46117 Landing Parkway, Fremont, CA 94538 U.S.A.
Tel: 1-510-265-1027; Fax: 1-510-265-1352

btinfo@biotium.com
http://www.biotium.com/

# SAFETY DATA SHEET

Date: March 28, 2019

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:**

| Product Name | Catalog Number | Unit Size |
|---|---|---|
| ViaFluor 405 SE Cell Proliferation Dye | 99972 | 100 nmol |
| ViaFluor 488 SE Cell Proliferation Dye | 99840 | 100 nmol |
| ViaFluor CFSE Cell Proliferation Dye | 99937 | 50 ug |

**Manufacturer/Supplier:** Biotium, Inc.
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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
**WHMIS classification** None
**GHS hazard pictogram** None

**Classification according to Regulation (EC) No 1272/2008[CLP]** None
**Classification according to Directive 1999/45/EC** None

**HMIS Classification**
Health hazard: 0
Flammability: 0
Physical hazards: 0
**NFPA Rating**
Health hazard: 0
Fire: 0
Reactivity Hazard: 0

**Labeling according to Regulation (EC) No 1272/2008[CLP]**
**Hazard pictogram** None
**Signal word** None
**Hazard statements** None
**Precautionary statements** None

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

No ingredients present at concentrations classified as hazardous to health or the environment.

## 4. FIRST- AID MEASURES

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

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**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.

## 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.

## 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.

## 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 $^{o}$C.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**
None

**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.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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| Chemical Name | Viafluor SE Cell Proliferation Dye |
|---|---|
| Appearance | Solid |
| Odor | No information available |
| Odor threshold | No information available |
| pH | No information available |
| Melting point/freezing point | No information available |
| Boiling point | No information available |
| Flash point | No information available |
| Evaporate rate | No information available |
| Flammability | No information available |
| Explosive limits | No information available |
| Vapor pressure | No information available |
| Vapor density | No information available |
| Relative density | No information available |
| Solubility | No information available |
| Partition coefficient:n-octanol/water | No information available |
| Auto-ignition temperature | No information available |
| Decomposition temperature | No information available |
| Viscosity | No information available |
| Explosive properties | No information available |
| Oxidising properties | No information available |

## 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

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity**
**Oral LD50** None
**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.
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** No data available
**Specific target organ toxicity - single exposure (Globally Harmonized System)**
No data available

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**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: None

## 12. ECOLOGICAL INFORMATION

**Toxicity** No information available
**Persistence and degradability** No information available
**Biodegradation** 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

## 13. DISPOSAL CONSIDERATIONS

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

## 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

## 15. REGULATION INFORTMATION

**US Federal Regulations**
US Toxic Substances Control Act (TSCA): Not listed
SARA 302: No chemicals were found.
SARA 313: No chemicals were found.
SARA 311/312 Hazards: No chemicals were found.

**WHMIS Hazard Class** None

## 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. 1
Revision date (Initials) N/A
Reason for revision N/A

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The information provided above is believed to be correct to our best knowledge, but does not purport to be all inclusive, and shall be used only as a guide. This material is sold for research purposes only and is not required to appear on the TSCA inventory. It is not intended for food, drug, household, agricultural or cosmetic use. Its use must be supervised by a technically qualified individual experienced in handling potentially hazardous chemicals. Biotium shall not be held liable for any damage resulting from handling or contact with the above product.

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# SAFETY DATA SHEET

Date Revised: April 10, 2018

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** **Anhydrous DMSO**
**Catalog Number:** 99938 **/** 99953
**Unit Size:** 500 uL **/** 150 uL
**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**
Warning
**Health hazards**
None
**Physical Hazards**
GHS Physical Hazard 1 - Flammable
GHS Physical Hazard Category 4
**Hazard statements**
H227 - Combustible liquid
**Precautionary statements**
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P370 + P378 - In case of fire, use water/water spray/water jet/carbon dioxide/sand/foam/alcohol resistant foam/chemical powder for extinction

**WHMIS classification**
Flammable liquids, category 4

**Classification according to Regulation (EC) No 1272/2008[CLP]** None
**Classification according to Directive 1999/45/EC** None

