Conforms to HPR 2015

SAFETY DATA SHEET

Agilent Technologies

GIST MASTR

Section 1. Identification

Product identifier : GIST MASTR

Part no. (chemical kit) : MR-0150.024

Part no. :

AR 1	I-0792
PCR Mix Plex 1	I-0681
PCR Mix Plex 2	I-0682
Taq DNA Polymerase	I-0851

Material uses : Analytical reagent.
For Research Use Only. Not for use in diagnostic procedures.

AR 1	1 ml
PCR Mix Plex 1	0.080 ml
PCR Mix Plex 2	0.080 ml
Taq DNA Polymerase	0.007 ml

Supplier/Manufacturer : Agilent Technologies Belgium
De Kleetlaan 5 bus 9
1831 Diegem
Belgium
Tel.: +32(0)2 404 90 00

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

Section 2. Hazard identification

Classification of the substance or mixture

Taq DNA Polymerase

H320	EYE IRRITATION - Category 2B
H412	AQUATIC HAZARD (LONG-TERM) - Category 3

GHS label elements

Signal word :

AR 1	No signal word.
PCR Mix Plex 1	No signal word.
PCR Mix Plex 2	No signal word.
Taq DNA Polymerase	Warning

Hazard statements :

AR 1	No known significant effects or critical hazards.
PCR Mix Plex 1	No known significant effects or critical hazards.
PCR Mix Plex 2	No known significant effects or critical hazards.
Taq DNA Polymerase	H320 - Causes eye irritation. H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention :

AR 1	Not applicable.
PCR Mix Plex 1	Not applicable.
PCR Mix Plex 2	Not applicable.
Taq DNA Polymerase	P273 - Avoid release to the environment.

Section 2. Hazard identification

Response	:	AR 1	Not applicable.
		PCR Mix Plex 1	Not applicable.
		PCR Mix Plex 2	Not applicable.
		Taq 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.
Storage	:	AR 1	Not applicable.
		PCR Mix Plex 1	Not applicable.
		PCR Mix Plex 2	Not applicable.
		Taq DNA Polymerase	Not applicable.
Disposal	:	AR 1	Not applicable.
		PCR Mix Plex 1	Not applicable.
		PCR Mix Plex 2	Not applicable.
		Taq DNA Polymerase	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	:	AR 1	None known.
		PCR Mix Plex 1	None known.
		PCR Mix Plex 2	None known.
		Taq DNA Polymerase	None known.
		PCR Mix Plex 1	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.1%
		PCR Mix Plex 2	Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.1%
Other hazards which do not result in classification	:	AR 1	None known.
		PCR Mix Plex 1	None known.
		PCR Mix Plex 2	None known.
		Taq DNA Polymerase	None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	AR 1	Mixture
		PCR Mix Plex 1	Mixture
		PCR Mix Plex 2	Mixture
		Taq DNA Polymerase	Mixture

Ingredient name	% (w/w)	CAS number
PCR Mix Plex 1		
Magnesium chloride	0.1 - 1	7786-30-3
PCR Mix Plex 2		
Magnesium chloride	0.1 - 1	7786-30-3
Taq DNA Polymerase		
Glycerol	10 - 30	56-81-5
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	0.1 - 1	9036-19-5

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.

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

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact :

AR 1: 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.

PCR Mix Plex 1: 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.

PCR Mix Plex 2: 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.

Taq 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.

Inhalation :

AR 1: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

PCR Mix Plex 1: 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.

PCR Mix Plex 2: 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.

Taq 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.

Skin contact :

AR 1: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

PCR Mix Plex 1: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

PCR Mix Plex 2: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Taq 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.

Section 4. First-aid measures

Ingestion	:	AR 1	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.
		PCR Mix Plex 1	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.
		PCR Mix Plex 2	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.
		Taq 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	:	AR 1	No known significant effects or critical hazards.
		PCR Mix Plex 1	No known significant effects or critical hazards.
		PCR Mix Plex 2	No known significant effects or critical hazards.
		Taq DNA Polymerase	Causes eye irritation.
Inhalation	:	AR 1	No known significant effects or critical hazards.
		PCR Mix Plex 1	No known significant effects or critical hazards.
		PCR Mix Plex 2	No known significant effects or critical hazards.
		Taq DNA Polymerase	No known significant effects or critical hazards.
Skin contact	:	AR 1	No known significant effects or critical hazards.
		PCR Mix Plex 1	No known significant effects or critical hazards.
		PCR Mix Plex 2	No known significant effects or critical hazards.
		Taq DNA Polymerase	No known significant effects or critical hazards.
Ingestion	:	AR 1	No known significant effects or critical hazards.
		PCR Mix Plex 1	No known significant effects or critical hazards.
		PCR Mix Plex 2	No known significant effects or critical hazards.
		Taq DNA Polymerase	No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	:	AR 1	No specific data.
		PCR Mix Plex 1	No specific data.
		PCR Mix Plex 2	No specific data.
		Taq DNA Polymerase	Adverse symptoms may include the following: irritation watering redness

