

# SAFETY DATA SHEET

Herculase II Fusion Enzyme with dNTP Combo, Part Number 600679

## Section 1. Identification

**Product identifier** : Herculase II Fusion Enzyme with dNTP Combo, Part Number 600679

**Part no. (chemical kit)** : 600679

**Part no.** : DMSO 600260-53  
 Herculase II Fusion DNA Polymerase 600679-51  
 5X Herculase II Reaction Buffer 600675-52  
 100 mM dNTP Mix (25 mM each dNTP) 200418-51

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

**Identified uses** : ☒ Analytical reagent.

☒ DMSO 1 ml  
 Herculase II Fusion DNA Polymerase 0.04 ml (400 reactions)  
 5X Herculase II Reaction Buffer 4 x 1.5 ml  
 100 mM dNTP Mix (25 mM each dNTP) 0.2 ml

**Supplier/Manufacturer** : Agilent Technologies Australia Pty Ltd  
 679 Springvale Road  
 Mulgrave  
 Victoria 3170, Australia  
 1800 802 402

**Emergency telephone number (with hours of operation)** : CHEMTREC®: +(61)-290372994

## Section 2. Hazard(s) identification

### Classification of the substance or mixture

**DMSO**

H227 FLAMMABLE LIQUIDS - Category 4  
 H320 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2B

**Herculase II Fusion DNA Polymerase**

H320 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2B

**5X Herculase II Reaction Buffer**

H319 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A  
 100 mM dNTP Mix (25 mM each dNTP) Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 5.4%

### GHS label elements

**Hazard pictograms** : ☒ 5X Herculase II Reaction Buffer



## Section 2. Hazard(s) identification

<b>Signal word</b>	<b>:</b> DMSO	WARNING
	Herculase II Fusion DNA Polymerase	WARNING
	5X Herculase II Reaction Buffer	WARNING
	100 mM dNTP Mix (25 mM each dNTP)	No signal word.
<b>Hazard statements</b>	<b>:</b> DMSO	H227 - Combustible liquid. H320 - Causes eye irritation.
	Herculase II Fusion DNA Polymerase	H320 - Causes eye irritation.
	5X Herculase II Reaction Buffer	H319 - Causes serious eye irritation.
	100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards.
<b><u>Precautionary statements</u></b>		
<b>Prevention</b>	<b>:</b> DMSO	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	Herculase II Fusion DNA Polymerase	Not applicable.
	5X Herculase II Reaction Buffer	P280 - Wear eye or face protection.
	100 mM dNTP Mix (25 mM each dNTP)	Not applicable.
<b>Response</b>	<b>:</b> DMSO	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.
	Herculase II Fusion DNA Polymerase	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.
	5X Herculase II Reaction Buffer	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.
	100 mM dNTP Mix (25 mM each dNTP)	Not applicable.
<b>Storage</b>	<b>:</b> DMSO	Not applicable.
	Herculase II Fusion DNA Polymerase	Not applicable.
	5X Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix (25 mM each dNTP)	Not applicable.
<b>Disposal</b>	<b>:</b> DMSO	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Herculase II Fusion DNA Polymerase	Not applicable.
	5X Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix (25 mM each dNTP)	Not applicable.

### Supplemental label elements

## Section 2. Hazard(s) identification


<b>Additional warning phrases</b>	<b>:</b> DMSO	Not applicable.
	Herculase II Fusion DNA Polymerase	Not applicable.
	5X Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix (25 mM each dNTP)	Not applicable.

<b>Other hazards which do not result in classification</b>	<b>:</b> DMSO	None known.
	Herculase II Fusion DNA Polymerase	None known.
	5X Herculase II Reaction Buffer	None known.
	100 mM dNTP Mix (25 mM each dNTP)	None known.

## Section 3. Composition and ingredient information

<b>Substance/mixture</b>	<b>:</b> DMSO	Substance
	Herculase II Fusion DNA Polymerase	Mixture
	5X Herculase II Reaction Buffer	Mixture
	100 mM dNTP Mix (25 mM each dNTP)	Mixture

### CAS number/other identifiers

Ingredient name	% (w/w)	CAS number
 <b>DMSO</b> Dimethyl sulfoxide	100	67-68-5
<b>Herculase II Fusion DNA Polymerase</b> Glycerol	≥30 - ≤60	56-81-5
<b>5X Herculase II Reaction Buffer</b> Hexadecan-1-ol, ethoxylated	<3	9004-95-9


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.

