SAFETY DATA SHEET

sparQ Fast Mastermix (1.25X)

SECTION 1. IDENTIFICATION

Product name : sparQ Fast Mastermix (1.25X)

Manufacturer or supplier's details

Company : QIAGEN Beverly, Inc.
100 Cummings Center
Suite 407J
Beverly, MA 01915
USA

Telephone : + 1 800 364-2149

Responsible Department :

E-mail addressResponsible/issuing person : cpc@qiagen.com

Emergency telephone : CHEMTREC
USA & Canada 1-800-424-9300

Recommended use of the chemical and restrictions on use

Recommended use : Laboratory chemicals

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 4

GHS Label element

Signal Word : Warning

Hazard Statements : H227 Combustible liquid.

Precautionary Statements : Prevention:
P210 Keep away from heat/sparks/open flames/hot surfaces.
No smoking.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance / Mixture</th>
<th>Mixture</th>
</tr>
</thead>
<tbody>
<tr>
<td>Substance name</td>
<td>sparQ Fast Mastermix (1.25X)</td>
</tr>
</tbody>
</table>

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>sucrose</td>
<td>57-50-1</td>
<td>&gt;= 1 - &lt; 10</td>
</tr>
</tbody>
</table>
SECTION 4. FIRST AID MEASURES

General advice: Show this material safety data sheet to the doctor in attendance.

If inhaled: Move to fresh air.

If symptoms persist, call a physician.

In case of skin contact: Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

If symptoms persist, call a physician.

In case of eye contact: Remove contact lenses.

Protect unharmed eye.

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed: If accidentally swallowed obtain immediate medical attention.

Rinse mouth with water.

Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: No information available.

Notes to physician: No information available.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards during fire fighting: Exposure to decomposition products may be a hazard to health.

Hazardous combustion products: Carbon oxides

Sulfur oxides

Nitrogen oxides (NOx)

Specific extinguishing methods: In the event of fire and/or explosion do not breathe fumes.

Use a water spray to cool fully closed containers.

Special protective equipment for fire-fighters: Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment.

Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

Environmental precautions: Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up: Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Keep in suitable, closed containers for disposal.
SAFETY DATA SHEET

sparQ Fast Mastermix (1.25X)

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion: Keep away from open flames, hot surfaces and sources of ignition.

Advice on safe handling: Avoid formation of aerosol. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Provide sufficient air exchange and/or exhaust in work rooms. Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage: Keep container tightly closed in a dry and well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters / Permissible concentration</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>sucrose</td>
<td>57-50-1</td>
<td>TWA</td>
<td>10 mg/m³ ACGIH</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable)</td>
<td>5 mg/m³ NIOSH REL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (total)</td>
<td>10 mg/m³ NIOSH REL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (total dust)</td>
<td>15 mg/m³ OSHA Z-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (respirable fraction)</td>
<td>5 mg/m³ OSHA Z-1</td>
<td></td>
</tr>
<tr>
<td>DMSO</td>
<td>67-68-5</td>
<td>TWA</td>
<td>250 ppm US WEEL</td>
<td></td>
</tr>
<tr>
<td>glycerol</td>
<td>56-81-5</td>
<td>TWA (mist, respirable fraction)</td>
<td>5 mg/m³ OSHA Z-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (mist, total dust)</td>
<td>15 mg/m³ OSHA Z-1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Total)</td>
<td>10 mg/m³ OSHA P0</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Respirable fraction)</td>
<td>5 mg/m³ OSHA P0</td>
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<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>10 mg/m³ ACGIH</td>
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<tr>
<td></td>
<td></td>
<td>TWA (Mist - total dust)</td>
<td>10 mg/m³ OSHA P0</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>TWA (Mist - respirable fraction)</td>
<td>5 mg/m³ OSHA P0</td>
<td></td>
</tr>
</tbody>
</table>

Personal protective equipment

Hand protection

Remarks: The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Take note of the information given by the producer concerning permeability and break
through times, and of special workplace conditions (mechanical strain, duration of contact).