Section 4. First-aid measures

Inhalation	:	AR 1	No specific data.
		PCR Mix Plex 1	No specific data.
		PCR Mix Plex 2	No specific data.
		Taq DNA Polymerase	No specific data.
Skin contact	:	AR 1	No specific data.
		PCR Mix Plex 1	No specific data.
		PCR Mix Plex 2	No specific data.
		Taq DNA Polymerase	No specific data.
Ingestion	:	AR 1	No specific data.
		PCR Mix Plex 1	No specific data.
		PCR Mix Plex 2	No specific data.
		Taq DNA Polymerase	No specific data.

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

Notes to physician	:	AR 1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
		PCR Mix Plex 1	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.
		PCR Mix Plex 2	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.
		Taq DNA Polymerase	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	:	AR 1	No specific treatment.
		PCR Mix Plex 1	No specific treatment.
		PCR Mix Plex 2	No specific treatment.
		Taq DNA Polymerase	No specific treatment.
Protection of first-aiders	:	AR 1	No action shall be taken involving any personal risk or without suitable training.
		PCR Mix Plex 1	No action shall be taken involving any personal risk or without suitable training.
		PCR Mix Plex 2	No action shall be taken involving any personal risk or without suitable training.
		Taq 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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	:	AR 1	Use an extinguishing agent suitable for the surrounding fire.
		PCR Mix Plex 1	Use an extinguishing agent suitable for the surrounding fire.
		PCR Mix Plex 2	Use an extinguishing agent suitable for the surrounding fire.
		Taq DNA Polymerase	Use an extinguishing agent suitable for the surrounding fire.

Section 5. Fire-fighting measures

Unsuitable extinguishing media	: AR 1	None known.
	PCR Mix Plex 1	None known.
	PCR Mix Plex 2	None known.
	Taq DNA Polymerase	None known.
Specific hazards arising from the chemical	: AR 1	In a fire or if heated, a pressure increase will occur and the container may burst.
	PCR Mix Plex 1	In a fire or if heated, a pressure increase will occur and the container may burst.
	PCR Mix Plex 2	In a fire or if heated, a pressure increase will occur and the container may burst.
	Taq DNA Polymerase	In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	: AR 1	No specific data.
	PCR Mix Plex 1	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	PCR Mix Plex 2	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides phosphorus oxides
	Taq DNA Polymerase	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Special protective actions for fire-fighters	: AR 1	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.
	PCR Mix Plex 1	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.
	PCR Mix Plex 2	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.
	Taq 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.
Special protective equipment for fire-fighters	: AR 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	PCR Mix Plex 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive

Section 5. Fire-fighting measures

	pressure mode.
PCR Mix Plex 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Taq DNA Polymerase	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	: AR 1	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.
	PCR Mix Plex 1	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.
	PCR Mix Plex 2	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.
	Taq 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 spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
For emergency responders	: AR 1	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".
	PCR Mix Plex 1	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".
	PCR Mix Plex 2	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".
	Taq DNA Polymerase	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Section 6. Accidental release measures

Environmental precautions :

AR 1	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).
PCR Mix Plex 1	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).
PCR Mix Plex 2	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).
Taq DNA Polymerase	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). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and materials for containment and cleaning up

Methods for cleaning up :

AR 1	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.
PCR Mix Plex 1	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.
PCR Mix Plex 2	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.
Taq 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.

Section 7. Handling and storage

Precautions for safe handling

Protective measures :

AR 1	Put on appropriate personal protective equipment (see Section 8).
PCR Mix Plex 1	Put on appropriate personal protective equipment (see Section 8).
PCR Mix Plex 2	Put on appropriate personal protective equipment (see Section 8).
Taq DNA Polymerase	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with

Section 7. Handling and storage

		eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. 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.
Advice on general occupational hygiene	: AR 1	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.
	PCR Mix Plex 1	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.
	PCR Mix Plex 2	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.
	Taq DNA Polymerase	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Conditions for safe storage, including any incompatibilities	: AR 1	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.
	PCR Mix Plex 1	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.
	PCR Mix Plex 2	Store in accordance with local regulations. Store in original container protected from direct sunlight in a

Section 7. Handling and storage

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

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Taq DNA Polymerase Glycerol	**CA Alberta Provincial (Canada, 6/2018).** 8 hrs OEL: 10 mg/m³ 8 hours. Form: Mist **CA Quebec Provincial (Canada, 7/2019).** TWAEV: 10 mg/m³ 8 hours. Form: mist **CA Saskatchewan Provincial (Canada, 7/2013).** STEL: 20 mg/m³ 15 minutes. Form: mist TWA: 10 mg/m³ 8 hours. Form: mist **CA British Columbia Provincial (Canada, 1/2021).** TWA: 3 mg/m³ 8 hours. Form: respirable mist TWA: 10 mg/m³ 8 hours. Form: total mist

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

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

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.

