

**SAFETY DATA SHEET**

Date : January 16, 2018

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Name:** Mix-n-Stain CF®770T Total Protein Prestaining Kits  
**Catalog Number:** 92401 / 92401-T  
**Unit Size:** 1000 / 200 labeling reactions per kit  
**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>

**Component 92400A Reactive CF®680T****2. HAZARDS IDENTIFICATION****Classification according to Regulation (EC) No 1272/2008[CLP]**

None

**Classification according to Directive 1999/45/EC**

None

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

Health hazard: 0

Flammability: 0

Physical hazards: 0

**NFPA Rating**

Health hazard: 0

Fire: 0

Reactivity Hazard: 0

**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
Reactive CF®770T dye	-	-	-	>90%	-	-

**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.

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**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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	Reactive CF® 770T 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	Soluble in water
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
Oxidizing properties	No information 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

### 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

**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

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## 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

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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)** not dangerous good during transportation

UN number none

UN proper shipping name none

Transport hazard class none

Packing group none

Environmental hazards none

Special precaution for user none

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## 15. REGULATION INFORMATION

**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.

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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. 1

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## 1. COMPONENT 99841 WB Staining Buffer

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## 2. HAZARDS IDENTIFICATION

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

None

**Classification according to Directive 1999/45/EC**

None

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

**Hazard pictogram** None

**Signal word** None

**Hazard statements** None

**Precautionary statements** None

**HMIS Classification** (sodium dodecyl sulfate)

Health hazard: 2

Flammability: 0

Physical hazards: 0

**NFPA Rating** (sodium dodecyl sulfate)

Health hazard: 2

Fire: 0

Reactivity Hazard: 0

### 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
Sodium dodecyl sulfate	151-21-3	205-788-1	--	1%	--	--

### 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 -20°C

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Substance            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.

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**9. PHYSICAL AND CHEMICAL PROPERTIES**

Chemical Name	WB Staining Buffer
Appearance	Colorless solution
Odor	Not available
Odor threshold	Not available
pH	7.5
Melting point/freezing point	Not available
Boiling point	Not available
Flash point	Not available
Evaporate rate	Not available
Flammability	Not available
Explosive limits	Not available
Vapor pressure	Not available
Vapor density	Not available
Relative density	Not available
Solubility	Water soluble
Partition coefficient:n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not 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****Acute toxicity****Oral LD50** LD50 Oral – Rat - male and female - 1,200 mg/kg (sodium dodecyl sulfate)**Inhalation LC50** Rat - 1 h - > 3,900 mg/m<sup>3</sup>**Dermal LD50** none**Other information on acute toxicity** no data available**Skin corrosion/irritation** Skin – Rabbit Result : Skin irritation - 24 h (OECD Test Guideline 404) (sodium dodecyl sulfate)**Serious eye damage/eye irritation** Eyes – Rabbit Result: Risk of serious damage to eyes.(OECD Test Guideline 405) (sodium dodecyl sulfate)**Respiratory or skin sensitization** no data available**Germ cell mutagenicity** no data available

Ames test S. Typhimurium Result: negative (sodium dodecyl sulfate)

**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

**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: WT1050000 (sodium dodecyl sulfate)

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

Toxicity to fish flow-through test LC50-Pimephales promelas (fathead minnow) - 29 mg/l -96 h (OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates LC50 - Daphnia dubia (water flea) -5.55 mg/l - 48 h

NOEC - Daphnia dubia (water flea) - 0.684 mg/l - 7 d

Toxicity to algae Growth inhibition LOEC - Pseudokirchneriella subcapitata - 2.68 mg/l - 6 d static test EC50 - Desmodesmus subspicatus (Scenedesmus subspicatus) - &gt; 120 mg/l - 72 h 12.2

**Persistence and degradability** no information available**Biodegradation**

Biodegradability aerobic - Exposure time 28 d Result: 95 % - Readily biodegradable (OECD Test Guideline 301B)

**Mobility in soil** no information available**Results of PBT and vPvB assessment** no information available**Other adverse effects** no information available**Additional information**Ratio BOD/ThBOD 95.9 % 12.3 Bioaccumulative potential Bioaccumulation  
Cyprinus carpio (Carp) - 72 h Bioconcentration factor (BCF): 3.9 -5.3

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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)** not dangerous good during transportation

UN number none

UN proper shipping name none

Transport hazard class none

Packing group none

Environmental hazards none

Special precaution for user none

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**15. REGULATION INFORMATION****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.

