

# SAFETY DATA SHEET

Agilent DNA 12000 Kit, Part Number 5067-1508

## Section 1. Identification

<b>Product identifier</b>	: Agilent DNA 12000 Kit, Part Number 5067-1508	
<b>Part no. (chemical kit)</b>	: 5067-1508	
<b>Part no.</b>	: <u>Reagents DNA 12000</u>	<u>G2938-80022</u>
	DNA 12000 Gel Matrix	Not available.
	DNA Dye Concentrate	Not available.
	DNA 12000 Marker	Not available.
	DNA 12000 Ladder	Not available.

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

<b>Identified uses</b>	: <input checked="" type="checkbox"/> Analytical chemistry. Research and Development	
	<input checked="" type="checkbox"/> 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

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

**Emergency telephone number (with hours of operation)** : CHEMTREC®: 1-800-424-9300

## Section 2. Hazard identification

### Classification of the substance or mixture

<input checked="" type="checkbox"/> DNA Dye Concentrate	FLAMMABLE LIQUIDS - Category 4
H227	EYE IRRITATION - Category 2B
H320	

### 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 heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Not applicable. Not applicable.

## Section 2. Hazard identification

<b>Response</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate	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.
<b>Storage</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Not applicable. Not applicable. Not applicable. Not applicable.
<b>Disposal</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate	Not applicable. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Supplemental label elements</b>	: DNA 12000 Gel Matrix DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder DNA 12000 Gel Matrix DNA 12000 Marker	Not applicable. Not applicable. None known. None known. None known. None known. Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 4.6% Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 4.6%
<b>Other hazards which do not result in classification</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 DNA Dye Concentrate DNA 12000 Marker DNA 12000 Ladder	Mixture Mixture Mixture Mixture
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Ingredient name	Synonyms	% (w/w)	CAS number
DNA Dye Concentrate			
Dimethyl sulfoxide	Dimethyl sulfoxide	≥80	67-68-5

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

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

### Description of necessary first aid measures

## Section 4. 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 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 12000 Ladder	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
<b>Skin contact</b>	: DNA 12000 Gel Matrix	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	DNA Dye Concentrate	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.
	DNA 12000 Marker	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
	DNA 12000 Ladder	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

## Section 4. First-aid measures

<b>Ingestion</b>	: DNA 12000 Gel Matrix	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.
	DNA Dye Concentrate	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.
	DNA 12000 Marker	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.
	DNA 12000 Ladder	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.

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

#### Potential acute health effects

<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	No specific data. Adverse symptoms may include the following: irritation watering redness
	DNA 12000 Marker DNA 12000 Ladder	No specific data. No specific data.

## Section 4. First-aid measures

<b>Inhalation</b>	: DNA 12000 Gel Matrix	No specific data.
	DNA Dye Concentrate	No specific data.
	DNA 12000 Marker	No specific data.
	DNA 12000 Ladder	No specific data.
<b>Skin contact</b>	: DNA 12000 Gel Matrix	No specific data.
	DNA Dye Concentrate	No specific data.
	DNA 12000 Marker	No specific data.
	DNA 12000 Ladder	No specific data.
<b>Ingestion</b>	: DNA 12000 Gel Matrix	No specific data.
	DNA Dye Concentrate	No specific data.
	DNA 12000 Marker	No specific data.
	DNA 12000 Ladder	No specific data.

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

<b>Notes to physician</b>	: DNA 12000 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.
	DNA Dye Concentrate	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	DNA 12000 Marker	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 12000 Ladder	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
<b>Specific treatments</b>	: DNA 12000 Gel Matrix	No specific treatment.
	DNA Dye Concentrate	No specific treatment.
	DNA 12000 Marker	No specific treatment.
	DNA 12000 Ladder	No specific treatment.
<b>Protection of first-aiders</b>	: DNA 12000 Gel Matrix	No action shall be taken involving any personal risk or without suitable training.
	DNA Dye Concentrate	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.
	DNA 12000 Marker	No action shall be taken involving any personal risk or without suitable training.
	DNA 12000 Ladder	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	: DNA 12000 Gel Matrix	Use an extinguishing agent suitable for the surrounding fire.
	DNA Dye Concentrate	Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam.
	DNA 12000 Marker	Use an extinguishing agent suitable for the surrounding fire.
	DNA 12000 Ladder	Use an extinguishing agent suitable for the surrounding fire.

## Section 5. Fire-fighting measures

<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.
<b>Specific hazards arising from the chemical</b>	: DNA 12000 Gel Matrix  DNA Dye Concentrate	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.
	DNA 12000 Marker	In a fire or if heated, a pressure increase will occur and the container may burst.
	DNA 12000 Ladder	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	Decomposition products may include the following materials:
	DNA Dye Concentrate	carbon dioxide carbon monoxide nitrogen oxides sulfur oxides Decomposition products may include the following materials:
	DNA 12000 Marker	carbon dioxide carbon monoxide sulfur oxides Decomposition products may include the following materials:
	DNA 12000 Ladder	carbon dioxide carbon monoxide nitrogen oxides sulfur oxides No specific data.
<b>Special protective actions for fire-fighters</b>	: 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.

