

Section 2. Hazards identification

DMSO

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

Herculase II Fusion DNA Polymerase

H320 EYE IRRITATION - Category 2B

Ingredients of unknown toxicity :

Herculase II Fusion DNA Polymerase	Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 30 - 60%
5X Herculase II Reaction Buffer	Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10%
	Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10%
100 mM dNTP Mix (25 mM each dNTP)	Percentage of the mixture consisting of ingredient (s) of unknown dermal toxicity: 1 - 10%
	Percentage of the mixture consisting of ingredient (s) of unknown inhalation toxicity: 1 - 10%
	Percentage of the mixture consisting of ingredient (s) of unknown oral toxicity: 1 - 10%

2.2 GHS label elements

Signal word :

DMSO	Warning
Herculase II Fusion DNA Polymerase	Warning
5X Herculase II Reaction Buffer	No signal word.
100 mM dNTP Mix (25 mM each dNTP)	No signal word.

Hazard statements :

DMSO	H227 - Combustible liquid. H320 - Causes eye irritation. H320 - Causes eye irritation.
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)	

Precautionary statements

Prevention :

DMSO	P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from flames and hot surfaces. - No smoking. P264 - Wash hands thoroughly after handling. P264 - Wash hands thoroughly after handling.
Herculase II Fusion DNA Polymerase	Not applicable.
5X Herculase II Reaction Buffer	Not applicable.
100 mM dNTP Mix (25 mM each dNTP)	

Response :

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 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

Section 2. Hazards identification

	5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	attention. Not applicable. Not applicable.
Storage	: DMSO	P403 - Store in a well-ventilated place. P235 - Keep cool. Not applicable.
	Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	Not applicable. Not applicable.
Disposal	: DMSO	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. Not applicable.
	Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	Not applicable. Not applicable.
Supplemental label elements	: DMSO	None known.
	Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	None known. None known. None known. None known.
2.3 Other hazards		
Hazards not otherwise classified	: DMSO	None known.
	Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	None known. None known. None known. None known.

Section 3. Composition/information on ingredients

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

Ingredient name	%	CAS number
DMSO Dimethyl sulfoxide	100	67-68-5
Herculase II Fusion DNA Polymerase Glycerol	≥50 - ≤75	56-81-5
5X Herculase II Reaction Buffer Trometamol	≤3	77-86-1
Hexadecan-1-ol, ethoxylated	≤3	9004-95-9

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 3. Composition/information on ingredients

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

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact	: 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.
	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. Get medical attention if irritation occurs.
	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.
Inhalation	: 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. 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.
	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

Section 4. First aid measures

Skin contact

: DMSO

Herculase II Fusion DNA
Polymerase

5X Herculase II Reaction Buffer

100 mM dNTP Mix (25 mM each
dNTP)

to be kept under medical surveillance for 48 hours.

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

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

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

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

Ingestion

: DMSO

Herculase II Fusion DNA
Polymerase

5X Herculase II Reaction Buffer

100 mM dNTP Mix (25 mM each

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Wash out mouth with water. Remove victim to





Section 4. First aid measures

dNTP)



fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

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

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

Section 4. First aid measures

Skin contact	:	☑ 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.
Ingestion	:	☑ 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.



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

Notes to physician	:	☑ 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.
Specific treatments	:	☑ 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.
Protection of first-aiders	:	☑ 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.
		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. Fire-fighting measures

5.1 Extinguishing media

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

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	:  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 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.
Hazardous thermal decomposition products	:  DMSO	In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides sulfur oxides metal oxide/oxides Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides

5.3 Advice for firefighters

Section 5. Fire-fighting measures

Special protective actions for fire-fighters : ☑MSO

Herculase II Fusion DNA Polymerase

5X Herculase II Reaction Buffer

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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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.

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Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : ☑MSO

Herculase II Fusion DNA Polymerase

5X Herculase II Reaction Buffer

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.

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

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

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : ☑MSO

Herculase II Fusion DNA Polymerase

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 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.