The total concentration of ingredients in this product, reported or not in this section, is 100%.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

<b>Eye contact</b>	<b>:</b>  DMSO	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.
	Herculase II Fusion DNA Polymerase	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.

## Section 4. First aid measures

	5X Herculase II Reaction Buffer	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. Get medical attention.
	100 mM dNTP Mix (25 mM each dNTP)	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>	:  DMSO	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.
	Herculase II Fusion DNA Polymerase	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.
	5X Herculase II Reaction Buffer	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. 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.
	100 mM dNTP Mix (25 mM each dNTP)	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.
<b>Skin contact</b>	:  DMSO	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.
	Herculase II Fusion DNA Polymerase	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.
	5X Herculase II Reaction Buffer	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.

## Section 4. First aid measures

	100 mM dNTP Mix (25 mM each dNTP)	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
<b>Ingestion</b>	: DMSO	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.
	Herculase II Fusion DNA Polymerase	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.
	5X Herculase II Reaction Buffer	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.
	100 mM dNTP Mix (25 mM each dNTP)	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>	: DMSO	Causes eye irritation.
	Herculase II Fusion DNA Polymerase	Causes eye irritation.
	5X Herculase II Reaction Buffer	Causes serious eye irritation.
	100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards.

## Section 4. First aid measures

<b>Inhalation</b>	:	DMSO	No known significant effects or critical hazards.
	:	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	:	5X Herculase II Reaction Buffer	No known significant effects or critical hazards.
	:	100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards.
	:		
<b>Skin contact</b>	:	DMSO	No known significant effects or critical hazards.
	:	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	:	5X Herculase II Reaction Buffer	No known significant effects or critical hazards.
	:	100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards.
	:		
<b>Ingestion</b>	:	DMSO	No known significant effects or critical hazards.
	:	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	:	5X Herculase II Reaction Buffer	No known significant effects or critical hazards.
	:	100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards.
	:		

### Over-exposure signs/symptoms

<b>Eye contact</b>	:	DMSO	Adverse symptoms may include the following: irritation watering redness
	:	Herculase II Fusion DNA Polymerase	Adverse symptoms may include the following:  irritation watering redness
	:	5X Herculase II Reaction Buffer	Adverse symptoms may include the following:  pain or irritation watering redness
	:	100 mM dNTP Mix (25 mM each dNTP)	No specific data.
	:		
<b>Inhalation</b>	:	DMSO	No specific data.
	:	Herculase II Fusion DNA Polymerase	No specific data.
	:	5X Herculase II Reaction Buffer	No specific data.
	:	100 mM dNTP Mix (25 mM each dNTP)	No specific data.
	:		
<b>Skin contact</b>	:	DMSO	No specific data.
	:	Herculase II Fusion DNA Polymerase	No specific data.
	:	5X Herculase II Reaction Buffer	No specific data.
	:	100 mM dNTP Mix (25 mM each dNTP)	No specific data.
	:		
<b>Ingestion</b>	:	DMSO	No specific data.
	:	Herculase II Fusion DNA Polymerase	No specific data.
	:	5X Herculase II Reaction Buffer	No specific data.
	:	100 mM dNTP Mix (25 mM each dNTP)	No specific data.
	:		

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

## Section 4. First aid measures

<b>Notes to physician</b>	<b>:</b> DMSO	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Herculase II Fusion DNA Polymerase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	5X Herculase II Reaction Buffer	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.
	100 mM dNTP Mix (25 mM each dNTP)	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.
<b>Specific treatments</b>	<b>:</b> DMSO	No specific treatment.
	Herculase II Fusion DNA Polymerase	No specific treatment.
	5X Herculase II Reaction Buffer	No specific treatment.
	100 mM dNTP Mix (25 mM each dNTP)	No specific treatment.
<b>Protection of first-aiders</b>	<b>:</b> DMSO	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.
	Herculase II Fusion DNA Polymerase	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.
	5X Herculase II Reaction Buffer	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.
	100 mM dNTP Mix (25 mM each dNTP)	No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

## Section 5. Firefighting measures

### Extinguishing media

<b>Suitable extinguishing media</b>	<b>:</b> DMSO	Use dry chemical, CO <sub>2</sub> , water spray (fog) or foam.
	Herculase II Fusion DNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.
	5X Herculase II Reaction Buffer	Use an extinguishing agent suitable for the surrounding fire.
	100 mM dNTP Mix (25 mM each dNTP)	Use an extinguishing agent suitable for the surrounding fire.
<b>Unsuitable extinguishing media</b>	<b>:</b> DMSO	Do not use water jet.
	Herculase II Fusion DNA Polymerase	None known.
	5X Herculase II Reaction Buffer	None known.
	100 mM dNTP Mix (25 mM each dNTP)	None known.