## Section 5. Fire-fighting measures

<b>Special protective equipment for fire-fighters</b>	: 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

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	: 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.
	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".



## Section 6. Accidental release measures

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>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).

### Methods and materials for containment and cleaning up

<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 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 Marker	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 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.



## Section 7. Handling and storage

### Precautions for safe handling

<b>Protective measures</b>	: 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 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 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.

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

: DNA 12000 Gel Matrix	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
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## Section 7. Handling and storage

### DNA Dye Concentrate

containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. 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. 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. 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.


### DNA 12000 Marker

### DNA 12000 Ladder

## Section 8. Exposure controls/personal protection

### [Control parameters](#)

### [Occupational exposure limits](#)

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

### [Biological exposure indices](#)

No exposure indices known.

### [Appropriate engineering controls](#)

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

### [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 8. Exposure controls/personal protection

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

## Section 9. Physical and chemical properties 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>	:	

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

	DNA 12000 Gel Matrix	Not available.
	DNA Dye Concentrate	Not available.
	DNA 12000 Marker	Not available.
	DNA 12000 Ladder	Not available.
<b>Melting point/freezing point</b>	DNA 12000 Gel Matrix	Not available.
	DNA Dye Concentrate	18.5°C (65.3°F)
	DNA 12000 Marker	0°C (32°F)
	DNA 12000 Ladder	0°C (32°F)
<b>Boiling point, initial boiling point, and boiling range</b>	DNA 12000 Gel Matrix	Not available.
	DNA Dye Concentrate	189°C (372.2°F)
	DNA 12000 Marker	100°C (212°F)
	DNA 12000 Ladder	100°C (212°F)
<b>Flash point</b>	DNA 12000 Gel Matrix	Not available.
	DNA Dye Concentrate	Closed cup: 87°C (188.6°F)
	DNA 12000 Marker	Not available.
	DNA 12000 Ladder	Not available.
<b>Evaporation rate</b>	DNA 12000 Gel Matrix	Not available.
	DNA Dye Concentrate	Not available.
	DNA 12000 Marker	Not available.
	DNA 12000 Ladder	Not available.
<b>Flammability</b>	DNA 12000 Gel Matrix	Not applicable.
	DNA Dye Concentrate	Not applicable.
	DNA 12000 Marker	Not applicable.
	DNA 12000 Ladder	Not applicable.
<b>Lower and upper explosion limit/flammability limit</b>	DNA 12000 Gel Matrix	Not available.
	DNA Dye Concentrate	Lower: 2.6%
		Upper: 42%
	DNA 12000 Marker	Not available.
	DNA 12000 Ladder	Not available.

<b>Vapor pressure</b>		<b>Vapor Pressure at 20°C</b>			<b>Vapor pressure at 50°C</b>		
	<b>Ingredient name</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>	<b>mm Hg</b>	<b>kPa</b>	<b>Method</b>
	<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	-

<b>Relative vapor density</b>	DNA 12000 Gel Matrix	Not available.
	DNA Dye Concentrate	2.7 [Air = 1]
	DNA 12000 Marker	Not available.
	DNA 12000 Ladder	Not available.

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

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

<b>Solubility(ies)</b>	<b>Media</b>	<b>Result</b>
	<input checked="" type="checkbox"/> DNA 12000 Gel Matrix water	Soluble
	<input checked="" type="checkbox"/> DNA Dye Concentrate water	Soluble
	<input checked="" type="checkbox"/> DNA 12000 Marker water	Soluble
	<input checked="" type="checkbox"/> DNA 12000 Ladder 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.

<b>Auto-ignition temperature</b>	<b>Ingredient name</b>	<b>°C</b>	<b>°F</b>	<b>Method</b>
	<input checked="" type="checkbox"/> DNA Dye Concentrate			
	Dimethyl sulfoxide	300 to 302	572 to 575.6	-

**Decomposition temperature** : DNA 12000 Gel Matrix Not available.  
DNA Dye Concentrate Not available.  
DNA 12000 Marker Not available.  
DNA 12000 Ladder Not available.

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

### Particle characteristics

**Median particle size** :  DNA 12000 Gel Matrix Not applicable.  
DNA Dye Concentrate Not applicable.  
DNA 12000 Marker Not applicable.  
DNA 12000 Ladder Not applicable.