Section 8. Exposure controls/personal protection

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

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

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

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

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

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

Physical state :	AR 1	Liquid.
	PCR Mix Plex 1	Liquid.
	PCR Mix Plex 2	Liquid.
	Taq DNA Polymerase	Liquid. [Clear. / solution]
Color :	AR 1	Not available.
	PCR Mix Plex 1	Not available.
	PCR Mix Plex 2	Not available.
	Taq DNA Polymerase	Colorless.
Odor :	AR 1	Not available.
	PCR Mix Plex 1	Not available.
	PCR Mix Plex 2	Not available.
	Taq DNA Polymerase	Not available.
Odor threshold :	AR 1	Not available.
	PCR Mix Plex 1	Not available.
	PCR Mix Plex 2	Not available.
	Taq DNA Polymerase	Not available.
pH :	AR 1	Not available.
	PCR Mix Plex 1	Not available.
	PCR Mix Plex 2	Not available.
	Taq DNA Polymerase	Not available.
Melting point/freezing point :	AR 1	0°C (32°F)
	PCR Mix Plex 1	Not available.
	PCR Mix Plex 2	Not available.
	Taq DNA Polymerase	Not available.
Boiling point, initial boiling point, and boiling range :	AR 1	100°C (212°F)
	PCR Mix Plex 1	Not available.
	PCR Mix Plex 2	Not available.
	Taq DNA Polymerase	Not available.
Flash point :		

Section 9. Physical and chemical properties and safety characteristics

Ingredient name	Closed cup °C	Closed cup °F	Closed cup Method	Open cup °C	Open cup °F	Open cup Method
PCR Mix Plex 1						
Deoxycytidine thiotriphosphate	440.851	825.5				
PCR Mix Plex 2						
Deoxycytidine thiotriphosphate	440.851	825.5				
Taq DNA Polymerase						
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	>109.85	>229.7				
Glycerol			Pensky-Martens	177	350.6	

Evaporation rate :

AR 1	Not available.
PCR Mix Plex 1	Not available.
PCR Mix Plex 2	Not available.
Taq DNA Polymerase	Not available.

Flammability :

AR 1	Not applicable.
PCR Mix Plex 1	Not applicable.
PCR Mix Plex 2	Not applicable.
Taq DNA Polymerase	Not applicable.

Lower and upper explosion limit/flammability limit :

AR 1	Not available.
PCR Mix Plex 1	Not available.
PCR Mix Plex 2	Not available.
Taq DNA Polymerase	Not available.

Vapor pressure :

Ingredient name	Vapor Pressure at 20˚C mm Hg	Vapor Pressure at 20˚C kPa	Vapor Pressure at 20˚C Method	Vapor pressure at 50˚C mm Hg	Vapor pressure at 50˚C kPa	Vapor pressure at 50˚C Method
AR 1						
Water	23.8	3.2		92.258	12.3	
PCR Mix Plex 1						
Water	23.8	3.2		92.258	12.3	
N-(ri(Hydroxymethyl)methyl)glycine	<0.000015001	<0.000002				
PCR Mix Plex 2						
Water	23.8	3.2		92.258	12.3	
N-(ri(Hydroxymethyl)methyl)glycine	<0.000015001	<0.000002				
Taq DNA Polymerase						
Glycerol	0	0		0	0	

Section 9. Physical and chemical properties and safety characteristics

Relative vapor density :

AR 1	Not available.
PCR Mix Plex 1	Not available.
PCR Mix Plex 2	Not available.
Taq DNA Polymerase	Not available.

Relative density :

AR 1	Not available.
PCR Mix Plex 1	Not available.
PCR Mix Plex 2	Not available.
Taq DNA Polymerase	Not available.

Solubility :

AR 1	Easily soluble in the following materials: cold water and hot water.
PCR Mix Plex 1	Partially soluble in the following materials: cold water and hot water.
PCR Mix Plex 2	Partially soluble in the following materials: cold water and hot water.
Taq DNA Polymerase	Not available.