## Section 5. Firefighting measures

<b>Specific hazards arising from the chemical</b>	: DMSO	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 vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.
	Herculase II Fusion DNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst.
	5X Herculase II Reaction Buffer	In a fire or if heated, a pressure increase will occur and the container may burst.
	100 mM dNTP Mix (25 mM each dNTP)	In a fire or if heated, a pressure increase will occur and the container may burst.
<b>Hazardous thermal decomposition products</b>	: DMSO	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides
	Herculase II Fusion DNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	5X Herculase II Reaction Buffer	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides
	100 mM dNTP Mix (25 mM each dNTP)	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
<b>Special protective actions for fire-fighters</b>	: DMSO	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.
	Herculase II Fusion DNA Polymerase	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.
	5X Herculase II Reaction Buffer	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.
	100 mM dNTP Mix (25 mM each dNTP)	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.
<b>Special protective equipment for fire-fighters</b>	: DMSO	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Herculase II Fusion DNA Polymerase	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive



## Section 5. Firefighting measures

5X Herculase II Reaction Buffer

pressure mode.

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

100 mM dNTP Mix (25 mM each dNTP)

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

**For non-emergency personnel**

: DMSO

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Herculase II Fusion DNA Polymerase

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

5X Herculase II Reaction Buffer

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

100 mM dNTP Mix (25 mM each dNTP)

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.

**For emergency responders** : DMSO

Herculase II Fusion DNA Polymerase

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

5X Herculase II Reaction Buffer

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

100 mM dNTP Mix (25 mM each dNTP)

If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

## Section 6. Accidental release measures


<b>Environmental precautions</b>	: DMSO	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	Herculase II Fusion DNA Polymerase	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	5X Herculase II Reaction Buffer	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
	100 mM dNTP Mix (25 mM each dNTP)	Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and material for containment and cleaning up

<b>Methods for cleaning up</b>	: DMSO	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.
	Herculase II Fusion DNA Polymerase	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.
	5X Herculase II Reaction Buffer	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.
	100 mM dNTP Mix (25 mM each dNTP)	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>	:  DMSO	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour 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
----------------------------	--	---

## Section 7. Handling and storage

<p><b>Advice on general occupational hygiene</b></p>	Herculase II Fusion DNA Polymerase	<p>handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not reuse container.</p> <p>Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.</p>
	5X Herculase II Reaction Buffer	<p>Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.</p>
	100 mM dNTP Mix (25 mM each dNTP)	<p>Put on appropriate personal protective equipment (see Section 8).</p>
	: DMSO	<p>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>
	Herculase II Fusion DNA Polymerase	<p>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>
	5X Herculase II Reaction Buffer	<p>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>Conditions for safe storage, including any incompatibilities</b></p>	100 mM dNTP Mix (25 mM each dNTP)	<p>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>
	: DMSO	<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 oxidising 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>

## Section 7. Handling and storage

Herculase II Fusion DNA  
Polymerase

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

5X Herculase II Reaction  
Buffer

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


100 mM dNTP Mix (25 mM  
each dNTP)

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

## Section 8. Exposure controls and personal protection

### [Control parameters](#)

### [Occupational exposure limits](#)

Ingredient name	Exposure limits
 <b>DMSO</b> Dimethyl sulfoxide	<b>DFG MAC-values list (Germany, 10/2021). Absorbed through skin.</b> PEAK: 320 mg/m <sup>3</sup> , 4 times per shift, 15 minutes. TWA: 160 mg/m <sup>3</sup> 8 hours. PEAK: 100 ppm, 4 times per shift, 15 minutes. TWA: 50 ppm 8 hours.
<b>Herculase II Fusion DNA Polymerase</b> Glycerol	<b>Safe Work Australia (Australia, 12/2019).</b> TWA: 10 mg/m <sup>3</sup> 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.

## Section 8. Exposure controls and personal protection

**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.

### 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>	: DMSO	Liquid. [Clear.]
	Herculase II Fusion DNA Polymerase	Liquid.
	5X Herculase II Reaction Buffer	Liquid.
	100 mM dNTP Mix (25 mM each dNTP)	Liquid.
<b>Colour</b>	: DMSO	Colourless.
	Herculase II Fusion DNA Polymerase	Not available.
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.