## Section 10. Stability and reactivity

**Reactivity** : DNA 12000 Gel Matrix No specific test data related to reactivity available for this product or its ingredients.  
DNA Dye Concentrate No specific test data related to reactivity available for this product or its ingredients.  
DNA 12000 Marker No specific test data related to reactivity available for this product or its ingredients.  
DNA 12000 Ladder No specific test data related to reactivity available for this product or its ingredients.

**Chemical stability** : DNA 12000 Gel Matrix The product is stable.  
DNA Dye Concentrate The product is stable.  
DNA 12000 Marker The product is stable.  
DNA 12000 Ladder The product is stable.

## Section 10. Stability and reactivity

<b>Possibility of hazardous reactions</b>	: DNA 12000 Gel Matrix	Under normal conditions of storage and use, hazardous reactions will not occur.
	DNA Dye Concentrate	Under normal conditions of storage and use, hazardous reactions will not occur.
	DNA 12000 Marker	Under normal conditions of storage and use, hazardous reactions will not occur.
	DNA 12000 Ladder	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: DNA 12000 Gel Matrix	No specific data.
	DNA Dye Concentrate	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.
	DNA 12000 Marker	No specific data.
	DNA 12000 Ladder	No specific data.
<b>Incompatible materials</b>	: DNA 12000 Gel Matrix	May react or be incompatible with oxidizing materials.
	DNA Dye Concentrate	Reactive or incompatible with the following materials: oxidizing materials
	DNA 12000 Marker	May react or be incompatible with oxidizing materials.
	DNA 12000 Ladder	May react or be incompatible with oxidizing materials.
<b>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

### Information on toxicological effects

#### Acute toxicity

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

#### Irritation/Corrosion

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

#### Sensitization

## Section 11. Toxicological information

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.

<b>Information on the likely routes of exposure</b>	: <input checked="" type="checkbox"/> DNA 12000 Gel Matrix DNA Dye Concentrate  DNA 12000 Marker DNA 12000 Ladder	Not available. Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes. Not available. Not available.
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### Potential acute health effects

<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.

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

<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.



## Section 11. Toxicological information

<b>Skin contact</b>	: DNA 12000 Gel Matrix	No specific data.
	DNA Dye Concentrate	No specific data.
	DNA 12000 Marker	No specific data.
	DNA 12000 Ladder	No specific data.
<b>Ingestion</b>	: DNA 12000 Gel Matrix	No specific data.
	DNA Dye Concentrate	No specific data.
	DNA 12000 Marker	No specific data.
	DNA 12000 Ladder	No specific data.

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

**General** : DNA 12000 Gel Matrix No known significant effects or critical hazards.  
DNA Dye Concentrate No known significant effects or critical hazards.  
DNA 12000 Marker No known significant effects or critical hazards.  
DNA 12000 Ladder No known significant effects or critical hazards.

**Carcinogenicity** : DNA 12000 Gel Matrix No known significant effects or critical hazards.  
DNA Dye Concentrate No known significant effects or critical hazards.  
DNA 12000 Marker No known significant effects or critical hazards.  
DNA 12000 Ladder No known significant effects or critical hazards.

**Mutagenicity** : DNA 12000 Gel Matrix No known significant effects or critical hazards.  
DNA Dye Concentrate No known significant effects or critical hazards.  
DNA 12000 Marker No known significant effects or critical hazards.  
DNA 12000 Ladder No known significant effects or critical hazards.

**Reproductive toxicity** : DNA 12000 Gel Matrix No known significant effects or critical hazards.  
DNA Dye Concentrate No known significant effects or critical hazards.  
DNA 12000 Marker No known significant effects or critical hazards.  
DNA 12000 Ladder 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)
DNA Dye Concentrate Dimethyl sulfoxide	14500	40000	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

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

### Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
DNA Dye Concentrate Dimethyl sulfoxide	OECD 301D Ready Biodegradability - Closed Bottle Test	31 % - Not readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
DNA Dye Concentrate Dimethyl sulfoxide	-	-	Not readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
DNA Dye Concentrate Dimethyl sulfoxide	-1.35	3.16	Low

### Mobility in soil

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

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

## Section 13. Disposal considerations

**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.

## Section 14. Transport information

**TDG / 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

### Canadian lists

**Canadian NPRI** : None of the components are listed.

**CEPA Toxic substances** : None of the components are listed.

### 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.

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

Not listed.

### Inventory list

**Canada** : Not determined.

**United States** : Not determined.

## Section 16. Other information

### 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  
HPR = Hazardous Products Regulations  
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

### Procedure used to derive the classification

## Section 16. Other information

Classification	Justification
<p><b>DNA Dye Concentrate</b>                      FLAMMABLE LIQUIDS - Category 4                      EYE IRRITATION - Category 2B</p>	<p>On basis of test data                      Calculation method</p>

 Indicates information that has changed from previously issued version.

**Notice to reader**

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