

# SAFETY DATA SHEET



Agilent DNA 12000 Kit, Part Number 5067-1508

## Section 1. Identification

### 1.1 Product identifier

**Product name** : Agilent DNA 12000 Kit, Part Number 5067-1508

**Part no. (chemical kit)** : 5067-1508

**Part no.** : Reagents DNA 12000 G2938-80022  
 DNA 12000 Gel Matrix Not available.  
 DNA Dye Concentrate Not available.  
 DNA 12000 Marker Not available.  
 DNA 12000 Ladder Not available.

**Validation date** : 9/27/2023

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

**Identified uses** :  Analytical chemistry.  
 Research and Development

DNA 12000 Gel Matrix 3 x 0.5 ml  
 DNA Dye Concentrate 1 x 0.09 ml  
 DNA 12000 Marker 2 x 1.2 ml  
 DNA 12000 Ladder 1 x 0.035 ml

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

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

### 1.4 Emergency telephone number

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

## Section 2. Hazards identification

### 2.1 Classification of the substance or mixture

<b>OSHA/HCS status</b>	: DNA 12000 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.
	: DNA Dye Concentrate	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
	: DNA 12000 Marker	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.
	: DNA 12000 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

### DNA Dye Concentrate

H227	FLAMMABLE LIQUIDS - Category 4	
H320	EYE IRRITATION - Category 2B	
	DNA 12000 Gel Matrix	Percentage of the mixture consisting of ingredient (s) of unknown hazards to the aquatic environment: 4.6%
	DNA 12000 Marker	Percentage of the mixture consisting of ingredient (s) of unknown hazards to the aquatic environment: 4.6%

### 2.2 GHS label elements

<b>Signal word</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	No signal word. Warning No signal word. No signal word.
<b>Hazard statements</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate  DNA 12000 Marker DNA 12000 Ladder	No known significant effects or critical hazards. H227 - Combustible liquid. H320 - Causes eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Precautionary statements</b>		
<b>Prevention</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate  DNA 12000 Marker DNA 12000 Ladder	Not applicable. P210 - Keep away from flames and hot surfaces. No smoking. Not applicable. Not applicable.
<b>Response</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate  DNA 12000 Marker DNA 12000 Ladder	Not applicable. 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 advice or attention. Not applicable. Not applicable.
<b>Storage</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate  DNA 12000 Marker DNA 12000 Ladder	Not applicable. P403 + P235 - Store in a well-ventilated place. Keep cool. Not applicable. Not applicable.
<b>Disposal</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate  DNA 12000 Marker DNA 12000 Ladder	Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable. Not applicable.
<b>Supplemental label elements</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	None known. None known. None known. None known.
<b>2.3 Other hazards</b>		
<b>Hazards not otherwise classified</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	None known. None known. None known. None known.

## Section 3. Composition/information on ingredients

<b>Substance/mixture</b>	:	DNA 12000 Gel Matrix	Mixture
		DNA Dye Concentrate	Mixture
		DNA 12000 Marker	Mixture
		DNA 12000 Ladder	Mixture

Ingredient name	%	CAS number
DNA Dye Concentrate		
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 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>	:	DNA 12000 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.
		DNA Dye Concentrate	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.
		DNA 12000 Marker	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.
		DNA 12000 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>	:	DNA 12000 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.
		DNA Dye Concentrate	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
		DNA 12000 Marker	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

## Section 4. First aid measures

of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

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. 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.

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

Wash out mouth with water. 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. 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. 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. 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.

### Skin contact

DNA 12000 Ladder

: DNA 12000 Gel Matrix

DNA Dye Concentrate

DNA 12000 Marker

DNA 12000 Ladder

### Ingestion

: DNA 12000 Gel Matrix

DNA Dye Concentrate

DNA 12000 Marker

DNA 12000 Ladder

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

#### Potential acute health effects

## Section 4. First aid measures

<b>Eye contact</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	No known significant effects or critical hazards. Causes eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards.
<b>Inhalation</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 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>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 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>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 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>	: DNA 12000 Gel Matrix DNA Dye Concentrate  DNA 12000 Marker DNA 12000 Ladder	No specific data. Adverse symptoms may include the following: irritation watering redness No specific data. No specific data.
<b>Inhalation</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	No specific data. No specific data. No specific data. No specific data.
<b>Skin contact</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	No specific data. No specific data. No specific data. No specific data.
<b>Ingestion</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 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>	: DNA 12000 Gel Matrix  DNA Dye Concentrate  DNA 12000 Marker  DNA 12000 Ladder	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. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. 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. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	No specific treatment. No specific treatment. No specific treatment. No specific treatment.