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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

No action shall be taken involving any personal risk or without suitable training. Evacuate

Section 6. Accidental release measures

	<p>100 mM dNTP Mix (25 mM each dNTP)</p>	<p>surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. 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.</p>
<p>For emergency responders :</p>	<p>DMSO</p> <p>Herculase II Fusion DNA Polymerase</p> <p>5X Herculase II Reaction Buffer</p> <p>100 mM dNTP Mix (25 mM each dNTP)</p>	<p>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". 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". 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". 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".</p>
<p>6.2 Environmental precautions</p>	<p>DMSO</p> <p>Herculase II Fusion DNA Polymerase</p> <p>5X Herculase II Reaction Buffer</p> <p>100 mM dNTP Mix (25 mM each dNTP)</p>	<p>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).</p> <p>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).</p> <p>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).</p> <p>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).</p>
<p>6.3 Methods and materials for containment and cleaning up</p> <p>Methods for cleaning up :</p>	<p>DMSO</p> <p>Herculase II Fusion DNA</p>	<p>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.</p> <p>Stop leak if without risk. Move containers from spill</p>

Section 6. Accidental release measures

Polymerase	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

7.1 Precautions for safe handling

Protective measures :  DMSO

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.

Herculase II Fusion DNA Polymerase

Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor 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.

5X Herculase II Reaction Buffer

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

100 mM dNTP Mix (25 mM each dNTP)

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

Advice on general occupational hygiene :  DMSO

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.

Herculase II Fusion DNA Polymerase

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

Section 7. Handling and storage

5X Herculase II Reaction Buffer

100 mM dNTP Mix (25 mM each dNTP)

7.2 Conditions for safe storage, including any incompatibilities

:  DMSO

Herculase II Fusion DNA Polymerase

5X Herculase II Reaction Buffer

100 mM dNTP Mix (25 mM each

processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Storage temperature: -20°C (-4°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before 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. Store in accordance with local regulations. Store in

Section 7. Handling and storage

dNTP)

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

7.3 Specific end use(s)

Recommendations

: DMSO Herculase II Fusion DNA Polymerase	Industrial applications, Professional applications. Industrial applications, Professional applications.
5X Herculase II Reaction Buffer	Industrial applications, Professional applications.
100 mM dNTP Mix (25 mM each dNTP)	Industrial applications, Professional applications.

Industrial sector specific solutions

: DMSO Herculase II Fusion DNA Polymerase	Not applicable. Not applicable.
5X Herculase II Reaction Buffer	Not applicable.
100 mM dNTP Mix (25 mM each dNTP)	Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
DMSO Dimethyl sulfoxide	AIHA WEEL (United States, 10/2011). TWA: 250 ppm 8 hours.
Herculase II Fusion DNA Polymerase Glycerol	OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 10 mg/m ³ 8 hours. Form: Total dust OSHA PEL (United States, 6/2016). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust
5X Herculase II Reaction Buffer Trometamol Hexadecan-1-ol, ethoxylated	None. None.

8.2 Exposure controls

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Section 8. Exposure controls/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

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	☑ DMSO	Liquid. [Clear.]
		Herculase II Fusion DNA Polymerase	Liquid.
		5X Herculase II Reaction Buffer	Liquid.
		100 mM dNTP Mix (25 mM each dNTP)	Liquid.
Color	:	☑ DMSO	Colorless.
		Herculase II Fusion DNA Polymerase	Not available.
		5X Herculase II Reaction Buffer	Not available.
		100 mM dNTP Mix (25 mM each dNTP)	Not available.
Odor	:	☑ DMSO	Odorless. [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.

Section 9. Physical and chemical properties

Odor threshold	: DMSO	Not available.
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.
pH	: DMSO	Not available.
	Herculase II Fusion DNA	8.2
	Polymerase	
	5X Herculase II Reaction Buffer	9.5 to 10.5
	100 mM dNTP Mix (25 mM each dNTP)	7.5
Melting point	: DMSO	18.5°C (65.3°F)
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.
Boiling point	: DMSO	189°C (372.2°F)
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.
Flash point	: DMSO	Closed cup: 87°C (188.6°F) Open cup: 87°C (188.6°F)
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.
Evaporation rate	: DMSO	0.026 (butyl acetate = 1)
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.
Flammability (solid, gas)	: DMSO	Not applicable.
	Herculase II Fusion DNA	Not applicable.
	Polymerase	
	5X Herculase II Reaction Buffer	Not applicable.
	100 mM dNTP Mix (25 mM each dNTP)	Not applicable.
Lower and upper explosive (flammable) limits	: DMSO	Lower: 2.6% Upper: 28.5%
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.
Vapor pressure	: DMSO	0.056 kPa (0.42 mm Hg) [room temperature]
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.






