

SAFETY DATA SHEET



SureDirect Blood PCR Kit, Part Number 600920

Section 1. Identification

1.1 Product identifier

Product name : SureDirect Blood PCR Kit, Part Number 600920
Part no. (chemical kit) : 600920
Part no. : DMSO 600260-53
 SureDirect Blood PCR 2X MM 600920-51
 10X Control Primers + Template 600920-52
Validation date : 11/10/2023

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

Identified uses : Analytical reagent.
 DMSO 1 ml
 SureDirect Blood PCR 2X MM 1.3 ml (100 reactions)
 10X Control Primers + Template 0.02 ml (100 reactions 20 µl)

1.3 Details of the supplier of the safety data sheet

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

1.4 Emergency telephone number

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

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status : DMSO	This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
SureDirect Blood PCR 2X MM	
10X Control Primers + Template	

Classification of the substance or mixture

DMSO H227 H320	FLAMMABLE LIQUIDS - Category 4 EYE IRRITATION - Category 2B
SureDirect Blood PCR 2X MM H320	EYE IRRITATION - Category 2B
<input checked="" type="checkbox"/> SureDirect Blood PCR 2X MM	Percentage of the mixture consisting of ingredient (s) of unknown hazards to the aquatic environment: 1%

2.2 GHS label elements

Signal word :

Section 2. Hazards identification

Hazard statements	DMSO	Warning
	SureDirect Blood PCR 2X MM 10X Control Primers + Template	Warning No signal word.
Precautionary statements	DMSO	H227 - Combustible liquid. H320 - Causes eye irritation.
	SureDirect Blood PCR 2X MM 10X Control Primers + Template	H320 - Causes eye irritation. No known significant effects or critical hazards.
Prevention	DMSO	P210 - Keep away from flames and hot surfaces. No smoking.
	SureDirect Blood PCR 2X MM 10X Control Primers + Template	Not applicable. Not applicable.
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 advice or attention.
	SureDirect Blood PCR 2X MM	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	10X Control Primers + Template	Not applicable.
	DMSO	P403 + P235 - Store in a well-ventilated place. Keep cool.
Disposal	SureDirect Blood PCR 2X MM 10X Control Primers + Template	Not applicable. Not applicable.
	DMSO	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	SureDirect Blood PCR 2X MM 10X Control Primers + Template	Not applicable. Not applicable.
	DMSO	None known.
	SureDirect Blood PCR 2X MM 10X Control Primers + Template	None known. None known.
2.3 Other hazards		
Hazards not otherwise classified	DMSO	None known.
	SureDirect Blood PCR 2X MM	None known.
	10X Control Primers + Template	None known.

Section 3. Composition/information on ingredients

Substance/mixture	: DMSO	Substance
	SureDirect Blood PCR 2X MM	Mixture
	10X Control Primers + Template	Mixture

Ingredient name	%	CAS number
DMSO		
Dimethyl sulfoxide	100	67-68-5
SureDirect Blood PCR 2X MM		
Glycerol	≥50 - ≤75	56-81-5

Section 3. Composition/information on ingredients

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

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

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

Section 4. First aid measures

4.1 Description of necessary first aid measures

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.
	SureDirect Blood PCR 2X MM	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.
	10X Control Primers + Template	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.
	SureDirect Blood PCR 2X MM	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	10X Control Primers + Template	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.

Section 4. First aid measures

Skin contact	: DMSO	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
	SureDirect Blood PCR 2X MM	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.
	10X Control Primers + Template	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: DMSO	Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	SureDirect Blood PCR 2X MM	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.
	10X Control Primers + Template	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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: DMSO	Causes eye irritation.
	SureDirect Blood PCR 2X MM	Causes eye irritation.
	10X Control Primers + Template	No known significant effects or critical hazards.
Inhalation	: DMSO	No known significant effects or critical hazards.
	SureDirect Blood PCR 2X MM	No known significant effects or critical hazards.
	10X Control Primers + Template	No known significant effects or critical hazards.

Section 4. First aid measures

Skin contact	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	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 SureDirect Blood PCR 2X MM 10X Control Primers + Template	Adverse symptoms may include the following: irritation watering redness Adverse symptoms may include the following: irritation watering redness No specific data.
Inhalation	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	No specific data. No specific data. No specific data.
Skin contact	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	No specific data. No specific data. No specific data.
Ingestion	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	No specific data. No specific data. No specific data.