## Section 4. First aid measures

<b>Protection of first-aiders</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate  DNA 12000 Marker  DNA 12000 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. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training.
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See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker  DNA 12000 Ladder	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. Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	None known. Do not use water jet. None known. None known.

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

<b>Specific hazards arising from the chemical</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate   DNA 12000 Marker  DNA 12000 Ladder	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. In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: DNA 12000 Gel Matrix   DNA Dye Concentrate   DNA 12000 Marker	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide

## Section 5. Fire-fighting measures

nitrogen oxides  
sulfur oxides  
No specific data.

DNA 12000 Ladder

### 5.3 Advice for firefighters

#### Special protective actions for fire-fighters

: DNA 12000 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.

DNA Dye Concentrate

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.

DNA 12000 Marker

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.

DNA 12000 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

: DNA 12000 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.

DNA Dye Concentrate

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

DNA 12000 Marker

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

DNA 12000 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

: DNA 12000 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.

DNA Dye Concentrate

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.

## Section 6. Accidental release measures

	DNA 12000 Marker	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.
	DNA 12000 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>	: DNA 12000 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".
	DNA Dye Concentrate	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".
	DNA 12000 Marker	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".
	DNA 12000 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>	: DNA 12000 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).
	DNA Dye Concentrate	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	DNA 12000 Marker	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	DNA 12000 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).
<b>6.3 Methods and materials for containment and cleaning up</b>		
<b>Methods for cleaning up</b>	: DNA 12000 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.
	DNA Dye Concentrate	Stop leak if without risk. Move containers from spill



## Section 6. Accidental release measures

DNA 12000 Marker

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.

DNA 12000 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.

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

#### Protective measures

: DNA 12000 Gel Matrix

Put on appropriate personal protective equipment (see Section 8).

DNA Dye Concentrate

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.

DNA 12000 Marker

Put on appropriate personal protective equipment (see Section 8).

DNA 12000 Ladder

Put on appropriate personal protective equipment (see Section 8).

#### Advice on general occupational hygiene

: DNA 12000 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.

DNA Dye Concentrate

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.

DNA 12000 Marker

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and

## Section 7. Handling and storage

	DNA 12000 Ladder	<p>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.</p>
<p><b>7.2 Conditions for safe storage, including any incompatibilities</b></p>	: DNA 12000 Gel Matrix	<p>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.</p>
	DNA Dye Concentrate	<p>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 handling or use.</p>
	DNA 12000 Marker	<p>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.</p>
	DNA 12000 Ladder	<p>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.</p>

## Section 7. Handling and storage

### 7.3 Specific end use(s)

<b>Recommendations</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
<b>Industrial sector specific solutions</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not available. Not available. Not available. Not available.

## Section 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
DNA Dye Concentrate Dimethyl sulfoxide	OARS WEEL (United States, 4/2022). TWA: 250 ppm 8 hours.

### Biological exposure indices

No exposure indices known.

### 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.
<b>Skin protection</b>	
<b>Hand protection</b>	: 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.
<b>Body protection</b>	: 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.

## Section 8. Exposure controls/personal protection

- 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 and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

<b>Physical state</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Liquid. Liquid. Liquid. Liquid.
<b>Color</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not available. Blue. Not available. Not available.
<b>Odor</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not available. Not available. Not available. Not available.
<b>Odor threshold</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not available. Not available. Not available. Not available.
<b>pH</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not available. Not available. Not available. Not available.
<b>Melting point/freezing point</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not available. 18.5°C (65.3°F) 0°C (32°F) 0°C (32°F)
<b>Boiling point, initial boiling point, and boiling range</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not available. 189°C (372.2°F) 100°C (212°F) 100°C (212°F)
<b>Flash point</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not available. Closed cup: 87°C (188.6°F) Not available. Not available.
<b>Evaporation rate</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not available. Not available. Not available. Not available.
<b>Flammability</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not applicable. Not applicable. Not applicable. Not applicable.