Partition coefficient: n-octanol/water :

AR 1	Not applicable.
PCR Mix Plex 1	Not applicable.
PCR Mix Plex 2	Not applicable.
Taq DNA Polymerase	Not applicable.

Auto-ignition temperature :

Ingredient name	°C	°F	Method
Taq DNA Polymerase			
Glycerol	370	698	

Decomposition temperature :

AR 1	Not available.
PCR Mix Plex 1	Not available.
PCR Mix Plex 2	Not available.
Taq DNA Polymerase	Not available.

Viscosity :

AR 1	Not available.
PCR Mix Plex 1	Not available.
PCR Mix Plex 2	Not available.
Taq DNA Polymerase	Not available.

Particle characteristics

Median particle size :

AR 1	Not applicable.
PCR Mix Plex 1	Not applicable.
PCR Mix Plex 2	Not applicable.
Taq DNA Polymerase	Not applicable.

Section 10. Stability and reactivity

Reactivity :

AR 1	No specific test data related to reactivity available for this product or its ingredients.
PCR Mix Plex 1	No specific test data related to reactivity available for this product or its ingredients.
PCR Mix Plex 2	No specific test data related to reactivity available for this product or its ingredients.
Taq DNA Polymerase	No specific test data related to reactivity available for this product or its ingredients.

Chemical stability :

AR 1	The product is stable.
PCR Mix Plex 1	The product is stable.
PCR Mix Plex 2	The product is stable.
Taq DNA Polymerase	The product is stable.

Section 10. Stability and reactivity

Possibility of hazardous reactions	:	AR 1	Under normal conditions of storage and use, hazardous reactions will not occur.
		PCR Mix Plex 1	Under normal conditions of storage and use, hazardous reactions will not occur.
		PCR Mix Plex 2	Under normal conditions of storage and use, hazardous reactions will not occur.
		Taq DNA Polymerase	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	AR 1	No specific data.
		PCR Mix Plex 1	No specific data.
		PCR Mix Plex 2	No specific data.
		Taq DNA Polymerase	No specific data.
Incompatible materials	:	AR 1	May react or be incompatible with oxidizing materials.
		PCR Mix Plex 1	May react or be incompatible with oxidizing materials.
		PCR Mix Plex 2	May react or be incompatible with oxidizing materials.
		Taq DNA Polymerase	May react or be incompatible with oxidizing materials.
Hazardous decomposition products	:	AR 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		PCR Mix Plex 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		PCR Mix Plex 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
		Taq DNA Polymerase	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
PCR Mix Plex 1				
Magnesium chloride	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	2800 mg/kg	-
PCR Mix Plex 2				
Magnesium chloride	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	2800 mg/kg	-
Taq DNA Polymerase				
Glycerol	LD50 Oral	Rat	12600 mg/kg	-
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	LD50 Oral	Rat	2800 mg/kg	-

Irritation/Corrosion

Section 11. Toxicological information

Product/ingredient name	Result	Species	Score	Exposure	Observation
Taq DNA Polymerase					
Glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	Eyes - Severe irritant	Rabbit	-	1 %	-

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure

AR 1	Not available.
PCR Mix Plex 1	Not available.
PCR Mix Plex 2	Not available.
Taq DNA Polymerase	Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact

AR 1	No known significant effects or critical hazards.
PCR Mix Plex 1	No known significant effects or critical hazards.
PCR Mix Plex 2	No known significant effects or critical hazards.
Taq DNA Polymerase	Causes eye irritation.

Inhalation

AR 1	No known significant effects or critical hazards.
PCR Mix Plex 1	No known significant effects or critical hazards.
PCR Mix Plex 2	No known significant effects or critical hazards.
Taq DNA Polymerase	No known significant effects or critical hazards.

Skin contact

AR 1	No known significant effects or critical hazards.
PCR Mix Plex 1	No known significant effects or critical hazards.
PCR Mix Plex 2	No known significant effects or critical hazards.
Taq DNA Polymerase	No known significant effects or critical hazards.