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


<b>Odour</b>	:	DMSO	Odourless. [Slight]
		Herculase II Fusion DNA Polymerase	Not available.
		5X Herculase II Reaction Buffer	Not available.
		100 mM dNTP Mix (25 mM each dNTP)	Not available.
<b>Odour threshold</b>	:	DMSO	Not available.
		Herculase II Fusion DNA Polymerase	Not available.
		5X Herculase II Reaction Buffer	Not available.
		100 mM dNTP Mix (25 mM each dNTP)	Not available.
<b>pH</b>	:	DMSO	Not available.
		Herculase II Fusion DNA Polymerase	8.2
		5X Herculase II Reaction Buffer	9.5 to 10.5
		100 mM dNTP Mix (25 mM each dNTP)	7.5
<b>Melting point/freezing point</b>	:	DMSO	18.5°C (65.3°F)
		Herculase II Fusion DNA Polymerase	Not available.
		5X Herculase II Reaction Buffer	Not available.
		100 mM dNTP Mix (25 mM each dNTP)	Not available.
<b>Boiling point, initial boiling point, and boiling range</b>	:	DMSO	189°C (372.2°F)
		Herculase II Fusion DNA Polymerase	Not available.
		5X Herculase II Reaction Buffer	Not available.
		100 mM dNTP Mix (25 mM each dNTP)	Not available.
<b>Flash point</b>	:	DMSO	Closed cup: 87°C (188.6°F) [ASTM D 93] Open cup: 87°C (188.6°F)
		Herculase II Fusion DNA Polymerase	Not available.
		5X Herculase II Reaction Buffer	Not available.
		100 mM dNTP Mix (25 mM each dNTP)	Not available.

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
Herculase II Fusion DNA Polymerase						
Glycerol				177	350.6	

<b>Evaporation rate</b>	:	DMSO	0.026 (butyl acetate = 1)
		Herculase II Fusion DNA Polymerase	Not available.
		5X Herculase II Reaction Buffer	Not available.
		100 mM dNTP Mix (25 mM each dNTP)	Not available.

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

<b>Flammability</b>	DMSO	Not applicable.
	Herculase II Fusion DNA Polymerase	Not applicable.
	5X Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix (25 mM each dNTP)	Not applicable.
<b>Lower and upper explosion limit/flammability limit</b>	DMSO	Lower: 2.6% Upper: 28.5%
	Herculase II Fusion DNA Polymerase	Not available.
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.
<b>Vapour pressure</b>	DMSO	0.056 kPa (0.42 mm Hg) [EU A.4]
	Herculase II Fusion DNA Polymerase	Not available.
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
 <b>Herculase II Fusion DNA Polymerase</b>						
water	23.8	3.2		92.258	12.3	
Glycerol	0.000075	0.00001		0.0025	0.00033	
<b>5X Herculase II Reaction Buffer</b>						
water	23.8	3.2		92.258	12.3	
Trometamol	<0.00075006	<0.0001				
<b>100 mM dNTP Mix (25 mM each dNTP)</b>						
water	23.8	3.2		92.258	12.3	

<b>Relative vapour density</b>	DMSO	2.7 [Air = 1]
	Herculase II Fusion DNA Polymerase	Not available.
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.



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

<b>Relative density</b>	: DMSO	1.1
	Herculase II Fusion DNA Polymerase	Not available.
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.

<b>Solubility(ies)</b>	<b>Media</b>	<b>Result</b>
	DMSO	
	water	Soluble
	Herculase II Fusion DNA Polymerase	
	water	Soluble
	5X Herculase II Reaction Buffer	
	water	Soluble
	100 mM dNTP Mix (25 mM each dNTP)	
	water	Soluble

<b>Partition coefficient: n-octanol/water</b>	: DMSO	-1.35
	Herculase II Fusion DNA Polymerase	Not applicable.
	5X Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix (25 mM each dNTP)	Not applicable.

<b>Auto-ignition temperature</b>	: DMSO	300 to 302°C (572 to 575.6°F)
	Herculase II Fusion DNA Polymerase	Not available.
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.

Ingredient name	°C	°F	Method
Herculase II Fusion DNA Polymerase			
Glycerol	370	698	

<b>Decomposition temperature</b>	: DMSO	140 to 189°C (284 to 372.2°F)
	Herculase II Fusion DNA Polymerase	Not available.
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.

<b>Viscosity</b>	: DMSO	Dynamic: 2.14 mPa·s (2.14 cP)
	Herculase II Fusion DNA Polymerase	Not available.
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.