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## 16. OTHER INFORMATION

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

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## 1. COMPONENT 99842 High Sensitivity Prestaining Buffer

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### 2. HAZARDS IDENTIFICATION

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

None

**Classification according to Directive 1999/45/EC**

None

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

**Hazard pictogram** None

**Signal word** None

**Hazard statements** None

**Precautionary statements** None

**HMIS Classification**

Health hazard: 0

Flammability: 0

Physical hazards: 0

**NFPA Rating**

Health hazard:

Fire: 0

Reactivity Hazard: 0

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

There is no ingredients at its composition is considered as hazardous.

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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

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Substance      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.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	High Sensitivity Prestaining Buffer
Appearance	Colorless solution
Odor	Not available
Odor threshold	Not available
pH	7.5
Melting point/freezing point	Not available
Boiling point	Not available
Flash point	Not available
Evaporate rate	Not available
Flammability	Not available
Explosive limits	Not available
Vapor pressure	Not available
Vapor density	Not available
Relative density	Not available
Solubility	Water soluble
Partition coefficient:n-octanol/water	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Explosive properties	Not available
Oxidising properties	Not 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

**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

**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

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## 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

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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)** not dangerous good during transportation  
UN number none  
UN proper shipping name none  
Transport hazard class none  
Packing group none  
Environmental hazards none  
Special precaution for user none

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## 15. REGULATION INFORMATION

### 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.

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## 16. OTHER INFORMATION

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

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**1. COMPONENT 99953 DMSO, Anhydrous**

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**2. HAZARDS IDENTIFICATION****Classification according to Regulation (EC) No 1272/2008[CLP]**

Not classified

**Classification according to Directive 1999/45/EC**

None

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

None

**HMS Classification**

Health hazard: 0

Flammability: 2

Physical hazards: 0

**NFPA Rating**

Health hazard: 0

Fire: 2

Reactivity Hazard: 0

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**17. COMPOSITION/INFORMATION ON INGREDIENTS**

Name	CAS No.	EC No.	Index No.	Weight %	Classification according to regulation (EC)No1278/2008
DMSO	67-68-5	200-664-3	-	>99%	NA

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**18. FIRST-AID MEASURES****General advice**

Remove affected clothing and launder before reuse.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration and seek medical care.

**In case of skin contact**

Wash off with soap and plenty of water. If irritation persists, seek medical care.

**In case of eye contact**

Flush eyes with water for 15 minutes. If irritation persists, seek medical care.

**If swallowed**

Do NOT induce vomiting. Rinse mouth with water. Seek medical care.

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**19. FIREFIGHTING MEASURES****Suitable extinguishing media**

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

**Special protective equipment for firefighters**

Burning produces poisonous gases, sulfur oxides. Wear self contained breathing apparatus for firefighting if necessary.

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**20. 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.

## 21. 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°C.

## 22. 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	United Kingdom
Limit value, 8hours	-	-	-	-	160mg/m3	-	-
Limit value, short term	-	-	-	-	500mg/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.

23. PHYSICAL AND CHEMICAL PROPERTIES

Chemical Name	DMSO, Anhydrous
Appearance	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	Soluble in water
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

24. 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, sulfur oxides

Other decomposition products - no data available

25. 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

**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** Experiments have shown reproductive toxicity effects on laboratory animals  
(Dimethyl sulfoxide)

**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**

May cause respiratory irritation

**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)

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## 26. ECOLOGICAL INFORMATION

**Toxicity DMSO** The LC50(96hrs) for ten species of fish range from 32500 to 43000ppm

**Persistence and degradability** no information available

**Biodegradation** Dimethyl sulfoxide: biodegradation: 90% (28d).

**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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## 27. DISPOSAL CONSIDERATIONS

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

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## 28. TRANSPORT INFORMATION

**IATA, IMDG, DOT (US)** Not dangerous good during shipping

UN number None

UN proper shipping name None

Transport hazard class None

Packing group None  
Environmental hazards none  
Special precaution for user none

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## 29. REGULATION INFORMATION

### 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

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## 30. OTHER INFORMATION

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

Prepared by: Regulatory Department  
Biotium Inc.  
Version no. 1

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.