SAFETY DATA SHEET

SureDirect Blood PCR Kit, Part Number 600920

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
Product name: SureDirect Blood PCR Kit, Part Number 600920
Part No. (Kit): 600920
Part No.: DMSO 600260-53
SureDirect Blood PCR 2X MM 600920-51
10X Control Primers + Template 600920-52

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

<table>
<thead>
<tr>
<th>Identified uses</th>
<th>DMSO</th>
<th>1 ml</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analytical reagent.</td>
<td>SureDirect Blood PCR 2X MM</td>
<td>1.3 ml (100 reactions)</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>0.02 ml (100 reactions 20 µl)</td>
<td></td>
</tr>
</tbody>
</table>

1.3 Details of the supplier of the safety data sheet
Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS: pdl-msds_author@agilent.com

1.4 Emergency telephone number
Emergency telephone number (with hours of operation): CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Product definition:
- DMSO: Mono-constituent substance
- SureDirect Blood PCR 2X MM: Mixture
- 10X Control Primers + Template: Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]
Not classified.

Ingredients of unknown toxicity:
- SureDirect Blood PCR 2X MM: 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: 30 - 60%
- Percentage of the mixture consisting of ingredient(s) of unknown oral toxicity: 1 - 10%
- 10X Control Primers + Template: Percentage of the mixture consisting of ingredient(s) of unknown dermal toxicity: 1 - 10%

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SECTION 2: Hazards identification

Ingredients of unknown ecotoxicity: SureDirect Blood PCR 2X MM
10X Control Primers + Template

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%
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1%
Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 1.6%

See Section 16 for the full text of the H statements declared above.
See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Signal word: DMSO
SureDirect Blood PCR 2X MM
10X Control Primers + Template
No signal word.

Hazard statements: DMSO
SureDirect Blood PCR 2X MM
10X Control Primers + Template
No known significant effects or critical hazards.

Precautionary statements

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

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

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

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

Hazardous ingredients: 10X Control Primers + Template
Not applicable.

Supplemental label elements: DMSO
SureDirect Blood PCR 2X MM
10X Control Primers + Template
Safety data sheet available on request.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles:

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

Special packaging requirements

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SECTION 2: Hazards identification

2.3 Other hazards

Other hazards which do not result in classification:

- DMSO: None known.
- SureDirect Blood PCR 2X MM: None known.
- 10X Control Primers + Template: None known.

SECTION 3: Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Identifiers</th>
<th>%</th>
<th>Regulation (EC) No. 1272/2008 [CLP]</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>EC: 200-664-3 CAS: 67-68-5</td>
<td>100</td>
<td>Not classified.</td>
<td>[A]</td>
</tr>
<tr>
<td>Dimethyl sulfoxide</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.

Type

- [A] Substance classified with a health or environmental hazard
- [B] Substance with a workplace exposure limit
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy
- [A] Constituent
- [B] Impurity
- [C] Stabilising additive

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### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

<table>
<thead>
<tr>
<th>Eye contact</th>
<th>DMSO</th>
<th>SureDirect Blood PCR 2X MM</th>
<th>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>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.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inhalation</th>
<th>DMSO</th>
<th>SureDirect Blood PCR 2X MM</th>
<th>Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>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.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Skin contact</th>
<th>DMSO</th>
<th>SureDirect Blood PCR 2X MM</th>
<th>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>DMSO</th>
<th>SureDirect Blood PCR 2X MM</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>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.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>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.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Protection of first-aiders</th>
<th>DMSO</th>
<th>SureDirect Blood PCR 2X MM</th>
<th>No action shall be taken involving any personal risk or without suitable training.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>No action shall be taken involving any personal risk or without suitable training.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 4.2 Most important symptoms and effects, both acute and delayed

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SECTION 4: First aid measures

Potential acute health effects

**Eye contact**
- **DMSO**
  - SureDirect Blood PCR 2X MM
  - 10X Control Primers + Template
  - No known significant effects or critical hazards.
- **SureDirect Blood PCR 2X MM**
  - 10X Control Primers + Template
  - No known significant effects or critical hazards.
- **10X Control Primers + Template**
  - No known significant effects or critical hazards.

**Inhalation**
- **DMSO**
  - SureDirect Blood PCR 2X MM
  - 10X Control Primers + Template
  - No known significant effects or critical hazards.
- **SureDirect Blood PCR 2X MM**
  - 10X Control Primers + Template
  - No known significant effects or critical hazards.
- **10X Control Primers + Template**
  - No known significant effects or critical hazards.