## Section 9. Physical and chemical properties and safety characteristics

**Lower and upper explosion limit/flammability limit** : DNA 12000 Gel Matrix Not available.  
DNA Dye Concentrate Lower: 2.6%  
Upper: 42%  
DNA 12000 Marker Not available.  
DNA 12000 Ladder Not available.

**Vapor pressure** :

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
<b>DNA 12000 Gel Matrix</b> water	17.5	2.3	-	92.258	12.3	-
<b>DNA Dye Concentrate</b> Dimethyl sulfoxide	0.42	0.056	EU A.4	-	-	-
<b>DNA 12000 Marker</b> water	17.5	2.3	-	92.258	12.3	-
<b>DNA 12000 Ladder</b> water	17.5	2.3	-	92.258	12.3	-

**Relative vapor density** : DNA 12000 Gel Matrix Not available.  
DNA Dye Concentrate 2.7 [Air = 1]  
DNA 12000 Marker Not available.  
DNA 12000 Ladder Not available.

**Relative density** : DNA 12000 Gel Matrix Not available.  
DNA Dye Concentrate Not available.  
DNA 12000 Marker Not available.  
DNA 12000 Ladder Not available.

**Solubility(ies)** :

Media	Result
<b>DNA 12000 Gel Matrix</b> water	Soluble
<b>DNA Dye Concentrate</b> water	Soluble
<b>DNA 12000 Marker</b> water	Soluble
<b>DNA 12000 Ladder</b> water	Soluble

**Partition coefficient: n-octanol/water** : **DNA 12000 Gel Matrix** Not applicable.  
DNA Dye Concentrate Not applicable.  
DNA 12000 Marker Not applicable.  
DNA 12000 Ladder Not applicable.

**Auto-ignition temperature** :

Ingredient name	°C	°F	Method
<b>DNA Dye Concentrate</b> Dimethyl sulfoxide	300 to 302	572 to 575.6	-

## Section 9. Physical and chemical properties and safety characteristics

<b>Decomposition temperature</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not available. Not available. Not available. Not available.
<b>Viscosity</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not available. Not available. Not available. Not available.
<b>Particle characteristics</b>		
<b>Median particle size</b>	: <input checked="" type="checkbox"/> DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not applicable. Not applicable. Not applicable. Not applicable.

## Section 10. Stability and reactivity

<b>10.1 Reactivity</b>	: DNA 12000 Gel Matrix  DNA Dye Concentrate  DNA 12000 Marker  DNA 12000 Ladder	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
<b>10.2 Chemical stability</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	The product is stable. The product is stable. The product is stable. The product is stable.
<b>10.3 Possibility of hazardous reactions</b>	: DNA 12000 Gel Matrix  DNA Dye Concentrate  DNA 12000 Marker  DNA 12000 Ladder	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
<b>10.4 Conditions to avoid</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate   DNA 12000 Marker DNA 12000 Ladder	No specific data. Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.  No specific data. No specific data.
<b>10.5 Incompatible materials</b>	: DNA 12000 Gel Matrix  DNA Dye Concentrate  DNA 12000 Marker  DNA 12000 Ladder	May react or be incompatible with oxidizing materials. Reactive or incompatible with the following materials: oxidizing materials May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials.

## Section 10. Stability and reactivity

<b>10.6 Hazardous decomposition products</b>	: DNA 12000 Gel Matrix	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	DNA Dye Concentrate	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	DNA 12000 Marker	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	DNA 12000 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

Product/ingredient name	Result	Species	Dose	Exposure
<b>DNA Dye Concentrate</b> Dimethyl sulfoxide	LD50 Dermal LD50 Oral	Rat Rat	40000 mg/kg 14500 mg/kg	- -

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
<b>DNA Dye Concentrate</b> Dimethyl sulfoxide	Eyes - Mild irritant Eyes - Mild irritant	Rabbit Rabbit	- -	100 mg 24 hours 500 mg	- -
	Skin - Mild irritant Skin - Mild irritant	Rabbit Rabbit	- -	100 mg 24 hours 500 mg	- -

#### Sensitization

Not available.

