

SAFETY DATA SHEET

Brilliant II SYBR Green QRT-PCR Master Mix - 1-Step - 10-pack, Part Number 600826

Section 1. Identification

Product identifier : Brilliant II SYBR Green QRT-PCR Master Mix - 1-Step - 10-pack, Part Number 600826

Part no. (chemical kit) : 600826

Part no. : 2X Brilliant II SYBR® QRT-PCR Master Mix 600825-51
Reference Dye 600530-53
RT/RNase Block Enzyme Mixture 600825-52

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

Identified uses : Analytical reagent.
 Brilliant II SYBR® QRT-PCR Master Mix 20 x 2.5 ml
Reference Dye 0.1 ml (100 µl 1 mM)
RT/RNase Block Enzyme Mixture 0.4 ml

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

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

Section 2. Hazard identification

Classification of the substance or mixture

Brilliant II SYBR® QRT-PCR Master Mix
H320

EYE IRRITATION - Category 2B

RT/RNase Block Enzyme Mixture
H320

EYE IRRITATION - Category 2B

GHS label elements

Signal word : 2X Brilliant II SYBR® QRT-PCR Master Mix Warning
Reference Dye No signal word.
RT/RNase Block Enzyme Mixture Warning

Hazard statements : 2X Brilliant II SYBR® QRT-PCR Master Mix H320 - Causes eye irritation.
Reference Dye No known significant effects or critical hazards.
RT/RNase Block Enzyme Mixture H320 - Causes eye irritation.

Precautionary statements

Prevention : 2X Brilliant II SYBR® QRT-PCR Master Mix Not applicable.
Reference Dye Not applicable.
RT/RNase Block Enzyme Mixture Not applicable.

Section 2. Hazard identification

| | | |
|--|--|--|
| Response | : 2X Brilliant II SYBR® QRT-PCR Master Mix | 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. |
| | Reference Dye | Not applicable. |
| | RT/RNase Block Enzyme Mixture | 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 | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Not applicable. |
| | Reference Dye | Not applicable. |
| | RT/RNase Block Enzyme Mixture | Not applicable. |
| Disposal | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Not applicable. |
| | Reference Dye | Not applicable. |
| | RT/RNase Block Enzyme Mixture | Not applicable. |
| Supplemental label elements | : 2X Brilliant II SYBR® QRT-PCR Master Mix | None known. |
| | Reference Dye | None known. |
| | RT/RNase Block Enzyme Mixture | None known. |
| Other hazards which do not result in classification | : 2X Brilliant II SYBR® QRT-PCR Master Mix | None known. |
| | Reference Dye | None known. |
| | RT/RNase Block Enzyme Mixture | None known. |

Section 3. Composition/information on ingredients

| | | |
|--------------------------|--|---------|
| Substance/mixture | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Mixture |
| | Reference Dye | Mixture |
| | RT/RNase Block Enzyme Mixture | Mixture |

| Ingredient name | Synonyms | % (w/w) | CAS number |
|---|--------------------|-----------|------------|
| 2X Brilliant II SYBR® QRT-PCR Master Mix | | | |
| Glycerol | Glycerol | ≥10 - ≤30 | 56-81-5 |
| Dimethyl sulfoxide | Dimethyl sulfoxide | ≥5 - ≤10 | 67-68-5 |
| Magnesium chloride | Magnesium chloride | ≥0.1 - ≤1 | 7786-30-3 |
| Reference Dye | | | |
| Potassium chloride | Potassium Chloride | ≥1 - ≤5 | 7447-40-7 |
| RT/RNase Block Enzyme Mixture | | | |
| Glycerol | Glycerol | ≥30 - ≤60 | 56-81-5 |

Section 3. Composition/information on ingredients

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

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

Description of necessary first aid measures

| | | |
|--------------------|--|--|
| Eye contact | : 2X Brilliant II SYBR® QRT-PCR Master Mix | 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. |
| | Reference Dye | 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. |
| | RT/RNase Block Enzyme Mixture | 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 | : 2X Brilliant II SYBR® QRT-PCR Master Mix | 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. |
| | Reference Dye | 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. |
| | RT/RNase Block Enzyme Mixture | 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. |