**Skin contact**
- **DMSO**
  - SureDirect Blood PCR 2X MM
  - 10X Control Primers + Template
  - No known significant effects or critical hazards.
- **SureDirect Blood PCR 2X MM**
  - 10X Control Primers + Template
  - No known significant effects or critical hazards.
- **10X Control Primers + Template**
  - 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.
- **SureDirect Blood PCR 2X MM**
  - 10X Control Primers + Template
  - No known significant effects or critical hazards.
- **10X Control Primers + Template**
  - No known significant effects or critical hazards.

Over-exposure signs/symptoms

**Eye contact**
- **DMSO**
  - SureDirect Blood PCR 2X MM
  - 10X Control Primers + Template
  - No specific data.
- **SureDirect Blood PCR 2X MM**
  - 10X Control Primers + Template
  - No specific data.
- **10X Control Primers + Template**
  - No specific data.

**Inhalation**
- **DMSO**
  - SureDirect Blood PCR 2X MM
  - 10X Control Primers + Template
  - No specific data.
- **SureDirect Blood PCR 2X MM**
  - 10X Control Primers + Template
  - No specific data.
- **10X Control Primers + Template**
  - No specific data.

**Skin contact**
- **DMSO**
  - SureDirect Blood PCR 2X MM
  - 10X Control Primers + Template
  - No specific data.
- **SureDirect Blood PCR 2X MM**
  - 10X Control Primers + Template
  - No specific data.
- **10X Control Primers + Template**
  - No specific data.

**Ingestion**
- **DMSO**
  - SureDirect Blood PCR 2X MM
  - 10X Control Primers + Template
  - No specific data.
- **SureDirect Blood PCR 2X MM**
  - 10X Control Primers + Template
  - No specific data.
- **10X Control Primers + Template**
  - No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician**
- **DMSO**
  - 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**
  - No specific treatment.
  - No specific treatment.
  - No specific treatment.
SECTION 5: Firefighting measures

5.1 Extinguishing media

<table>
<thead>
<tr>
<th>Suitable extinguishing media</th>
<th>Use an extinguishing agent suitable for the surrounding fire.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>SureDirect Blood PCR 2X MM</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>None known.</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>None known.</td>
</tr>
</tbody>
</table>

5.2 Special hazards arising from the substance or mixture

<table>
<thead>
<tr>
<th>Hazards from the substance or mixture</th>
<th>In a fire or if heated, a pressure increase will occur and the container may burst.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>SureDirect Blood PCR 2X MM</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>Decomposition products may include the following materials:</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>carbon dioxide</td>
</tr>
<tr>
<td></td>
<td>carbon monoxide</td>
</tr>
<tr>
<td></td>
<td>sulfur oxides</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazardous combustion products</th>
<th>Decomposition products may include the following materials:</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>SureDirect Blood PCR 2X MM</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>carbon dioxide</td>
</tr>
<tr>
<td></td>
<td>carbon monoxide</td>
</tr>
<tr>
<td></td>
<td>nitrogen oxides</td>
</tr>
<tr>
<td></td>
<td>sulfur oxides</td>
</tr>
<tr>
<td></td>
<td>metal oxide/oxides</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>Decomposition products may include the following materials:</td>
</tr>
<tr>
<td></td>
<td>carbon dioxide</td>
</tr>
<tr>
<td></td>
<td>carbon monoxide</td>
</tr>
<tr>
<td></td>
<td>nitrogen oxides</td>
</tr>
<tr>
<td></td>
<td>halogenated compounds</td>
</tr>
</tbody>
</table>

5.3 Advice for firefighters

<table>
<thead>
<tr>
<th>Special precautions for fire-fighters</th>
<th>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.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>SureDirect Blood PCR 2X MM</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.</td>
</tr>
</tbody>
</table>

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SECTION 5: Firefighting measures

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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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 spilt material. Put on appropriate personal protective equipment.

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

6.2 Environmental precautions:
- DMSO
  - Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and material for containment and cleaning up:

Methods for cleaning up:
- DMSO
  - 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.

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
SECTION 6: Accidental release measures

10X Control Primers + Template
- Place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- 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.

