensitivity DNA Gel Matrix	Not applicable.
		High Sensitivity DNA Dye	Not applicable.
		High Sensitivity DNA Ladder	Not applicable.

Special packaging requirements

Tactile warning of danger	:	High Sensitivity DNA Markers	Not applicable.
		High Sensitivity DNA Gel Matrix	Not applicable.
		High Sensitivity DNA Dye	Not applicable.
		High Sensitivity DNA Ladder	Not applicable.

2.3 Other hazards

Other hazards which do not result in classification	:	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

3.1 Substances	:	High Sensitivity DNA Markers	Mixture
		High Sensitivity DNA Gel Matrix	Mixture
		High Sensitivity DNA Dye	Mixture
		High Sensitivity DNA Ladder	Mixture

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

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

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	:	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

SECTION 4: First aid measures

		High Sensitivity DNA Ladder	any contact lenses. Get medical attention if irritation occurs. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	:	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. Get medical attention if symptoms occur.
		High Sensitivity DNA Ladder	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	:	High Sensitivity DNA Markers	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		High Sensitivity DNA Gel Matrix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		High Sensitivity DNA Dye	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
		High Sensitivity DNA Ladder	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	:	High Sensitivity DNA Markers	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.
		High Sensitivity DNA Gel Matrix	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.
		High Sensitivity DNA Dye	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.
		High Sensitivity DNA Ladder	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.

SECTION 4: First aid measures

Protection of first-aiders	:	High Sensitivity DNA Markers	No action shall be taken involving any personal risk or without suitable training.
		High Sensitivity DNA Gel Matrix	No action shall be taken involving any personal risk or without suitable training.
		High Sensitivity DNA Dye	No action shall be taken involving any personal risk or without suitable training.
		High Sensitivity DNA Ladder	No action shall be taken involving any personal risk or without suitable training.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	:	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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.
Inhalation	:	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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.
Skin 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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.
Ingestion	:	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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	High Sensitivity DNA Markers	No specific data.
		High Sensitivity DNA Gel Matrix	No specific data.
		High Sensitivity DNA Dye	No specific data.
		High Sensitivity DNA Ladder	No specific data.
Inhalation	:	High Sensitivity DNA Markers	No specific data.
		High Sensitivity DNA Gel Matrix	No specific data.
		High Sensitivity DNA Dye	No specific data.
		High Sensitivity DNA Ladder	No specific data.

SECTION 4: First aid measures

Skin contact	:	High Sensitivity DNA Markers	No specific data.
		High Sensitivity DNA Gel Matrix	No specific data.
		High Sensitivity DNA Dye	No specific data.
		High Sensitivity DNA Ladder	No specific data.
Ingestion	:	High Sensitivity DNA Markers	No specific data.
		High Sensitivity DNA Gel Matrix	No specific data.
		High Sensitivity DNA Dye	No specific data.
		High Sensitivity DNA Ladder	No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	:	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 specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	High Sensitivity DNA Markers	No specific treatment.
		High Sensitivity DNA Gel Matrix	No specific treatment.
		High Sensitivity DNA Dye	No specific treatment.
		High Sensitivity DNA Ladder	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	High Sensitivity DNA Markers	Use an extinguishing agent suitable for the surrounding fire.
		High Sensitivity DNA Gel Matrix	Use an extinguishing agent suitable for the surrounding fire.
		High Sensitivity DNA Dye	Use an extinguishing agent suitable for the surrounding fire.
		High Sensitivity DNA Ladder	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	:	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.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	:	High Sensitivity DNA Markers	In a fire or if heated, a pressure increase will occur and the container may burst.
		High Sensitivity DNA Gel Matrix	In a fire or if heated, a pressure increase will occur and the container may burst.
		High Sensitivity DNA Dye	In a fire or if heated, a pressure increase will occur and the container may burst.
		High Sensitivity DNA	In a fire or if heated, a pressure increase will occur and the

SECTION 5: Firefighting measures

	Ladder	container may burst.
Hazardous combustion products :	High Sensitivity DNA Markers	No specific data.
	High Sensitivity DNA Gel Matrix	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides
	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 precautions 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.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel :	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 spilt 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 spilt material. Put on appropriate personal protective equipment.
	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 spilt material. 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 spilt material. Put on appropriate personal protective equipment.
For emergency responders :	High Sensitivity DNA Markers	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	High Sensitivity DNA Gel Matrix	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	High Sensitivity DNA Dye	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
	High Sensitivity DNA Ladder	If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions :	High Sensitivity DNA Markers	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	High Sensitivity DNA Gel Matrix	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	High Sensitivity DNA Dye	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	High Sensitivity DNA Ladder	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up

SECTION 6: Accidental release measures

Methods for cleaning up	:	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. 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.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	:	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).
		High Sensitivity DNA Ladder	Put on appropriate personal protective equipment (see Section 8).
Advice on general occupational hygiene	:	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.
		High Sensitivity DNA Gel Matrix	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 Dye	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	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.

SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities

Storage :

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 unlabelled 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 unlabelled 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 original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
High Sensitivity DNA Ladder	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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations :

High Sensitivity DNA Markers	Industrial applications, Professional applications.
High Sensitivity DNA Gel Matrix	Industrial applications, Professional applications.
High Sensitivity DNA Dye	Industrial applications, Professional applications.
High Sensitivity DNA Ladder	Industrial applications, Professional applications.

Industrial sector specific solutions :

High Sensitivity DNA Markers	Not applicable.
High Sensitivity DNA Gel Matrix	Not applicable.
High Sensitivity DNA Dye	Not applicable.
High Sensitivity DNA Ladder	Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

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.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	High Sensitivity DNA Markers	Liquid.
		High Sensitivity DNA Gel Matrix	Liquid.
		High Sensitivity DNA Dye	Liquid.
		High Sensitivity DNA Ladder	Liquid.
Colour	:	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.
Odour	:	High Sensitivity DNA Markers	Odourless.
		High Sensitivity DNA Gel Matrix	Odourless.
		High Sensitivity DNA Dye	Slight
		High Sensitivity DNA Ladder	Not available.
Odour threshold	:	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.
pH	:	High Sensitivity DNA Markers	6.5 to 8
		High Sensitivity DNA Gel Matrix	Not available.
		High Sensitivity DNA Dye	Not available.
		High Sensitivity DNA Ladder	Not available.
Melting point/freezing point	:	High Sensitivity DNA Markers	0°C
		High Sensitivity DNA Gel Matrix	Not available.
		High Sensitivity DNA Dye	18.4°C
		High Sensitivity DNA Ladder	0°C
Initial boiling point and boiling range	:	High Sensitivity DNA Markers	100°C
		High Sensitivity DNA Gel Matrix	Not available.
		High Sensitivity DNA Dye	189°C
		High Sensitivity DNA Ladder	100°C

SECTION 9: Physical and chemical properties

Flash point	:	High Sensitivity DNA Markers	Not available.
		High Sensitivity DNA Gel Matrix	Not available.
		High Sensitivity DNA Dye	Closed cup: 89°C
		High Sensitivity DNA Ladder	Not available.
Evaporation rate	:	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.
Flammability (solid, gas)	:	High Sensitivity DNA Markers	Not applicable.
		High Sensitivity DNA Gel Matrix	Not applicable.
		High Sensitivity DNA Dye	Not applicable.
		High Sensitivity DNA Ladder	Not applicable.
Upper/lower flammability or explosive limits	:	High Sensitivity DNA Markers	Not available.
		High Sensitivity DNA Gel Matrix	Not available.
		High Sensitivity DNA Dye	Lower: 2.6% Upper: 42 to 63%
		High Sensitivity DNA Ladder	Not available.
Vapour pressure	:	High Sensitivity DNA Markers	Not available.
		High Sensitivity DNA Gel Matrix	Not available.
		High Sensitivity DNA Dye	0.056 kPa [room temperature]
		High Sensitivity DNA Ladder	Not available.
Vapour density	:	High Sensitivity DNA Markers	Not available.
		High Sensitivity DNA Gel Matrix	Not available.
		High Sensitivity DNA Dye	2.7 [Air = 1]
		High Sensitivity DNA Ladder	Not available.
Relative density	:	High Sensitivity DNA Markers	Not available.
		High Sensitivity DNA Gel Matrix	Not available.
		High Sensitivity DNA Dye	1.1
		High Sensitivity DNA Ladder	Not available.