Section 4. First-aid measures

| | | |
|---------------------|--|--|
| Skin contact | : 2X Brilliant II SYBR® QRT-PCR Master Mix | 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. |
| | Reference Dye | Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. |
| | RT/RNase Block Enzyme Mixture | 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. |
| Ingestion | : 2X Brilliant II SYBR® QRT-PCR Master Mix | 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. |
| | Reference Dye | 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. |
| | RT/RNase Block Enzyme Mixture | 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 | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Causes eye irritation. |
| | Reference Dye | No known significant effects or critical hazards. |
| | RT/RNase Block Enzyme Mixture | Causes eye irritation. |
| Inhalation | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No known significant effects or critical hazards. |
| | Reference Dye | No known significant effects or critical hazards. |
| | RT/RNase Block Enzyme Mixture | No known significant effects or critical hazards. |

Section 4. First-aid measures

| | | |
|--|--|--|
| Skin contact | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No known significant effects or critical hazards. |
| | Reference Dye | No known significant effects or critical hazards. |
| | RT/RNase Block Enzyme Mixture | No known significant effects or critical hazards. |
| Ingestion | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No known significant effects or critical hazards. |
| | Reference Dye | No known significant effects or critical hazards. |
| | RT/RNase Block Enzyme Mixture | No known significant effects or critical hazards. |
| <u>Over-exposure signs/symptoms</u> | | |
| Eye contact | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Adverse symptoms may include the following: irritation watering redness |
| | Reference Dye | No specific data. |
| | RT/RNase Block Enzyme Mixture | Adverse symptoms may include the following: irritation watering redness |
| Inhalation | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No specific data. |
| | Reference Dye | No specific data. |
| | RT/RNase Block Enzyme Mixture | No specific data. |
| Skin contact | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No specific data. |
| | Reference Dye | No specific data. |
| | RT/RNase Block Enzyme Mixture | No specific data. |
| Ingestion | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No specific data. |
| | Reference Dye | No specific data. |
| | RT/RNase Block Enzyme Mixture | No specific data. |

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

| | | |
|----------------------------|--|---|
| Notes to physician | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | Reference Dye | 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. |
| | RT/RNase Block Enzyme Mixture | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| Specific treatments | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No specific treatment. |
| | Reference Dye | No specific treatment. |
| | RT/RNase Block Enzyme Mixture | No specific treatment. |

Section 4. First-aid measures

| | | |
|-----------------------------------|--|--|
| Protection of first-aiders | : 2X Brilliant II SYBR® QRT-PCR Master Mix | 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. |
| | Reference Dye | No action shall be taken involving any personal risk or without suitable training. |
| | RT/RNase Block Enzyme Mixture | 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 | : 2X Brilliant II SYBR® QRT-PCR Master Mix Reference Dye | Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. |
| | RT/RNase Block Enzyme Mixture | Use an extinguishing agent suitable for the surrounding fire. |
| Unsuitable extinguishing media | : 2X Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture | None known. None known. None known. |
| Specific hazards arising from the chemical | : 2X Brilliant II SYBR® QRT-PCR Master Mix Reference Dye | 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. |
| | RT/RNase Block Enzyme Mixture | In a fire or if heated, a pressure increase will occur and the container may burst. |
| Hazardous thermal decomposition products | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Decomposition products may include the following materials: carbon dioxide carbon monoxide sulfur oxides |
| | Reference Dye | Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds metal oxide/oxides |
| | RT/RNase Block Enzyme Mixture | Decomposition products may include the following materials: carbon dioxide carbon monoxide |

Section 5. Fire-fighting measures

| | | |
|---|--|---|
| Special protective actions for fire-fighters | : 2X Brilliant II SYBR® QRT-PCR Master Mix | 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. |
| | Reference Dye | 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. |
| | RT/RNase Block Enzyme Mixture | 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 | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | Reference Dye | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | RT/RNase Block Enzyme Mixture | 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 | : 2X Brilliant II SYBR® QRT-PCR Master Mix | 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. |
| | Reference Dye | 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. |
| | RT/RNase Block Enzyme Mixture | 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 | : 2X Brilliant II SYBR® QRT-PCR Master Mix | 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". |
| | Reference Dye | 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". |
| | RT/RNase Block Enzyme Mixture | 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

suitable and unsuitable materials. See also the information in "For non-emergency personnel".

| | | |
|----------------------------------|--|---|
| Environmental precautions | : 2X Brilliant II SYBR® QRT-PCR Master Mix | 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). |
| | Reference Dye | 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). |
| | RT/RNase Block Enzyme Mixture | 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). |

Methods and materials for containment and cleaning up

| | | |
|--------------------------------|--|---|
| Methods for cleaning up | : 2X Brilliant II SYBR® QRT-PCR Master Mix | 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. |
| | Reference Dye | 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. |
| | RT/RNase Block Enzyme Mixture | 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 | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container. |
| | Reference Dye | Put on appropriate personal protective equipment (see Section 8). |
| | RT/RNase Block Enzyme Mixture | Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not |

Section 7. Handling and storage

Advice on general occupational hygiene

: 2X Brilliant II SYBR® QRT-PCR Master Mix

reuse container.