6.4 Reference to other sections
- See Section 1 for emergency contact information.
- See Section 8 for information on appropriate personal protective equipment.
- See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

<table>
<thead>
<tr>
<th>Protective measures</th>
<th>Advice on general occupational hygiene</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>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.</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>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.</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>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.</td>
</tr>
</tbody>
</table>

7.2 Conditions for safe storage, including any incompatibilities

<table>
<thead>
<tr>
<th>Storage</th>
<th>Advice on storage and handling</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>Storage temperature: -20°C (-4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</td>
</tr>
</tbody>
</table>

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SECTION 7: Handling and storage

10X Control Primers + Template
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 unlabelled 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
Industrial applications, Professional applications.

10X Control Primers + Template
Industrial applications, Professional applications.

Industrial sector specific solutions:

DMSO
SureDirect Blood PCR 2X MM
Not applicable.

10X Control Primers + Template
Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Exposure limit values</th>
</tr>
</thead>
<tbody>
<tr>
<td>SureDirect Blood PCR 2X MM Glycerol</td>
<td>EH40/2005 WELs (United Kingdom (UK), 12/2011). TWA: 10 mg/m³ 8 hours. Form: Mist</td>
</tr>
</tbody>
</table>

Recommended monitoring procedures:

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

8.2 Exposure controls

Appropriate engineering controls:

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

Individual protection measures

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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: 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.

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

**Appearance**

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>Odourless. [Slight]</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>Not available.</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>Not available.</td>
</tr>
<tr>
<td>Liquid. [Clear.]</td>
<td>Liquid.</td>
</tr>
<tr>
<td>DMSO</td>
<td>Not available.</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>Odourless. [Slight]</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>Not available.</td>
</tr>
<tr>
<td>Liquid.</td>
<td>Liquid.</td>
</tr>
<tr>
<td>DMSO</td>
<td>Odourless. [Slight]</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>Not available.</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>Not available.</td>
</tr>
<tr>
<td>Colour</td>
<td>Colourless.</td>
</tr>
<tr>
<td>Physical state</td>
<td>Colourless.</td>
</tr>
<tr>
<td>DMSO</td>
<td>Not available.</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>Odourless. [Slight]</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>Not available.</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Odourless. [Slight]</td>
</tr>
<tr>
<td>Physical state</td>
<td>Odourless. [Slight]</td>
</tr>
<tr>
<td>DMSO</td>
<td>Not available.</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>Odourless. [Slight]</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>Not available.</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Odourless. [Slight]</td>
</tr>
<tr>
<td>Physical state</td>
<td>Odourless. [Slight]</td>
</tr>
<tr>
<td>DMSO</td>
<td>Not available.</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>Odourless. [Slight]</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>pH</td>
</tr>
<tr>
<td>DMSO</td>
<td>Not available.</td>
</tr>
<tr>
<td>SureDirect Blood PCR 2X MM</td>
<td>10</td>
</tr>
<tr>
<td>10X Control Primers + Template</td>
<td>8</td>
</tr>
</tbody>
</table>

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### SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>DMSO</th>
<th>SureDirect Blood PCR 2X MM</th>
<th>10X Control Primers + Template</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>18.5°C</td>
<td>Not available.</td>
<td>0°C</td>
</tr>
<tr>
<td><strong>Initial boiling point and boiling range</strong></td>
<td></td>
<td>DMSO</td>
<td>189°C</td>
</tr>
<tr>
<td><strong>Flash point</strong></td>
<td><strong>DMSO</strong></td>
<td>Not available.</td>
<td>100°C</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td><strong>DMSO</strong></td>
<td>0.026 (butyl acetate = 1)</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td><strong>DMSO</strong></td>
<td>Not applicable.</td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Upper/lower flammability or explosive limits</strong></td>
<td><strong>DMSO</strong></td>
<td>Lower: 2.6%</td>
<td>Upper: 28.5%</td>
</tr>
<tr>
<td><strong>Vapour pressure</strong></td>
<td><strong>DMSO</strong></td>
<td>0.056 kPa [room temperature]</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Vapour density</strong></td>
<td><strong>DMSO</strong></td>
<td>2.7 [Air = 1]</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Relative density</strong></td>
<td><strong>DMSO</strong></td>
<td>1.1</td>
<td>Not available.</td>
</tr>
<tr>
<td><strong>Solubility(ies)</strong></td>
<td><strong>DMSO</strong></td>
<td>Easily soluble in the following materials: cold water and hot water.</td>
<td>Soluble in the following materials: cold water and hot water.</td>
</tr>
<tr>
<td><strong>Partition coefficient: n-octanol/water</strong></td>
<td><strong>DMSO</strong></td>
<td>-1.35</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