Section 9. Physical and chemical properties

Vapor density	: DMSO	2.7 [Air = 1]
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.
Relative density	: DMSO	1.1
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.
Solubility	: DMSO	Easily soluble in the following materials: cold water and hot water.
	Herculase II Fusion DNA	Soluble in the following materials: cold water and hot water.
	Polymerase	
	5X Herculase II Reaction Buffer	Easily soluble in the following materials: cold water and hot water.
	100 mM dNTP Mix (25 mM each dNTP)	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: DMSO	-1.35
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.
Auto-ignition temperature	: DMSO	300 to 302°C (572 to 575.6°F)
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.
Decomposition temperature	: DMSO	140 to 189°C (284 to 372.2°F)
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.
Viscosity	: DMSO	Dynamic (room temperature): 2.14 mPa·s (2.14 cP)
	Herculase II Fusion DNA	Not available.
	Polymerase	
	5X Herculase II Reaction Buffer	Not available.
	100 mM dNTP Mix (25 mM each dNTP)	Not available.

Section 10. Stability and reactivity

10.1 Reactivity	: DMSO	No specific test data related to reactivity available for this product or its ingredients.
	Herculase II Fusion DNA	No specific test data related to reactivity available for this product or its ingredients.
	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.

Section 10. Stability and reactivity

10.2 Chemical stability	:  DMSO Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	The product is stable. The product is stable. The product is stable. The product is stable.
10.3 Possibility of hazardous reactions	:  DMSO Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	:  DMSO Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas. No specific data. No specific data. No specific data.
10.5 Incompatible materials	:  DMSO Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	Reactive or incompatible with the following materials: oxidizing materials May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials. May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products	:  DMSO Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
DMSO Dimethyl sulfoxide	LD50 Dermal LD50 Oral	Rat Rat	40000 mg/kg 14500 mg/kg	- -
Herculase II Fusion DNA Polymerase Glycerol	LD50 Oral	Rat	12600 mg/kg	-
5X Herculase II Reaction Buffer Trometamol	LD50 Dermal LD50 Oral	Rat Rat	>5000 mg/kg 5000 mg/kg	- -
Hexadecan-1-ol, ethoxylated	LD50 Oral	Rat	2500 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
DMSO Dimethyl sulfoxide	Eyes - Mild irritant Eyes - Mild irritant Skin - Mild irritant Skin - Mild irritant	Rabbit Rabbit Rabbit Rabbit	- - - -	24 hours 500 milligrams 100 milligrams 24 hours 500 milligrams 100 milligrams	- - - -
Herculase II Fusion DNA Polymerase Glycerol	Eyes - Mild irritant Skin - Mild irritant	Rabbit Rabbit	- -	24 hours 500 milligrams 24 hours 500 milligrams	- -
5X Herculase II Reaction Buffer Trometamol	Skin - Moderate irritant Skin - Severe irritant	Rabbit Rabbit	- -	25 Percent 500 milligrams	- -

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Name	Category	Route of exposure	Target organs
5X Herculase II Reaction Buffer	Category 3	Not applicable.	Respiratory tract irritation
Trometamol	Category 3	Not applicable.	Respiratory tract irritation
Hexadecan-1-ol, ethoxylated	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

: DMSO

Herculase II Fusion DNA
Polymerase
5X Herculase II Reaction Buffer

100 mM dNTP Mix (25 mM each
dNTP)

Routes of entry anticipated: Oral, Dermal,
Inhalation.
Routes of entry anticipated: Oral, Dermal,
Inhalation.
Routes of entry anticipated: Oral, Dermal,
Inhalation.
Not available.

Potential acute health effects

Eye contact

: DMSO

Herculase II Fusion DNA
Polymerase
5X Herculase II Reaction Buffer
100 mM dNTP Mix (25 mM each
dNTP)

Causes eye irritation.
Causes eye irritation.

No known significant effects or critical hazards.
No known significant effects or critical hazards.