**HMIS Classification**
Health hazard: 1
Flammability: 2
Physical hazards: 0
**NFPA Rating**
Health hazard: 1
Fire: 2
Reactivity Hazard: 0

**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. | Index No. | Weight **%** | Classification according to 67/548/EEC | Classification according to regulation (EC)No1278/2008 |
|---|---|---|---|---|---|---|
| DMSO | 67-68-5 | 200-664-3 | - | 100% | - | None |

## 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.

## 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.

## 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.

## 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 ≤4$^{o}$C.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Components with workplace control parameters**

Substance: Dimethylsulfoxide

CAS no. 67-68-5

| Country | Austria | Belgium | Denmark | European Union | France | Germany |
|---|---|---|---|---|---|---|
| Limit value,8hours | 160mg/m3 | - | 160mg/m3 | - | - | 160mg/m3 |
| Limit value, short term | - | - | 320mg/m3 | - | - | 320mg/m3 |

| Country | Hungary | Italy | Poland | Spain | Sweden | Netherlands | Switzerland |
|---|---|---|---|---|---|---|---|
| Limit value,8hours | - | - | - | - | 160mg/m3 | - | 160mg/m3 |
| Limit value, short term | - | - | - | - | 500mg/m3 | - | 320mg/m3 |

| Country | United Kingdom | USA-NIOSH | USA-OSHA | Australia | Canada | Japan | South Korea |
|---|---|---|---|---|---|---|---|
| Limit value,8hours | | - | - | - | - | - | - |
| Limit value, short term | | - | - | - | - | - | - |

**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 | Dimethylsulfoxide (DMSO) |
| Appearance | Liquid |
| Odor | Mild |
| Odor threshold | No information available |
| pH | No information available |
| Melting point/freezing point | 16 -19°C |
| Boiling point | 189 °C (372 °F) |
| Flash point | 87 °C (189 °F) - closed cup - ASTM D 93 |
| Evaporate rate | No information available |
| Flammability | No information available |
| Explosive limits | No information available |
| Vapor pressure | 0.55 hPa (0.41 mmHg) at 20 °C (68 °F) 4 hPa (3 mmHg) at 50 °C (122 °F) |
| Vapor density | 2.70 - (Air = 1.0) |
| Relative density | 1.1 g/mL |
| Solubility | No information available |
| Partition coefficient:n-octanol/water | log Pow: -1.349 |
| Auto-ignition temperature | 300 - 302 °C (572 - 576 °F |
| Decomposition temperature | > 190 °C (> 374 °F) - |
| Viscosity | No information available |
| Explosive properties | Not explosive |
| Oxidizing properties | No information available |

## 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

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity DMSO**
**Oral LD50** Rat - 14,500 mg/kg
**Inhalation LC50** Inhalation - rat - 4 h - 40250 ppm
**Dermal LD50** Rabbit - > 5,000 mg/kg
**Other information on acute toxicity** No data available
**Skin corrosion/irritation** No data available
**Serious eye damage/eye irritation** No data available

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**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 (DMSO)

## 12. ECOLOGICAL INFORMATION

**Toxicity DMSO** The LC50(96hrs) for ten species of fish range from 32500 to 43000ppm
**Persistence and degradability** No information available
**Biodegradation** 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

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**
**Product**
This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber by a licensed disposal company.

**Contaminated packaging**
Dispose of as unused product.

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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

## 15. REGULATION INFORTMATION

**US Federal Regulations**
**US Toxic Substances Control Act (TSCA):** Not listed
**SARA 302:** No chemicals were found.
**SARA 313:** No chemicals were found.
**SARA 311/312 Hazards:**
DMSO : fire hazard, chronic health hazard
Acute Health Hazard: Yes
Chronic Health Hazard: No
Fire Hazard: Yes
Sudden Release of Pressure Hazard: No
Reactive Hazard: No

**WHMIS Hazard Class**:
Flammable liquids, category 4

## 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. 6
Revision date (Initials) April 10, 2018 (LR)
Reason for revision Application of WHMIS labeling requirements

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