### Particle characteristics

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

<b>Median particle size</b>	: DMSO	Not applicable.
	Herculase II Fusion DNA Polymerase	Not applicable.
	5X Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix (25 mM each dNTP)	Not applicable.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: DMSO	No specific test data related to reactivity available for this product or its ingredients.
	Herculase II Fusion DNA Polymerase	No specific test data related to reactivity available for this product or its ingredients.
	5X Herculase II Reaction Buffer	No specific test data related to reactivity available for this product or its ingredients.
	100 mM dNTP Mix (25 mM each dNTP)	No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: DMSO	The product is stable.
	Herculase II Fusion DNA Polymerase	The product is stable.
	5X Herculase II Reaction Buffer	The product is stable.
	100 mM dNTP Mix (25 mM each dNTP)	The product is stable.
<b>Possibility of hazardous reactions</b>	: DMSO	Under normal conditions of storage and use, hazardous reactions will not occur.
	Herculase II Fusion DNA Polymerase	Under normal conditions of storage and use, hazardous reactions will not occur.
	5X Herculase II Reaction Buffer	Under normal conditions of storage and use, hazardous reactions will not occur.
	100 mM dNTP Mix (25 mM each dNTP)	Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: DMSO	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.
	Herculase II Fusion DNA Polymerase	No specific data.
	5X Herculase II Reaction Buffer	No specific data.
	100 mM dNTP Mix (25 mM each dNTP)	No specific data.
<b>Incompatible materials</b>	: DMSO	Reactive or incompatible with the following materials: oxidising materials
	Herculase II Fusion DNA Polymerase	May react or be incompatible with oxidising materials.
	5X Herculase II Reaction Buffer	May react or be incompatible with oxidising materials.
	100 mM dNTP Mix (25 mM each dNTP)	May react or be incompatible with oxidising materials.


## Section 10. Stability and reactivity

<b>Hazardous decomposition products</b>	: DMSO	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Herculase II Fusion DNA Polymerase	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	5X Herculase II Reaction Buffer	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	100 mM dNTP Mix (25 mM each dNTP)	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
 <b>DMSO</b> Dimethyl sulfoxide	LD50 Dermal LD50 Oral	Rat Rat	40000 mg/kg 14500 mg/kg	- -
<b>Herculase II Fusion DNA Polymerase</b> Glycerol	LD50 Oral	Rat	12600 mg/kg	-
<b>5X Herculase II Reaction Buffer</b> Hexadecan-1-ol, ethoxylated	LD50 Oral	Rat	2500 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
 <b>DMSO</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	- -
<b>Herculase II Fusion DNA Polymerase</b> Glycerol	Eyes - Mild irritant Skin - Mild irritant	Rabbit Rabbit	- -	24 hours 500 mg 24 hours 500 mg	- -

#### Sensitisation

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)

## Section 11. Toxicological information

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

<b>Information on likely routes of exposure</b>	<b>:</b> DMSO	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	Herculase II Fusion DNA Polymerase	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	5X Herculase II Reaction Buffer	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.

### Potential acute health effects

<b>Eye contact</b>	<b>:</b> DMSO	Causes eye irritation.
	Herculase II Fusion DNA Polymerase	Causes eye irritation.
	5X Herculase II Reaction Buffer	Causes serious eye irritation.
	100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards.
<b>Inhalation</b>	<b>:</b> DMSO	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	5X Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards.
<b>Skin contact</b>	<b>:</b> DMSO	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	5X Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards.
<b>Ingestion</b>	<b>:</b> DMSO	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	5X Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards.

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

<b>Eye contact</b>	<b>:</b> DMSO	Adverse symptoms may include the following: irritation watering redness
	Herculase II Fusion DNA Polymerase	Adverse symptoms may include the following:  irritation watering redness
	5X Herculase II Reaction Buffer	Adverse symptoms may include the following:  pain or irritation watering

## Section 11. Toxicological information

		redness
	100 mM dNTP Mix (25 mM each dNTP)	No specific data.
<b>Inhalation</b>	: DMSO	No specific data.
	Herculase II Fusion DNA Polymerase	No specific data.
	5X Herculase II Reaction Buffer	No specific data.
	100 mM dNTP Mix (25 mM each dNTP)	No specific data.
<b>Skin contact</b>	: DMSO	No specific data.
	Herculase II Fusion DNA Polymerase	No specific data.
	5X Herculase II Reaction Buffer	No specific data.
	100 mM dNTP Mix (25 mM each dNTP)	No specific data.
<b>Ingestion</b>	: DMSO	No specific data.
	Herculase II Fusion DNA Polymerase	No specific data.
	5X Herculase II Reaction Buffer	No specific data.
	100 mM dNTP Mix (25 mM each dNTP)	No specific data.