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.

Reference Dye

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.

RT/RNase Block Enzyme Mixture

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

: 2X Brilliant II SYBR® QRT-PCR Master Mix

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.

Reference Dye

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.

RT/RNase Block Enzyme Mixture

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 |
|--|--|
| <p>2X Brilliant II SYBR® QRT-PCR Master Mix Glycerol</p> <p>Dimethyl sulfoxide</p> <p>RT/RNase Block Enzyme Mixture Glycerol</p> | <p>CA Alberta Provincial (Canada, 6/2018). OEL: 10 mg/m³ 8 hours. Form: Mist</p> <p>CA Quebec Provincial (Canada, 6/2022). TWAEV: 10 mg/m³ 8 hours. Form: mist</p> <p>CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m³ 15 minutes. Form: mist TWA: 10 mg/m³ 8 hours. Form: mist</p> <p>CA British Columbia Provincial (Canada, 6/2023). TWA: 3 mg/m³ 8 hours. Form: respirable mist TWA: 10 mg/m³ 8 hours. Form: total mist</p> <p>OARS WEEL (United States, 4/2022). TWA: 250 ppm 8 hours.</p> <p>CA Alberta Provincial (Canada, 6/2018). OEL: 10 mg/m³ 8 hours. Form: Mist</p> <p>CA Quebec Provincial (Canada, 6/2022). TWAEV: 10 mg/m³ 8 hours. Form: mist</p> <p>CA Saskatchewan Provincial (Canada, 7/2013). STEL: 20 mg/m³ 15 minutes. Form: mist TWA: 10 mg/m³ 8 hours. Form: mist</p> <p>CA British Columbia Provincial (Canada, 6/2023). TWA: 3 mg/m³ 8 hours. Form: respirable mist TWA: 10 mg/m³ 8 hours. Form: total mist</p> |

[Biological exposure indices](#)

No exposure indices known.

[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: 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 | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Liquid. |
| | Reference Dye | Liquid. |
| | RT/RNase Block Enzyme Mixture | Liquid. |
| Color | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Not available. |
| | Reference Dye | Not available. |
| | RT/RNase Block Enzyme Mixture | Not available. |
| Odor | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Not available. |
| | Reference Dye | Not available. |
| | RT/RNase Block Enzyme Mixture | Not available. |
| Odor threshold | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Not available. |
| | Reference Dye | Not available. |
| | RT/RNase Block Enzyme Mixture | Not available. |
| pH | : 2X Brilliant II SYBR® QRT-PCR Master Mix | 8 |
| | Reference Dye | 8 |
| | RT/RNase Block Enzyme Mixture | 8 |

Section 9. Physical and chemical properties and safety characteristics

Melting point/freezing point : 2X Brilliant II SYBR® QRT-PCR Master Mix Not available.
Reference Dye Not available.
RT/RNase Block Enzyme Mixture Not available.

Boiling point, initial boiling point, and boiling range : 2X Brilliant II SYBR® QRT-PCR Master Mix Not available.
Reference Dye Not available.
RT/RNase Block Enzyme Mixture Not available.

Flash point :

| Ingredient name | Closed cup | | | Open cup | | |
|---|------------|-------|-----------|----------|-------|--------|
| | °C | °F | Method | °C | °F | Method |
| 2X Brilliant II SYBR® QRT-PCR Master Mix | | | | | | |
| Dimethyl sulfoxide | 87 | 188.6 | ASTM D 93 | 87 | 188.6 | - |
| Glycerol | - | - | - | 177 | 350.6 | - |
| RT/RNase Block Enzyme Mixture | | | | | | |
| Glycerol | - | - | - | 177 | 350.6 | - |

Evaporation rate : 2X Brilliant II SYBR® QRT-PCR Master Mix Not available.
Reference Dye Not available.
RT/RNase Block Enzyme Mixture Not available.