SECTION 9: Physical and chemical properties

Solubility(ies)	:	High Sensitivity DNA Markers	Easily soluble in the following materials: cold water and hot water.
		High Sensitivity DNA Gel Matrix	Easily soluble in the following materials: cold water and hot water.
		High Sensitivity DNA Dye	Easily soluble in the following materials: cold water and hot water.
		High Sensitivity DNA Ladder	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	:	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.
Auto-ignition temperature	:	High Sensitivity DNA Markers	Not available.
		High Sensitivity DNA Gel Matrix	Not applicable.
		High Sensitivity DNA Dye	Not available.
		High Sensitivity DNA Ladder	Not available.
Decomposition temperature	:	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.
Viscosity	:	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.
Explosive properties	:	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.
Oxidising properties	:	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.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	:	High Sensitivity DNA Markers	No specific test data related to reactivity available for this product or its ingredients.
		High Sensitivity DNA Gel Matrix	No specific test data related to reactivity available for this product or its ingredients.
		High Sensitivity DNA Dye	No specific test data related to reactivity available for this product or its ingredients.
		High Sensitivity DNA Ladder	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	:	High Sensitivity DNA Markers	The product is stable.
		High Sensitivity DNA Gel Matrix	The product is stable.
		High Sensitivity DNA Dye	The product is stable.
		High Sensitivity DNA Ladder	The product is stable.
10.3 Possibility of hazardous reactions	:	High Sensitivity DNA Markers	Under normal conditions of storage and use, hazardous reactions will not occur.
		High Sensitivity DNA Gel Matrix	Under normal conditions of storage and use, hazardous reactions will not occur.
		High Sensitivity DNA Dye	Under normal conditions of storage and use, hazardous reactions will not occur.
		High Sensitivity DNA Ladder	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	:	High Sensitivity DNA Markers	No specific data.
		High Sensitivity DNA Gel Matrix	No specific data.
		High Sensitivity DNA Dye	No specific data.
		High Sensitivity DNA Ladder	No specific data.
10.5 Incompatible materials	:	High Sensitivity DNA Markers	May react or be incompatible with oxidising materials.
		High Sensitivity DNA Gel Matrix	May react or be incompatible with oxidising materials.
		High Sensitivity DNA Dye	May react or be incompatible with oxidising materials.
		High Sensitivity DNA Ladder	May react or be incompatible with oxidising materials.
10.6 Hazardous decomposition products	:	High Sensitivity DNA Markers	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		High Sensitivity DNA Gel Matrix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		High Sensitivity DNA Dye	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		High Sensitivity DNA Ladder	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

Not available.

Acute toxicity estimates

Not available.

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on 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

Inhalation	:	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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.
Ingestion	:	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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.
Skin 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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.
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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

SECTION 11: Toxicological information

Inhalation	:	High Sensitivity DNA Markers	No specific data.
		High Sensitivity DNA Gel Matrix	No specific data.
		High Sensitivity DNA Dye	No specific data.
		High Sensitivity DNA Ladder	No specific data.
Ingestion	:	High Sensitivity DNA Markers	No specific data.
		High Sensitivity DNA Gel Matrix	No specific data.
		High Sensitivity DNA Dye	No specific data.
		High Sensitivity DNA Ladder	No specific data.
Skin contact	:	High Sensitivity DNA Markers	No specific data.
		High Sensitivity DNA Gel Matrix	No specific data.
		High Sensitivity DNA Dye	No specific data.
		High Sensitivity DNA Ladder	No specific data.
Eye contact	:	High Sensitivity DNA Markers	No specific data.
		High Sensitivity DNA Gel Matrix	No specific data.
		High Sensitivity DNA Dye	No specific data.
		High Sensitivity DNA Ladder	No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	:	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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.
Carcinogenicity	:	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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.

SECTION 11: Toxicological information

Mutagenicity	:	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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.
Teratogenicity	:	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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.
Developmental effects	:	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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.
Fertility effects	:	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	No known significant effects or critical hazards.
		High Sensitivity DNA Ladder	No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

ADR/RID / IMDG / IATA : Not regulated.

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

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

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

High Sensitivity DNA Markers	Not applicable.
High Sensitivity DNA Gel Matrix	Not applicable.
High Sensitivity DNA Dye	Not applicable.
High Sensitivity DNA Ladder	Not applicable.

Other EU regulations

Industrial emissions (integrated pollution prevention and control) - Air : Listed

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

SECTION 15: Regulatory information

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

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.
Taiwan	:	Not determined.
Thailand	:	Not determined.
Turkey	:	Not determined.
United States	:	Not determined.
Viet Nam	:	Not determined.

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

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified.	

Full text of abbreviated H statements

Not applicable.

SECTION 16: Other information

Full text of classifications [CLP/GHS]

Not applicable.

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