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

Notes to physician	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. 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 SureDirect Blood PCR 2X MM 10X Control Primers + Template	No specific treatment. No specific treatment. No specific treatment.
Protection of first-aiders	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	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.
Unsuitable extinguishing media	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	Do not use water jet. None known. None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	Combustible liquid. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides 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 halogenated compounds

5.3 Advice for firefighters

Special protective actions for fire-fighters	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	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. 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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Section 5. Fire-fighting measures

Special protective equipment for fire-fighters	: DMSO	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	SureDirect Blood PCR 2X MM	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	10X Control Primers + Template	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	: DMSO	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through 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.
	SureDirect Blood PCR 2X MM	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.
	10X Control Primers + Template	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.
For emergency responders	: DMSO	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".
	SureDirect Blood PCR 2X MM	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".
	10X Control Primers + Template	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

6.2 Environmental precautions

: DMSO

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).

SureDirect Blood PCR 2X MM

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).

10X Control Primers + Template

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).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up

: DMSO

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

SureDirect Blood PCR 2X MM

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.

10X Control Primers + Template

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.

SureDirect Blood PCR 2X MM

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

Section 7. Handling and storage

	10X Control Primers + Template	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. 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.
	SureDirect Blood PCR 2X MM	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.
	10X Control Primers + Template	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.
7.2 Conditions for safe storage, including any incompatibilities	: DMSO	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.
	SureDirect Blood PCR 2X MM	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.
	10X Control Primers + Template	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

Section 7. Handling and storage

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 SureDirect Blood PCR 2X MM 10X Control Primers + Template	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
Industrial sector specific solutions	: <input checked="" type="checkbox"/> DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	Not available. Not available. Not available.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
<input checked="" type="checkbox"/> DMSO Dimethyl sulfoxide	OARS WEEL (United States, 4/2022). TWA: 250 ppm 8 hours.
SureDirect Blood PCR 2X MM 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, 5/2018). TWA: 5 mg/m ³ 8 hours. Form: Respirable fraction TWA: 15 mg/m ³ 8 hours. Form: Total dust CAL OSHA PEL (United States, 5/2018). TWA: 5 mg/m ³ 8 hours. Form: respirable fraction TWA: 10 mg/m ³ 8 hours. Form: total dust

Biological exposure indices

No exposure indices known.

8.2 Exposure controls

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

Section 8. Exposure controls/personal protection

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

Section 9. Physical and chemical properties and safety characteristics

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

Appearance

Physical state	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	Liquid. [Clear.] Liquid. Liquid.
Color	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	Colorless. Not available. Not available.
Odor	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	Odorless. [Slight] Not available. Not available.
Odor threshold	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	Not available. Not available. Not available.
pH	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	Not available. 10 8
Melting point/freezing point	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	18.5°C (65.3°F) Not available. 0°C (32°F)
Boiling point, initial boiling point, and boiling range	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	189°C (372.2°F) Not available. 100°C (212°F)

Section 9. Physical and chemical properties and safety characteristics

Flash point : DMSO Closed cup: 87°C (188.6°F) [ASTM D 93]
Open cup: 87°C (188.6°F)
SureDirect Blood PCR 2X MM Not available.
10X Control Primers + Template Not available.

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
<input checked="" type="checkbox"/> SureDirect Blood PCR 2X MM						
Glycerol	-	-	-	177	350.6	-

Evaporation rate : DMSO 0.026 (butyl acetate = 1)
SureDirect Blood PCR 2X MM Not available.
10X Control Primers + Template Not available.

Flammability : DMSO Not applicable.
SureDirect Blood PCR 2X MM Not applicable.
10X Control Primers + Template Not applicable.

Lower and upper explosion limit/flammability limit : DMSO Lower: 2.6%
Upper: 28.5%
SureDirect Blood PCR 2X MM Not available.
10X Control Primers + Template Not available.