Flammability : 2X Brilliant II SYBR® QRT-PCR Master Mix Not applicable.
Reference Dye Not applicable.
RT/RNase Block Enzyme Mixture Not applicable.

Lower and upper explosion limit/flammability limit : 2X Brilliant II SYBR® QRT-PCR Master Mix Not available.
Reference Dye Not available.
RT/RNase Block Enzyme Mixture Not available.

Vapor pressure :

| Ingredient name | Vapor Pressure at 20°C | | | Vapor pressure at 50°C | | |
|---|------------------------|-------|--------|------------------------|------|--------|
| | mm Hg | kPa | Method | mm Hg | kPa | Method |
| 2X Brilliant II SYBR® QRT-PCR Master Mix | | | | | | |
| water | 17.5 | 2.3 | - | 92.258 | 12.3 | - |
| Dimethyl sulfoxide | 0.42 | 0.056 | EU A.4 | - | - | - |
| Reference Dye | | | | | | |
| water | 17.5 | 2.3 | - | 92.258 | 12.3 | - |

Section 9. Physical and chemical properties and safety characteristics

| | RT/RNase Block Enzyme Mixture | | | | | | |
|----------|-------------------------------|---------|---|--|--------|---------|---|
| water | 17.5 | 2.3 | - | | 92.258 | 12.3 | - |
| Glycerol | 0.000075 | 0.00001 | - | | 0.0025 | 0.00033 | - |

Relative vapor density : 2X Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture Not available.
Not available.
Not available.

Relative density : 2X Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture Not available.
Not available.
Not available.

Solubility(ies) :

| Media | Result |
|---|---------|
| 2X Brilliant II SYBR® QRT-PCR Master Mix | |
| water | Soluble |
| Reference Dye | |
| water | Soluble |
| RT/RNase Block Enzyme Mixture | |
| water | Soluble |

Partition coefficient: n-octanol/water : 2X Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture Not applicable.
Not applicable.
Not applicable.

Auto-ignition temperature :

| Ingredient name | °C | °F | Method |
|---|------------|--------------|--------|
| 2X Brilliant II SYBR® QRT-PCR Master Mix | | | |
| Dimethyl sulfoxide | 300 to 302 | 572 to 575.6 | - |
| Glycerol | 370 | 698 | - |
| RT/RNase Block Enzyme Mixture | | | |
| Glycerol | 370 | 698 | - |

Decomposition temperature : 2X Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture Not available.
Not available.
Not available.

Viscosity : 2X Brilliant II SYBR® QRT-PCR Master Mix Reference Dye RT/RNase Block Enzyme Mixture Not available.
Not available.
Not available.

Particle characteristics

Section 9. Physical and chemical properties and safety characteristics

| | | |
|-----------------------------|--|-----------------|
| Median particle size | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Not applicable. |
| | Reference Dye | Not applicable. |
| | RT/RNase Block Enzyme Mixture | Not applicable. |

Section 10. Stability and reactivity

| | | |
|---|--|--|
| Reactivity | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No specific test data related to reactivity available for this product or its ingredients. |
| | Reference Dye | No specific test data related to reactivity available for this product or its ingredients. |
| | RT/RNase Block Enzyme Mixture | No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : 2X Brilliant II SYBR® QRT-PCR Master Mix | The product is stable. |
| | Reference Dye | The product is stable. |
| | RT/RNase Block Enzyme Mixture | The product is stable. |
| Possibility of hazardous reactions | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | Reference Dye | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | RT/RNase Block Enzyme Mixture | Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No specific data. |
| | Reference Dye | No specific data. |
| | RT/RNase Block Enzyme Mixture | No specific data. |
| Incompatible materials | : 2X Brilliant II SYBR® QRT-PCR Master Mix | May react or be incompatible with oxidizing materials. |
| | Reference Dye | May react or be incompatible with oxidizing materials. |
| | RT/RNase Block Enzyme Mixture | May react or be incompatible with oxidizing materials. |
| Hazardous decomposition products | : 2X Brilliant II SYBR® QRT-PCR Master Mix | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| | Reference Dye | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| | RT/RNase Block Enzyme Mixture | 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 |
|---|-------------|-----------------------|-------------|----------|
| 2X Brilliant II SYBR® QRT-PCR Master Mix | | | | |
| Glycerol | LD50 Oral | Rat | 12600 mg/kg | - |
| Dimethyl sulfoxide | LD50 Dermal | Rat | 40000 mg/kg | - |
| | LD50 Oral | Rat | 14500 mg/kg | - |
| Magnesium chloride | LD50 Dermal | Rat - Male, Female | >2000 mg/kg | - |
| | LD50 Oral | Rat | 2800 mg/kg | - |
| Reference Dye | | | | |
| Potassium chloride | LD50 Oral | Rat | 2600 mg/kg | - |
| RT/RNase Block Enzyme Mixture | | | | |
| Glycerol | LD50 Oral | Rat | 12600 mg/kg | - |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|---|----------------------|---------|-------|-----------------|-------------|
| 2X Brilliant II SYBR® QRT-PCR Master Mix | | | | | |
| Glycerol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| Dimethyl sulfoxide | Eyes - Mild irritant | Rabbit | - | 100 mg | - |
| | Eyes - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Skin - Mild irritant | Rabbit | - | 100 mg | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| Reference Dye | | | | | |
| Potassium chloride | Eyes - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| RT/RNase Block Enzyme Mixture | | | | | |
| Glycerol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 mg | - |
| | Skin - Mild irritant | Rabbit | - | 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.