Ingestion

AR 1	No known significant effects or critical hazards.
PCR Mix Plex 1	No known significant effects or critical hazards.
PCR Mix Plex 2	No known significant effects or critical hazards.
Taq DNA Polymerase	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

Eye contact	:	AR 1	No specific data.
		PCR Mix Plex 1	No specific data.
		PCR Mix Plex 2	No specific data.
		Taq DNA Polymerase	Adverse symptoms may include the following: irritation watering redness
Inhalation	:	AR 1	No specific data.
		PCR Mix Plex 1	No specific data.
		PCR Mix Plex 2	No specific data.
		Taq DNA Polymerase	No specific data.
Skin contact	:	AR 1	No specific data.
		PCR Mix Plex 1	No specific data.
		PCR Mix Plex 2	No specific data.
		Taq DNA Polymerase	No specific data.
Ingestion	:	AR 1	No specific data.
		PCR Mix Plex 1	No specific data.
		PCR Mix Plex 2	No specific data.
		Taq DNA Polymerase	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	:	AR 1	No known significant effects or critical hazards.
		PCR Mix Plex 1	No known significant effects or critical hazards.
		PCR Mix Plex 2	No known significant effects or critical hazards.
		Taq DNA Polymerase	No known significant effects or critical hazards.
Carcinogenicity	:	AR 1	No known significant effects or critical hazards.
		PCR Mix Plex 1	No known significant effects or critical hazards.
		PCR Mix Plex 2	No known significant effects or critical hazards.
		Taq DNA Polymerase	No known significant effects or critical hazards.
Mutagenicity	:	AR 1	No known significant effects or critical hazards.
		PCR Mix Plex 1	No known significant effects or critical hazards.
		PCR Mix Plex 2	No known significant effects or critical hazards.
		Taq DNA Polymerase	No known significant effects or critical hazards.
Reproductive toxicity	:	AR 1	No known significant effects or critical hazards.
		PCR Mix Plex 1	No known significant effects or critical hazards.
		PCR Mix Plex 2	No known significant effects or critical hazards.
		Taq DNA Polymerase	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
PCR Mix Plex 1					
Magnesium chloride	2800	2500	N/A	N/A	N/A
PCR Mix Plex 2					
Magnesium chloride	2800	2500	N/A	N/A	N/A
Taq DNA Polymerase					
Glycerol	12600	N/A	N/A	N/A	N/A
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	2800	N/A	N/A	N/A	N/A

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
PCR Mix Plex 1			
Magnesium chloride	Acute EC50 >100 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 180000 µg/l Fresh water	Crustaceans - Eudiaptomus padanus ssp. padanus - Adult	48 hours
	Acute IC50 6.8 mg/l Fresh water	Aquatic plants - Lemna aequinoctialis	96 hours
	Acute LC50 32000 µg/l Fresh water	Daphnia - Daphnia hyalina - Adult	48 hours
	Acute LC50 2120 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute NOEC 100 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Chronic NOEC 0.1 mg/l Fresh water	Fish - Cyprinus carpio	35 days
PCR Mix Plex 2			
Magnesium chloride	Acute EC50 >100 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 180000 µg/l Fresh water	Crustaceans - Eudiaptomus padanus ssp. padanus - Adult	48 hours
	Acute IC50 6.8 mg/l Fresh water	Aquatic plants - Lemna aequinoctialis	96 hours
	Acute LC50 32000 µg/l Fresh water	Daphnia - Daphnia hyalina - Adult	48 hours
	Acute LC50 2120 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Acute NOEC 100 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Chronic NOEC 0.1 mg/l Fresh water	Fish - Cyprinus carpio	35 days
Taq DNA Polymerase			
Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
Poly(oxy-1,2-ethanediyl), .alpha.-[(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	Acute EC50 210 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 10800 µg/l Marine water	Crustaceans - Pandalus montagui - Adult	48 hours
	Acute LC50 8600 µg/l Fresh water	Daphnia - Daphnia magna -	48 hours

Section 12. Ecological information

	Acute LC50 7200 µg/l Fresh water	Neonate Fish - Oncorhynchus mykiss	96 hours

Persistence and degradability

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

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Taq DNA Polymerase Glycerol Poly(oxy-1,2-ethanediyl), . alpha.-[(1,1,3,3-tetramethylbutyl) phenyl]-.omega.-hydroxy-	-1.76 3.77	- 78.67	low low

Mobility in soil

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

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

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

TDG / IMDG / IATA : Not regulated.

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

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.

Canada : Not determined.

China : Not determined.

Europe : Not determined.

Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.

New Zealand : Not determined.

Philippines : Not determined.

Republic of Korea : Not determined.

Taiwan : Not determined.

Thailand : Not determined.

Turkey : Not determined.

United States : Not determined.

Viet Nam : Not determined.

Section 16. Other information

History

Date of issue/Date of revision : 11/28/2021

Date of previous issue : 06/24/2019

Version : 4

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

Section 16. Other information

UN = United Nations

Procedure used to derive the classification

Classification	Justification
Taq DNA Polymerase	
EYE IRRITATION - Category 2B	Calculation method
AQUATIC HAZARD (LONG-TERM) - Category 3	Calculation method

References : Not available.

Indicates information that has changed from previously issued version.

Notice to reader

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