**Date of issue/Date of revision**: 16/01/2018
# SECTION 9: Physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>DMSO</th>
<th>SureDirect Blood PCR 2X MM</th>
<th>10X Control Primers + Template</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Auto-ignition temperature</strong></td>
<td>300 to 302°C</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td>140 to 189°C</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>Dynamic (room temperature): 2.14 mPa·s</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td><strong>Explosive properties</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td><strong>Oxidising properties</strong></td>
<td>Not available.</td>
<td>Not available.</td>
<td></td>
</tr>
</tbody>
</table>

## 9.2 Other information

No additional information.

# SECTION 10: Stability and reactivity

## 10.1 Reactivity

<table>
<thead>
<tr>
<th>DMSO</th>
<th>SureDirect Blood PCR 2X MM</th>
<th>10X Control Primers + Template</th>
</tr>
</thead>
<tbody>
<tr>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
<td>No specific test data related to reactivity available for this product or its ingredients.</td>
</tr>
</tbody>
</table>

## 10.2 Chemical stability

<table>
<thead>
<tr>
<th>DMSO</th>
<th>SureDirect Blood PCR 2X MM</th>
<th>10X Control Primers + Template</th>
</tr>
</thead>
<tbody>
<tr>
<td>The product is stable.</td>
<td>The product is stable.</td>
<td>The product is stable.</td>
</tr>
</tbody>
</table>

## 10.3 Possibility of hazardous reactions

<table>
<thead>
<tr>
<th>DMSO</th>
<th>SureDirect Blood PCR 2X MM</th>
<th>10X Control Primers + Template</th>
</tr>
</thead>
<tbody>
<tr>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
<td>Under normal conditions of storage and use, hazardous reactions will not occur.</td>
</tr>
</tbody>
</table>

## 10.4 Conditions to avoid

<table>
<thead>
<tr>
<th>DMSO</th>
<th>SureDirect Blood PCR 2X MM</th>
<th>10X Control Primers + Template</th>
</tr>
</thead>
<tbody>
<tr>
<td>No specific data.</td>
<td>No specific data.</td>
<td>No specific data.</td>
</tr>
</tbody>
</table>
SureDirect Blood PCR Kit, Part Number 600920

SECTION 10: Stability and reactivity

10.5 Incompatible materials

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

May react or be incompatible with oxidising materials.

10.6 Hazardous decomposition products

- DMSO
- SureDirect Blood PCR 2X MM
- 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

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO Dimethyl sulfoxide</td>
<td>LD50 Dermal</td>
<td>Rat</td>
<td>40000 mg/kg</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>LD50 Oral</td>
<td>Rat</td>
<td>14500 mg/kg</td>
<td>-</td>
</tr>
</tbody>
</table>

Acute toxicity estimates

Not available.

Irritation/Corrosion

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Score</th>
<th>Exposure</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO Dimethyl sulfoxide</td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Eyes - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>24 hours 500 milligrams</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Skin - Mild irritant</td>
<td>Rabbit</td>
<td>-</td>
<td>100 milligrams</td>
<td>-</td>
</tr>
</tbody>
</table>

Sensitiser

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Category</th>
<th>Route of exposure</th>
<th>Target organs</th>
</tr>
</thead>
<tbody>
<tr>
<td>10X Control Primers + Template 2-Amino-2-(hydroxymethyl)propane-1,3-diol hydrochloride</td>
<td>Category 3</td>
<td>Not applicable.</td>
<td>Respiratory tract irritation</td>
</tr>
</tbody>
</table>

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure

<table>
<thead>
<tr>
<th>DMSO SureDirect Blood PCR 2X MM 10X Control Primers + Template</th>
<th>Routes of entry anticipated: Oral, Dermal, Inhalation.</th>
</tr>
</thead>
</table>

Potential acute health effects

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SECTION 11: Toxicological information

Potential chronic health effects

Inhalation: 
- DMOSO
- SureDirect Blood PCR 2X MM
- 10X Control Primers + Template

No known significant effects or critical hazards.

Ingestion: 
- DMOSO
- SureDirect Blood PCR 2X MM
- 10X Control Primers + Template

No known significant effects or critical hazards.