Section 11. Toxicological information

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

: 2X Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture

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

Potential acute health effects

Eye contact

: 2X Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture

Causes eye irritation.
No known significant effects or critical hazards.
Causes eye irritation.

Inhalation

: 2X Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture

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

Skin contact

: 2X Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture

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

Ingestion

: 2X Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture

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

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact

: 2X Brilliant II SYBR® QRT-PCR Master Mix

Adverse symptoms may include the following:
irritation
watering
redness

Reference Dye
RT/RNase Block Enzyme Mixture

No specific data.
Adverse symptoms may include the following:
irritation
watering
redness

Inhalation

: 2X Brilliant II SYBR® QRT-PCR Master Mix
Reference Dye
RT/RNase Block Enzyme Mixture

No specific data.
No specific data.
No specific data.

Section 11. Toxicological information

| | | |
|---------------------|--|-------------------|
| Skin contact | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No specific data. |
| | Reference Dye | No specific data. |
| | RT/RNase Block Enzyme Mixture | No specific data. |
| Ingestion | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No specific data. |
| | Reference Dye | No specific data. |
| | RT/RNase Block Enzyme Mixture | 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 | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No known significant effects or critical hazards. |
| | Reference Dye | No known significant effects or critical hazards. |
| | RT/RNase Block Enzyme Mixture | No known significant effects or critical hazards. |
| Carcinogenicity | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No known significant effects or critical hazards. |
| | Reference Dye | No known significant effects or critical hazards. |
| | RT/RNase Block Enzyme Mixture | No known significant effects or critical hazards. |
| Mutagenicity | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No known significant effects or critical hazards. |
| | Reference Dye | No known significant effects or critical hazards. |
| | RT/RNase Block Enzyme Mixture | No known significant effects or critical hazards. |
| Reproductive toxicity | : 2X Brilliant II SYBR® QRT-PCR Master Mix | No known significant effects or critical hazards. |
| | Reference Dye | No known significant effects or critical hazards. |
| | RT/RNase Block Enzyme Mixture | 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) |
|-------------------------|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| | | | | | |

Section 11. Toxicological information

| | | | | | |
|---|---------|-------|-----|-----|-----|
| 2X Brilliant II SYBR® QRT-PCR Master Mix | | | | | |
| Glycerol | 12600 | N/A | N/A | N/A | N/A |
| Dimethyl sulfoxide | 14500 | 40000 | N/A | N/A | N/A |
| Magnesium chloride | 2800 | 2500 | N/A | N/A | N/A |
| Reference Dye | | | | | |
| Reference Dye | 70270.3 | N/A | N/A | N/A | N/A |
| Potassium chloride | 2600 | N/A | N/A | N/A | N/A |
| RT/RNase Block Enzyme Mixture | | | | | |
| Glycerol | 12600 | N/A | N/A | N/A | N/A |