Eye protection : Safety glasses
Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place. Footwear protecting against chemicals
Hygiene measures : Keep away from food and drink. Wash hands before breaks and at the end of workday. Ensure adequate ventilation, especially in confined areas. When using do not eat, drink or smoke.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Appearance</td>
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<td>Color</td>
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<tr>
<td>Odor</td>
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</tr>
<tr>
<td>Odor Threshold</td>
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</tr>
<tr>
<td>pH</td>
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<tr>
<td>Melting point/range</td>
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<tr>
<td>Boiling point/boiling range</td>
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<tr>
<td>Flash point</td>
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<tr>
<td>Evaporation rate</td>
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<tr>
<td>Burning rate</td>
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</tr>
<tr>
<td>Upper explosion limit</td>
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<tr>
<td>Lower explosion limit</td>
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<tr>
<td>Vapor pressure</td>
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</tr>
<tr>
<td>Relative vapor density</td>
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<tr>
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</tr>
<tr>
<td>Density</td>
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<tr>
<td>Water solubility</td>
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<td>Solubility in other solvents</td>
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<tr>
<td>Partition coefficient: n-octanol/water</td>
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<tr>
<td>Autoignition temperature</td>
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<tr>
<td>Decomposition temperature</td>
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<tr>
<td>Viscosity</td>
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<tr>
<td>Viscosity, dynamic</td>
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<tr>
<td>Viscosity, kinematic</td>
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</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No data available</td>
</tr>
</tbody>
</table>
SECTION 10. STABILITY AND REACTIVITY

Reactivity: No decomposition if stored and applied as directed.
Chemical stability: No decomposition if stored and applied as directed.
Possibility of hazardous reactions: Stable under recommended storage conditions. Hazardous decomposition products formed under fire conditions. Vapors may form explosive mixture with air. Keep away from oxidizing agents, and acidic or alkaline products.

Conditions to avoid: Heat, flames and sparks.
Incompatible materials: No data available
Hazardous decomposition products: No decomposition if stored and applied as directed.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Not classified based on available information.

Product:

Acute oral toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method
No data available

Acute inhalation toxicity: No data available

Acute dermal toxicity: Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method
No data available

Ingredients:
sucrose:
Acute oral toxicity: LD50 Oral (Rat): 29,700 mg/kg

DMSO:
Acute oral toxicity: LD50 Oral (Rat): 14,500 mg/kg
Acute inhalation toxicity: LC50 (Rat): 40,250 mg/l, 40250 ppm Exposure time: 4 h
Acute dermal toxicity: LD50 Dermal (Rabbit): > 5,000 mg/kg

glycerol:
Acute oral toxicity: LD50 Oral (Rat): 12,000 mg/kg
Acute dermal toxicity: LD50 Dermal (Rabbit): 10,000 mg/kg

Skin corrosion/irritation
Not classified based on available information.

Product:
Remarks:
May cause skin irritation in susceptible persons.
Ingredients:

glycerol:
Species: Rabbit
Exposure time: 24 h
Result: Mild skin irritation

Serious eye damage/eye irritation
Not classified based on available information.

Product:

Remarks:
May irritate eyes.

Ingredients:

glycerol:
Species: Rabbit
Result: Mild eye irritation
Exposure time: 24 h

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information.
Respiratory sensitization: Not classified based on available information.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Not classified based on available information.
IARC
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

STOT-single exposure

Not classified based on available information.

STOT-repeated exposure

Not classified based on available information.

Aspiration toxicity

Not classified based on available information.

Further information

No data available
SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

**Product:**
- Toxicity to fish: No data available
- Toxicity to algae: No data available
- Toxicity to bacteria: No data available

**Ingredients:**
- Sucrose:
  - Toxicity to fish: No data available
  - Toxicity to daphnia and other aquatic invertebrates: No data available
- DMSO:
  - Toxicity to fish:
    - LC50 (Pimephales promelas (fathead minnow)): 34,000 mg/l Exposure time: 96 h
    - LC50 (Oncorhynchus mykiss (rainbow trout)): 35,000 mg/l Exposure time: 96 h
  - Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia pulex (Water flea)): 27,000 mg/l
- Glycerol:
  - Toxicity to fish:
    - LC0 (Leuciscus idus (Golden orfe)): > 250 mg/l Exposure time: 48 h

Persistence and degradability
No data available

Bioaccumulative potential

**Product:**
- Bioaccumulation: No data available

Mobility in soil
No data available

Other adverse effects

**Product:**
- Ozone-Depletion Potential:
  - Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
  - Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information
No data available
SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
- Waste from residues: Send to a licensed waste management company. Dispose of as hazardous waste in compliance with local and national regulations.
- Contaminated packaging: Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

- UNRTDG: Not regulated as a dangerous good
- IATA-DGR: Not regulated as a dangerous good
- IMDG-Code: Not regulated as a dangerous good
- Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: No data available

SECTION 15. REGULATORY INFORMATION

- EPCRA - Emergency Planning and Community Right-to-Know
- SARA 304 Extremely Hazardous Substances Reportable Quantity

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Component RQ (lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>sodium azide</td>
<td>26628-22-8</td>
<td>1000</td>
</tr>
</tbody>
</table>

- SARA 311/312 Hazards: Fire Hazard
- SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
- SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations
- California Prop. 65: This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.
- TSCA list: No substances are subject to a Significant New Use Rule.
No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECl - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECS - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.