Skin contact: 
- DMOSO
- SureDirect Blood PCR 2X MM
- 10X Control Primers + Template

No known significant effects or critical hazards.

Eye contact: 
- DMOSO
- SureDirect Blood PCR 2X MM
- 10X Control Primers + Template

No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: 
- DMOSO
- SureDirect Blood PCR 2X MM
- 10X Control Primers + Template

No specific data.

Ingestion: 
- DMOSO
- SureDirect Blood PCR 2X MM
- 10X Control Primers + Template

No specific data.

Skin contact: 
- DMOSO
- SureDirect Blood PCR 2X MM
- 10X Control Primers + Template

No specific data.

Eye contact: 
- DMOSO
- SureDirect Blood PCR 2X MM
- 10X Control Primers + Template

No specific data.

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

Short term exposure

Potential immediate effects: Not available.

Potential delayed effects: Not available.

Long term exposure

Potential immediate effects: Not available.

Potential delayed effects: Not available.

Potential chronic health effects
SECTION 11: Toxicological information

General:
- 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.

Carcinogenicity:
- 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.

Mutagenicity:
- 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.

Teratogenicity:
- Developmental effects:
  - DMSO: No known significant effects or critical hazards.
- Fertility effects:
  - DMSO: No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>Result</th>
<th>Species</th>
<th>Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO Dimethyl sulfoxide</td>
<td>Acute LC50 25000 ppm Fresh water</td>
<td>Daphnia - Daphnia magna - Neonate</td>
<td>48 hours</td>
</tr>
<tr>
<td></td>
<td>Acute LC50 34000000 μg/l Fresh water Chronic NOEC 100 ul/L Marine water</td>
<td>Fish - Pimephales promelas Algae - Ulva lactuca</td>
<td>96 hours 72 hours</td>
</tr>
</tbody>
</table>

12.2 Persistence and degradability
Not available.

12.3 Bioaccumulative potential

<table>
<thead>
<tr>
<th>Product/ingredient name</th>
<th>LogP_{ow}</th>
<th>BCF</th>
<th>Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO Dimethyl sulfoxide</td>
<td>-1.35</td>
<td>3.16</td>
<td>low</td>
</tr>
</tbody>
</table>

12.4 Mobility in soil
- Soil/water partition coefficient (K_{OC}): Not available.
- Mobility: Not available.

12.5 Results of PBT and vPvB assessment

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SECTION 12: Ecological information

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste: Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

Packaging
Methods of disposal: The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions: 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 spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

14.6 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.

14.7 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

EU Regulation (EC) No. 1907/2006 (REACH)
Annex XIV - List of substances subject to authorisation
Annex XIV
None of the components are listed.
Substances of very high concern
None of the components are listed.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles
Other EU regulations
DMSO: Not applicable.
SureDirect Blood PCR 2X MM: Not applicable.
10X Control Primers + Template: Not applicable.

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SECTION 15: Regulatory information

**Industrial emissions**
(integrated pollution prevention and control) - Air

Ozone depleting substances (1005/2009/EU)
Not listed.

Prior Informed Consent (PIC) (649/2012/EU)
Not listed.

Seveso Directive
This product is not controlled under the Seveso Directive.

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.
Europe : All components are listed or exempted.
Japan
  Japan inventory (ENCS): Not determined.
  Japan inventory (ISHL): All components are listed or exempted.
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 : All components are listed or exempted.
Viet Nam : Not determined.

**15.2 Chemical safety assessment**
This product contains substances for which Chemical Safety Assessments might still be required.
SureDirect Blood PCR Kit, Part Number 600920

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms:
- ATE = Acute Toxicity Estimate
- CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
- DNEL = Derived No Effect Level
- EUH statement = CLP-specific Hazard statement
- PNEC = Predicted No Effect Concentration
- RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Justification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not classified.</td>
<td></td>
</tr>
</tbody>
</table>

Full text of abbreviated H statements

**10X Control Primers + Template**
- H315: Causes skin irritation.
- H319: Causes serious eye irritation.
- H335: May cause respiratory irritation.

Full text of classifications [CLP/GHS]

**10X Control Primers + Template**
- Eye Irrit. 2, H319: SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
- Skin Irrit. 2, H315: SKIN CORROSION/IRRITATION - Category 2
- STOT SE 3, H335: SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

Date of issue/Date of revision: 16/01/2018
Date of previous issue: 28/03/2016.
Version: 2

Notice to reader

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