Vapor pressure : DMSO 0.056 kPa (0.42 mm Hg) [EU A.4]

Ingredient name	Vapor Pressure at 20°C			Vapor pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
<input checked="" type="checkbox"/> SureDirect Blood PCR 2X MM						
water	17.5	2.3	-	92.258	12.3	-
Glycerol	0.000075	0.00001	-	0.0025	0.00033	-
10X Control Primers + Template						
water	17.5	2.3	-	92.258	12.3	-

Relative vapor density : DMSO 2.7 [Air = 1]
SureDirect Blood PCR 2X MM Not available.
10X Control Primers + Template Not available.

Relative density : DMSO 1.1
SureDirect Blood PCR 2X MM Not available.
10X Control Primers + Template Not available.

Media	Result
<input checked="" type="checkbox"/> DMSO	
water	Soluble
SureDirect Blood PCR 2X MM	
water	Soluble
10X Control Primers + Template	
water	Soluble

Partition coefficient: n-octanol/water : DMSO -1.35
SureDirect Blood PCR 2X MM Not applicable.
10X Control Primers + Template Not applicable.

Auto-ignition temperature : DMSO 300 to 302°C (572 to 575.6°F)

Section 9. Physical and chemical properties and safety characteristics

Ingredient name	°C	°F	Method
SureDirect Blood PCR 2X MM			
Glycerol	370	698	-

Decomposition temperature : DMSO 140 to 189°C (284 to 372.2°F)

SureDirect Blood PCR 2X MM Not available.

10X Control Primers + Template Not available.

Viscosity : DMSO Dynamic: 2.14 mPa·s (2.14 cP)

SureDirect Blood PCR 2X MM Not available.

10X Control Primers + Template Not available.

Particle characteristics

Median particle size : DMSO Not applicable.

SureDirect Blood PCR 2X MM Not applicable.

10X Control Primers + Template Not applicable.

Section 10. Stability and reactivity

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

SureDirect Blood PCR 2X MM No specific test data related to reactivity available for this product or its ingredients.

10X Control Primers + Template No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : DMSO The product is stable.

SureDirect Blood PCR 2X MM The product is stable.

10X Control Primers + Template The product is stable.

10.3 Possibility of hazardous reactions : DMSO Under normal conditions of storage and use, hazardous reactions will not occur.

SureDirect Blood PCR 2X MM Under normal conditions of storage and use, hazardous reactions will not occur.

10X Control Primers + Template Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : DMSO 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.

SureDirect Blood PCR 2X MM No specific data.

10X Control Primers + Template No specific data.

10.5 Incompatible materials : DMSO Reactive or incompatible with the following materials:
oxidizing materials

SureDirect Blood PCR 2X MM May react or be incompatible with oxidizing materials.

10X Control Primers + Template May react or be incompatible with oxidizing materials.

Section 10. Stability and reactivity

10.6 Hazardous decomposition products	: DMSO	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	SureDirect Blood PCR 2X MM	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	10X Control Primers + Template	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	- -
SureDirect Blood PCR 2X MM Glycerol	LD50 Oral	Rat	12600 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
DMSO Dimethyl sulfoxide	Eyes - Mild irritant Eyes - Mild irritant	Rabbit Rabbit	- -	100 mg 24 hours 500 mg	- -
	Skin - Mild irritant Skin - Mild irritant	Rabbit Rabbit	- -	100 mg 24 hours 500 mg	- -
SureDirect Blood PCR 2X MM Glycerol	Eyes - Mild irritant Skin - Mild irritant	Rabbit Rabbit	- -	24 hours 500 mg 24 hours 500 mg	- -

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Section 11. Toxicological information

Aspiration hazard

Not available.

