

**SAFETY DATA SHEET**

Date: October 24, 2022

**1. PRODUCT AND COMPANY IDENTIFICATION**

Product Name	Catalog Number	Unit Size
Fast Plus EvaGreen® Master Mix (No Rox)	31020-T	1 mL
	31020	2 x 1 mL
	31020-1	5 x 1 mL
	31020-2	50 x 1 mL
Fast Plus EvaGreen® Master Mix (Low Rox)	31014-T	1 mL
	31014	2 x 1 mL
	31014-1	5 x 1 mL
	31014-2	50 x 1 mL
Fast Plus EvaGreen® Master Mix (High Rox)	31015-T	1 mL
	31015	2 x 1 mL
	31015-1	5 x 1 mL
	31015-2	50 x 1 mL

**Manufacturer/Supplier:** Biotium, Inc.  
46117 Landing Parkway, Fremont, CA 94538, USA  
Phone: 1-510-265-1027, Fax: 1-510-265-1352  
Web: <http://www.biotium.com>

Use as laboratory reagent. For research use only. Not for food, drug, household, or cosmetic use.

**2. HAZARDS IDENTIFICATION****GHS classification**

**Signal word** None  
**Health hazards** None  
**Physical hazards** None  
**Hazard statements** None  
**Precautionary statements** None  
**GHS hazard pictogram** None

**WHMIS classification**

Dimethyl sulfoxide (DMSO): Flammable liquids - Category 4

**NFPA Rating**

Health hazard: 2 (DMSO)  
Fire: 2 (DMSO)  
Reactivity Hazard: 0

**Classification according to Regulation (EC) No 1272/2008[CLP]** None

**Labeling according to Regulation (EC) No 1272/2008[CLP]**

**Hazard pictogram** None  
**Signal word** None  
**Hazard statements** None  
**Precautionary statements** None

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No.	EC No.	Weight %	Classification
Dimethyl sulfoxide (DMSO)	67-68-5	200-664-3	5-10%	Not Classified
Glycerol	56-81-5	200-289-5	10-15%	Not Classified

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### 4. FIRST-AID MEASURES

**General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Flush eyes with water as a precaution.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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### 5. FIREFIGHTING MEASURES

**Suitable extinguishing media**

Carbon dioxide, dry chemical extinguishers, foam extinguishers or water.

**Special protective equipment for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

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### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions**

Avoid breathing vapors, mist, or gas. Remove all sources of ignition.

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

**Methods and materials for containment and cleaning up**

Contain spillage. Soak up spilled substance with inert absorbent material. Keep in suitable, closed containers for disposal.

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### 7. HANDLING AND STORAGE

**Precautions for safe handling**

Avoid inhalation of vapor or mist.

Avoid direct contact with substance.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

Store at -20°C.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Substance: Dimethyl sulfoxide (DMSO)

CAS no. 67-68-5

Country	Austria	Denmark	Finland	Germany (AGS and DFG)	Sweden	Switzerland
Limit value, 8hours	50 ppm 160 mg/m <sup>3</sup>	50 ppm 160 mg/m <sup>3</sup>	50 ppm	50 ppm 160 mg/m <sup>3</sup> (1)	50 ppm 160 mg/m <sup>3</sup>	50 ppm 160 mg/m <sup>3</sup>
Limit value, short term	--	100 ppm 320 mg/m <sup>3</sup>	--	100 ppm 320 mg/m <sup>3</sup> (1)(2)	150 ppm 500 mg/m <sup>3</sup> (1)	100 ppm 320 mg/m <sup>3</sup>

### Remarks

Germany (AGS and DFG) (1) Skin (2) 15 minutes average value

Sweden (1) 15 minutes average value

Substance: Glycerol (mist)

CAS no. 56-81-5

Country	Australia	Belgium	Canada Ontario	Canada Quebec	Finland	France	Germany (AGS)	Germany (DFG)
Limit value, 8hours	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	200 mg/m <sup>3</sup> (1)	200 mg/m <sup>3</sup> (1)
Limit value, short term	--	--	--	--	--	--	400 mg/m <sup>3</sup> (1)(2)	400 mg/m <sup>3</sup> (1)(2)

Country	Ireland	New Zealand	Poland	Singapore	South Africa mining	South Korea	Spain
Limit value, 8hours	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup> (1)	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>	10 ppm	10 mg/m <sup>3</sup>	10 mg/m <sup>3</sup>
Limit value, short term	--	--	--	--	--	--	--

Country	Switzerland	USA -OSHA	United Kingdom
Limit value, 8hours	50 mg/m <sup>3</sup>	15 mg/m <sup>3</sup> (1) 5 mg/m <sup>3</sup> (2)	10 mg/m <sup>3</sup>
Limit value, short term	100 mg/m <sup>3</sup>	--	--

### Remarks

Australia (1) This value is for inhalable dust containing no asbestos and < 1% crystalline silica.

Germany (AGS) (1) Inhalable fraction (2) 15 minutes average value

Germany (DFG) (1) Inhalable fraction (2) 15 minutes average value

New Zealand (1) The value for inhalable dust containing no asbestos and less than 1% free silica.