Inhalation

: DMSO

Herculase II Fusion DNA
Polymerase
5X Herculase II Reaction Buffer
100 mM dNTP Mix (25 mM each
dNTP)

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.

Skin contact

: DMSO

Herculase II Fusion DNA
Polymerase
5X Herculase II Reaction Buffer
100 mM dNTP Mix (25 mM each
dNTP)

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.

Ingestion

: DMSO

Herculase II Fusion DNA
Polymerase
5X Herculase II Reaction Buffer
100 mM dNTP Mix (25 mM each
dNTP)

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

Section 11. Toxicological information

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

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: 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 100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: 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 100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards. No known significant effects or critical hazards.

Section 11. Toxicological information

Mutagenicity	: <input checked="" type="checkbox"/> DMSO Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	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.
Teratogenicity	: <input checked="" type="checkbox"/> DMSO Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	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.
Developmental effects	: <input checked="" type="checkbox"/> DMSO Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	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.
Fertility effects	: <input checked="" type="checkbox"/> DMSO Herculase II Fusion DNA Polymerase 5X Herculase II Reaction Buffer 100 mM dNTP Mix (25 mM each dNTP)	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
5X Herculase II Reaction Buffer Oral	81278.2 mg/kg

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
<input checked="" type="checkbox"/> DMSO Dimethyl sulfoxide	Acute LC50 25000 ppm Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 34000000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 100 µl/L Marine water	Algae - Ulva lactuca	72 hours
Herculase II Fusion DNA Polymerase Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
5X Herculase II Reaction Buffer Trometamol	Acute EC50 >980 mg/l Fresh water	Daphnia	48 hours
	Acute NOEC 520 mg/l Fresh water	Daphnia	48 hours
	Hexadecan-1-ol, ethoxylated	Crustaceans - Crangon crangon - Adult	48 hours

Section 12. Ecological information

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Herculase II Fusion DNA Polymerase Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
DMSO Dimethyl sulfoxide	-1.35	3.16	low
Herculase II Fusion DNA Polymerase Glycerol	-1.76	-	low
5X Herculase II Reaction Buffer Trometamol	-1.56	-	low

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Section 13. Disposal considerations

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

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

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

Section 15. Regulatory information

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

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined
Clean Water Act (CWA) 311: Edetic acid

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification

DMSO	FLAMMABLE LIQUIDS - Category 4
Herculase II Fusion DNA Polymerase	EYE IRRITATION - Category 2B
5X Herculase II Reaction Buffer	EYE IRRITATION - Category 2B
100 mM dNTP Mix (25 mM each dNTP)	Not applicable.
	Not applicable.

Composition/information on ingredients

Section 15. Regulatory information

Name	%	Classification
DMSO Dimethyl sulfoxide	100	FLAMMABLE LIQUIDS - Category 4 EYE IRRITATION - Category 2B
Herculase II Fusion DNA Polymerase Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2A
5X Herculase II Reaction Buffer Trometamol	≤3	COMBUSTIBLE DUSTS SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Hexadecan-1-ol, ethoxylated	≤3	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	5X Herculase II Reaction Buffer Ammonium sulphate	7783-20-2	≤3
Supplier notification	5X Herculase II Reaction Buffer Ammonium sulphate	7783-20-2	≤3

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

- Massachusetts** : The following components are listed: GLYCERINE MIST
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: DIMETHYL SULFOXIDE; METHANE, SULFINYLBIIS-; GLYCERIN; 1,2,3-PROPANETRIOL
- Pennsylvania** : The following components are listed: 1,2,3-PROPANETRIOL

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

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

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

- Australia** : Not determined.
- Canada** : Not determined.
- China** : Not determined.

Section 15. Regulatory information

Europe	: Not determined.
Japan	: Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined.
Malaysia	: Not determined.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: Not determined.

Section 16. Other information

History

Date of issue	: 04/26/2018
Date of previous issue	: 06/21/2017
Version	: 6

Procedure used to derive the classification

Classification	Justification
DMSO FLAMMABLE LIQUIDS - Category 4 EYE IRRITATION - Category 2B	On basis of test data On basis of test data
Herculase II Fusion DNA Polymerase EYE IRRITATION - Category 2B	Calculation method

 Indicates information that has changed from previously issued version.

Notice to reader

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