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

#### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

#### Potential chronic health effects

<b>General</b>	: DMSO	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	5X Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: DMSO	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	5X Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards.
<b>Mutagenicity</b>	: DMSO	No known significant effects or critical hazards.
	Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
	5X Herculase II Reaction Buffer	No known significant effects or critical hazards.
	100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards.

## Section 11. Toxicological information

<b>Reproductive toxicity</b>	:	DMSO	No known significant effects or critical hazards.
		Herculase II Fusion DNA Polymerase	No known significant effects or critical hazards.
		5X Herculase II Reaction Buffer	No known significant effects or critical hazards.
		100 mM dNTP Mix (25 mM each dNTP)	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 (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
<b>DMSO</b> Dimethyl sulfoxide	14500	40000	N/A	N/A	N/A
<b>Herculase II Fusion DNA Polymerase</b> Glycerol	12600	N/A	N/A	N/A	N/A
<b>5X Herculase II Reaction Buffer</b> 5X Herculase II Reaction Buffer Hexadecan-1-ol, ethoxylated	50000 500	N/A N/A	N/A N/A	N/A N/A	N/A N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
<b>DMSO</b> Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water Acute LC50 34000000 µg/l Fresh water Chronic NOEC 100 µl/L Marine water Chronic NOEC 100 µl/L Fresh water	Daphnia - Daphnia magna - Neonate Fish - Pimephales promelas Algae - Ulva lactuca Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 96 hours 72 hours 21 days
<b>Herculase II Fusion DNA Polymerase</b> Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
<b>5X Herculase II Reaction Buffer</b> Hexadecan-1-ol, ethoxylated	Acute LC50 330000 to 1000000 µg/l Marine water	Crustaceans - Crangon crangon - Adult	48 hours

### Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
<b>DMSO</b> Dimethyl sulfoxide	OECD 301D Ready Biodegradability - Closed Bottle Test	31 % - Not readily - 28 days	-	-
<b>Herculase II Fusion DNA</b>				

## Section 12. Ecological information

<b>Polymerase</b> Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
<b>Product/ingredient name</b>	<b>Aquatic half-life</b>	<b>Photolysis</b>	<b>Biodegradability</b>	
<b>DMSO</b> Dimethyl sulfoxide	-	-	Not readily	
<b>5X Herculase II Reaction Buffer</b> Hexadecan-1-ol, ethoxylated	-	-	Readily	

### Bioaccumulative potential

<b>Product/ingredient name</b>	<b>LogP<sub>ow</sub></b>	<b>BCF</b>	<b>Potential</b>
<b>DMSO</b> Dimethyl sulfoxide	-1.35	3.16	low
<b>Herculase II Fusion DNA Polymerase</b> Glycerol	-1.76	-	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 minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

**ADG / IMDG / IATA** : Not regulated as Dangerous Goods according to the ADG Code .

**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

### Standard for the Uniform Scheduling of Medicines and Poisons

6

### Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

### 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

<b>Australia</b>	: Not determined.
<b>Canada</b>	: Not determined.
<b>China</b>	: Not determined.
<b>Eurasian Economic Union</b>	: <b>Russian Federation inventory</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>	: All components are listed or exempted.
<b>Thailand</b>	: Not determined.
<b>Turkey</b>	: Not determined.
<b>United States</b>	: Not determined.
<b>Viet Nam</b>	: Not determined.

## Section 16. Any other relevant information

### History

**Date of issue/Date of revision** : 25/04/2023

**Date of previous issue** : 02/07/2020

**Version** : 8


### Key to abbreviations


ADG = Australian Dangerous Goods  
 ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
 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

## Section 16. Any other relevant information

SUSMP = Standard Uniform Schedule of Medicine and Poisons  
UN = United Nations

### Procedure used to derive the classification

Classification	Justification
 <b>DMSO</b> FLAMMABLE LIQUIDS - Category 4 SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2B	On basis of test data On basis of test data
<b>Herculase II Fusion DNA Polymerase</b> SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2B	Calculation method
<b>5X Herculase II Reaction Buffer</b> SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A	Calculation method

 Indicates information that has changed from previously issued version.

### Notice to reader

**Disclaimer:** The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.