USA - OSHA (1) Inhalable fraction (2) Respirable fraction

### Personal protective equipment

#### Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

#### Respiratory protection

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Eye protection**

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Hygiene measures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Chemical Name	Fast Plus EvaGreen® Master Mix
Appearance	Pale Yellow Liquid
Odor	No data available
Odor threshold	No data available
pH	No data available
Melting point/freezing point	No data available
Boiling point	No data available
Flash point	No data available
Evaporate rate	No data available
Flammability	No data available
Explosive limits	No data available
Vapor pressure	No data available
Vapor density	No data available
Relative density	No data available
Solubility	Water Soluble
Partition coefficient:n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

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**10. STABILITY AND REACTIVITY****Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

No data available

**Conditions to avoid**

Heat, flames and sparks.

**Materials to avoid**

No data available

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides  
Other decomposition products - No data available

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**11. TOXICOLOGICAL INFORMATION****Dimethyl sulfoxide (DMSO)****Acute toxicity**

**Oral LD50** Rat - 28,300 mg/kg

**Inhalation LC50** Rat - 4 h - > 5.33 mg/l - dust/mist

**Dermal LD50** Rat - 4 g/kg

**Other information on acute toxicity** No data available

**Skin corrosion/irritation**

Rabbit: Mild skin irritation - 4 h

**Serious eye damage/eye irritation** Rabbit: Mild eye irritation - 24 h

**Respiratory or skin sensitization** No data available

**Germ cell mutagenicity** *Salmonella typhimurium* assay (Ames test): negative (+/- activation),  
DMSO is used as a neutral solvent in the Ames mutagen test.

### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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

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

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

**Reproductive toxicity** Not considered to be directly embryotoxic and has been shown to be a successful cryoprotectant for mammalian semen and embryos.

### Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

### Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

### Aspiration hazard

No data available

### Potential health effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

### Additional Information

RTECS: PV6210000

### Glycerol

#### Acute toxicity

**Oral LD50 Rat** – 12,600 mg/kg LD50, Mice – 4,090 mg/kg

**TDlo Oral** – Human – 1,428 mg/kg

**Inhalation LC50** None

**Dermal LD50** None

**Other information on acute toxicity** No data available

**Skin corrosion/irritation** No data available

**Serious eye damage/eye irritation** No data available

**Respiratory or skin sensitization** No data available

**Germ cell mutagenicity** No data available

### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

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

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

**Reproductive toxicity** No data available

### Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

### Specific target organ toxicity - repeated exposure (Globally Harmonized System)

No data available

**Aspiration hazard**

No data available

**Potential health effects**

Inhalation May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion May be harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation.

Eyes May cause eye irritation.

**Additional Information**

RTECS: MA8050000

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**12. ECOLOGICAL INFORMATION****DMSO****Toxicity**

The LC50 (96 hrs) for ten species of fish range from 32,500 to 43,000 ppm

Toxicity to aquatic invertebrates static test EC50 - *Daphnia magna* - 24,600 mg/l - 48 hToxicity to algae static test ErC50 - *Pseudokirchneriella subcapitata* - 17,000 mg/l - 72 h

Toxicity to bacteria EC50 - activated sludge - 10 - 100 mg/l - 30 min

Glycerol: Ecotoxicity in water (LC50): 58.5 ppm 96 hours (Trout)

**Persistence and degradability** aerobic - Exposure time 28 d  
Result: 31 % - Not readily biodegradable.  
Remarks: (ECHA)**Bioaccumulative potential** No information available**Mobility in soil** No information available**Results of PBT and vPvB assessment** No information available**Other adverse effects** No information available**Additional information** No information available**Glycerol****Toxicity**Toxicity threshold (cell multiplication inhibition test) Algae (*Microcystis aeruginosa*) 2900 mg/lToxicity threshold (cell multiplication inhibition test) Protozoa (*Entosiphon sulcatum*) 3200 mg/l

LC50; Species: Goldfish; Concentration: &gt;5000 mg/L for 24 hr - modified ASTM D 1345

LC50; Species: *Daphnia magna* (Water flea, age < or = 24 hr); Conditions: freshwater, static, 20-22 °C;

Concentration: &gt;10000 mg/L for 24 hr /formulated product/

**Persistence and degradability** aerobic - Exposure time 2 d  
Result: 90 % - Readily biodegradable.  
Remarks: (ECHA)**Bioaccumulative potential** No information available**Mobility in soil** No information available**Results of PBT and vPvB assessment** No information available**Other adverse effects** No information available**Additional information** No information available

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**13. DISPOSAL CONSIDERATIONS**

Do not dispose product directly into sewage. Consult local, state, or national regulation for proper disposal.

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**14. TRANSPORT INFORMATION****IATA, IMDG, DOT (US), TDG** Not dangerous goods during transportation**UN number** None**UN proper shipping name** None**Transport hazard class** None**Packing group** None**Environmental hazards** None

**Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code**      None  
**Special precaution for user**      None

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## 15. REGULATION INFORMATION

### US Federal Regulations

US Toxic Substances Control Act (TSCA): DMSO 67-68-5, Glycerol 56-81-5

SARA 302: No chemicals were found.

SARA 313: No chemicals were found.

SARA 311/312: No chemicals were found

**WHMIS Hazard Class** Dimethyl sulfoxide (DMSO): Flammable liquids - Category 4

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## 16. OTHER INFORMATION

Classification according to Regulation (EC) Nr. 1272/2008

Refer to section 2 and section 3

Prepared by:      Regulatory Department  
                         Biotium Inc.

Version no.      5

Revision date (Initials)      October 24, 2022 (JK)

Reason for revision      Addition of Dimethyl sulfoxide (DMSO) and Glycerol to pertinent sections.  
   Update to new document template.

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