#### Mutagenicity

**Conclusion/Summary** : Not available.

#### Carcinogenicity

**Conclusion/Summary** : Not available.

#### Reproductive toxicity

**Conclusion/Summary** : Not available.

#### Teratogenicity

**Conclusion/Summary** : Not available.

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

Not available.

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

Not available.

#### Aspiration hazard

Not available.

## Section 11. Toxicological information

<b>Information on the likely routes of exposure</b>	<ul style="list-style-type: none"> <li>: DNA 12000 Gel Matrix DNA Dye Concentrate</li> <li>DNA 12000 Marker</li> <li>DNA 12000 Ladder</li> </ul>	<p>Not available. Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.</p> <p>Not available. Not available.</p>
<b><u>Potential acute health effects</u></b>		
<b>Eye contact</b>	<ul style="list-style-type: none"> <li>: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder</li> </ul>	<p>No known significant effects or critical hazards. Causes eye irritation.</p> <p>No known significant effects or critical hazards. No known significant effects or critical hazards.</p>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder</li> </ul>	<p>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.</p>
<b>Skin contact</b>	<ul style="list-style-type: none"> <li>: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder</li> </ul>	<p>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.</p>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder</li> </ul>	<p>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.</p>

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

<b>Eye contact</b>	<ul style="list-style-type: none"> <li>: DNA 12000 Gel Matrix DNA Dye Concentrate</li> <li>DNA 12000 Marker</li> <li>DNA 12000 Ladder</li> </ul>	<p>No specific data. Adverse symptoms may include the following: irritation watering redness</p> <p>No specific data. No specific data.</p>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder</li> </ul>	<p>No specific data. No specific data. No specific data. No specific data.</p>
<b>Skin contact</b>	<ul style="list-style-type: none"> <li>: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder</li> </ul>	<p>No specific data. No specific data. No specific data. No specific data.</p>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder</li> </ul>	<p>No specific data. No specific data. No specific data. No specific data.</p>

### 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



## Section 11. Toxicological information

<b>General</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 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>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 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>Mutagenicity</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 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>Reproductive toxicity</b>	: <input checked="" type="checkbox"/> DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 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

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>DNA Dye Concentrate</b> Dimethyl sulfoxide	14500	40000	N/A	N/A	N/A

## Section 12. Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<input checked="" type="checkbox"/> <b>DNA Dye Concentrate</b> Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water Acute LC50 34000000 µg/l Fresh water Chronic NOEC 100 ul/L Marine water Chronic NOEC 100 ul/L Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate Fish - <i>Pimephales promelas</i> Algae - <i>Ulva lactuca</i> Daphnia - <i>Daphnia magna</i> - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 96 hours 72 hours 21 days

### 12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<b>DNA Dye Concentrate</b> Dimethyl sulfoxide	OECD 301D Ready Biodegradability - Closed Bottle Test	31 % - Not readily - 28 days	-	-
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability	
<b>DNA Dye Concentrate</b> Dimethyl sulfoxide	-	-	Not readily	

## Section 12. Ecological information

### 12.3 Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
DNA Dye Concentrate 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 IMO instruments** : 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

##### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

#### SARA 311/312

<b>Classification</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate	Not applicable. FLAMMABLE LIQUIDS - Category 4 EYE IRRITATION - Category 2B
	: DNA 12000 Marker DNA 12000 Ladder	Not applicable. Not applicable.

##### Composition/information on ingredients

Name	%	Classification
<b>DNA Dye Concentrate</b> Dimethyl sulfoxide	≥90	FLAMMABLE LIQUIDS - Category 4 EYE IRRITATION - Category 2B

### 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.

#### California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

### International regulations

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

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

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

Not listed.

## Section 15. Regulatory information

### [UNECE Aarhus Protocol on POPs and Heavy Metals](#)

Not listed.

### [Inventory list](#)

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

## Section 16. Other information

### [Procedure used to derive the classification](#)

Classification	Justification
<b><span style="color: blue;">■</span> DNA Dye Concentrate</b> FLAMMABLE LIQUIDS - Category 4 EYE IRRITATION - Category 2B	On basis of test data Calculation method

### [History](#)

**Date of issue/Date of revision** : 09/27/2023

**Date of previous issue** : 08/07/2020

**Version** : 7

### [Key to abbreviations](#)

: ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 UN = United Nations

■ Indicates information that has changed from previously issued version.

### [Notice to reader](#)

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