Other information

: RT/RNase Block Enzyme Mixture

Adverse symptoms may include the following: May cause skin sensitization.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---|--------------------------------------|--|----------|
| 2X Brilliant II SYBR® QRT-PCR Master Mix | | | |
| Glycerol | Acute LC50 54000 mg/l Fresh water | Fish - <i>Oncorhynchus mykiss</i> | 96 hours |
| Dimethyl sulfoxide | Acute LC50 25000 ppm Fresh water | Daphnia - <i>Daphnia magna</i> - Neonate | 48 hours |
| | Acute LC50 34000000 µg/l Fresh water | Fish - <i>Pimephales promelas</i> | 96 hours |
| | Chronic NOEC 100 µl/L Marine water | Algae - <i>Ulva lactuca</i> | 72 hours |
| | Chronic NOEC 100 µl/L Fresh water | Daphnia - <i>Daphnia magna</i> - Juvenile (Fledgling, Hatchling, Weanling) | 21 days |
| Magnesium chloride | Acute EC50 >100 mg/l Fresh water | Algae - <i>Desmodesmus subspicatus</i> | 72 hours |
| | Acute EC50 180000 µg/l Fresh water | Crustaceans - <i>Eudiaptomus padanus</i> ssp. <i>padanus</i> - Adult | 48 hours |
| | Acute IC50 6.8 mg/l Fresh water | Aquatic plants - <i>Lemna aequinoctialis</i> | 96 hours |
| | Acute LC50 32000 µg/l Fresh water | Daphnia - <i>Daphnia hyalina</i> - Adult | 48 hours |
| | Acute LC50 2120 mg/l Fresh water | Fish - <i>Pimephales promelas</i> | 96 hours |
| | Acute NOEC 100 mg/l Fresh water | Algae - <i>Desmodesmus subspicatus</i> | 72 hours |
| | Chronic NOEC 0.1 mg/l Fresh water | Fish - <i>Cyprinus carpio</i> | 35 days |
| Reference Dye | | | |
| Potassium chloride | Acute EC50 9.24 g/L Fresh water | Algae - <i>Desmodesmus subspicatus</i> | 72 hours |
| | Acute EC50 1337000 µg/l Fresh water | Algae - <i>Navicula seminulum</i> | 96 hours |
| | Acute LC50 9.68 mg/l Fresh water | Crustaceans - <i>Pseudosida ramosa</i> - Neonate | 48 hours |
| | Acute LC50 93000 µg/l Fresh water | Daphnia - <i>Daphnia magna</i> | 48 hours |
| | Acute LC50 509.65 mg/l Fresh water | Fish - <i>Danio rerio</i> | 96 hours |
| RT/RNase Block Enzyme Mixture | | | |
| Glycerol | Acute LC50 54000 mg/l Fresh water | Fish - <i>Oncorhynchus mykiss</i> | 96 hours |

Persistence and degradability

Section 12. Ecological information

| Product/ingredient name | Test | Result | Dose | Inoculum |
|---|---|------------------------------|------|----------|
| 2X Brilliant II SYBR® QRT-PCR Master Mix Glycerol | 301D Ready Biodegradability - Closed Bottle Test | 93 % - 30 days | - | - |
| Dimethyl sulfoxide | OECD 301D Ready Biodegradability - Closed Bottle Test | 31 % - Not readily - 28 days | - | - |
| RT/RNase Block Enzyme Mixture Glycerol | 301D Ready Biodegradability - Closed Bottle Test | 93 % - 30 days | - | - |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|-------------------|------------|------------------|
| 2X Brilliant II SYBR® QRT-PCR Master Mix Dimethyl sulfoxide | - | - | Not readily |
| Reference Dye Potassium chloride | - | - | Readily |

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|---|--------------------|------|-----------|
| 2X Brilliant II SYBR® QRT-PCR Master Mix Glycerol | -1.76 | - | Low |
| Dimethyl sulfoxide | -1.35 | 3.16 | Low |
| Reference Dye Potassium chloride | -0.46 | - | Low |
| RT/RNase Block Enzyme Mixture Glycerol | -1.76 | - | 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. 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.

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

Canada : Not determined.

United States : Not determined.

Section 16. Other information

History

Date of issue/Date of revision : 04/29/2024

Date of previous issue : 03/29/2021

Version : 6

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
 UN = United Nations

Procedure used to derive the classification

| Classification | Justification |
|---|--------------------|
| 2X Brilliant II SYBR® QRT-PCR Master Mix EYE IRRITATION - Category 2B | Calculation method |
| RT/RNase Block Enzyme Mixture EYE IRRITATION - Category 2B | Calculation method |

🔍 Indicates information that has changed from previously issued version.

Notice to reader

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