Information on the likely routes of exposure	: DMSO	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	SureDirect Blood PCR 2X MM	Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.
	10X Control Primers + Template	Not available.
<u>Potential acute health effects</u>		
Eye contact	: DMSO	Causes eye irritation.
	SureDirect Blood PCR 2X MM	Causes eye irritation.
	10X Control Primers + Template	No known significant effects or critical hazards.
Inhalation	: DMSO	No known significant effects or critical hazards.
	SureDirect Blood PCR 2X MM	No known significant effects or critical hazards.
	10X Control Primers + Template	No known significant effects or critical hazards.
Skin contact	: DMSO	No known significant effects or critical hazards.
	SureDirect Blood PCR 2X MM	No known significant effects or critical hazards.
	10X Control Primers + Template	No known significant effects or critical hazards.
Ingestion	: DMSO	No known significant effects or critical hazards.
	SureDirect Blood PCR 2X MM	No known significant effects or critical hazards.
	10X Control Primers + Template	No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: DMSO	Adverse symptoms may include the following: irritation watering redness
	SureDirect Blood PCR 2X MM	Adverse symptoms may include the following: irritation watering redness
	10X Control Primers + Template	No specific data.
Inhalation	: DMSO	No specific data.
	SureDirect Blood PCR 2X MM	No specific data.
	10X Control Primers + Template	No specific data.
Skin contact	: DMSO	No specific data.
	SureDirect Blood PCR 2X MM	No specific data.
	10X Control Primers + Template	No specific data.
Ingestion	: DMSO	No specific data.
	SureDirect Blood PCR 2X MM	No specific data.
	10X Control Primers + Template	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

Section 11. Toxicological information

General	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Reproductive toxicity	: <input checked="" type="checkbox"/> DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
DMSO Dimethyl sulfoxide	14500	40000	N/A	N/A	N/A
SureDirect Blood PCR 2X MM Glycerol	12600	N/A	N/A	N/A	N/A

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 Acute LC50 34000000 µg/l Fresh water Chronic NOEC 100 ul/L Marine water Chronic NOEC 100 ul/L Fresh water	Daphnia - <i>Daphnia magna</i> - Neonate Fish - <i>Pimephales promelas</i> Algae - <i>Ulva lactuca</i> Daphnia - <i>Daphnia magna</i> - Juvenile (Fledgling, Hatchling, Weanling)	48 hours 96 hours 72 hours 21 days
SureDirect Blood PCR 2X MM Glycerol	Acute LC50 54000 mg/l Fresh water	Fish - <i>Oncorhynchus mykiss</i>	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
DMSO Dimethyl sulfoxide	OECD 301D Ready Biodegradability - Closed Bottle Test	31 % - Not readily - 28 days	-	-
SureDirect Blood PCR 2X				

Section 12. Ecological information

MM Glycerol	301D Ready Biodegradability - Closed Bottle Test	93 % - 30 days	-	-
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability	
DMSO Dimethyl sulfoxide	-	-	Not readily	

12.3 Bioaccumulative potential

Product/ingredient name	LogP_{ow}	BCF	Potential
DMSO Dimethyl sulfoxide	-1.35	3.16	Low
SureDirect Blood PCR 2X MM Glycerol	-1.76	-	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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

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

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

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

Section 14. Transport information

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

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

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

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

U.S. Federal regulations : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined

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

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : DMSO
SureDirect Blood PCR 2X MM
10X Control Primers + Template

FLAMMABLE LIQUIDS - Category 4
EYE IRRITATION - Category 2B
EYE IRRITATION - Category 2B
Not applicable.

Composition/information on ingredients

Name	%	Classification
DMSO Dimethyl sulfoxide	100	FLAMMABLE LIQUIDS - Category 4 EYE IRRITATION - Category 2B
SureDirect Blood PCR 2X MM Glycerol	≥50 - ≤75	EYE IRRITATION - Category 2B
[2-Hydroxy-1,1-bis(hydroxymethyl)ethyl]ammonium hydrogen sulphate	≤3	COMBUSTIBLE DUSTS

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

Section 15. Regulatory information

Pennsylvania : The following components are listed: 1,2,3-PROPANETRIOL

California Prop. 65

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

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	: Not determined.
Canada	: Not determined.
China	: Not determined.
Japan	: Japan inventory (CSCL) : Not determined. Japan inventory (ISHL) : All components are listed or exempted.
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	: All components are active or exempted.
Viet Nam	: Not determined.

Section 16. Other information

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
SureDirect Blood PCR 2X MM EYE IRRITATION - Category 2B	Calculation method

History

Date of issue/Date of revision	: 11/10/2023
Date of previous issue	: 03/02/2020
Version	: 4

Section 16. Other information

Key to abbreviations

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

✔ Indicates information that has changed from previously issued version.

Notice to reader

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