

MATERIAL SAFETY DATA SHEET

Date Revised: March 4, 2013

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: GelGreen™ Nucleic Acid Gel Stain, 10,000X in DMSO
Catalog Number: 41004
Unit Size: 0.5mL
Manufacturer/Supplier: Biotium, Inc.
3159 Corporate Place, Hayward, CA 94545, USA
Phone: 1-510-265-1027, Fax: 1-510-265-1352
Web: <http://www.biotium.com>

2. HAZARDS IDENTIFICATION

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

Flammable liquids (Category 4), H227

Classification according to Directive 1999/45/EC**R-phrases(s)**

R36/37/38 Irritating to eyes, respiratory system and skin

S-phrases(s)

S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S37/39 Wear suitable gloves and eye/face protection

Labelling according to Regulation (EC) No 1272/2008[CLP]**Hazard pictogram** None**Signal word** Warning**Hazard statements** Combustible liquid H227**Precautionary statements** None**HMIS Classification**

Health hazard: 0

Flammability: 2

Physical hazards: 0

NFPA Rating

Health hazard: 0

Fire: 2

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) No 1278/2008 |
|--------------------------|---------|-----------|-----------|----------|--|--|
| GelGreen | - | - | - | <1% | - | - |
| Dimethylsulfoxide (DMSO) | 67-68-5 | 200-664-3 | - | >99% | R36/37/38 | H227 Flammable liquid |

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 room temperature.

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 | 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|------------------------------|----------------------------------|
| Chemical Name | GelGreen™ Nucleic Acid Gel Stain |
| 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 | No data available |
| 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 |

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**Toxicity:**

| Chemical Name | LD50 (oral) | LD50 (dermal) | LC50 (inhalation) |
|--------------------------|-------------------|-------------------|-------------------|
| Dimethylsulfoxide (DMSO) | 14500 mg/kg (Rat) | 40 g/kg (Rat) | No data available |
| GelGreen Dye | No data available | No data available | No data available |

Health Hazards: May enter the body through inhalation, ingestion, and eye and skin contact.

Potential Hazards:

Eyes Irritating to eyes.

Skin Irritating to skin

Inhalation Irritating to respiratory system.

Carcinogenicity:

DMSO: No data available

GelGreen dye: Not listed by NTP, IARC or OSHA

Mutagenicity:

DMSO: Salmonella typhimurium assay (Ames test): negative (+/- activation), DMSO

is used as a neutral solvent in the Ames mutagen test

GelGreen dye: Bacterial Reverse Mutation Screening Assay(Ames assay)
Negative with or without S9 metabolic activation on histidine dependent Salmonella typhimurium strain (TA98)

Reproductive toxicity:
DMSO: Not considered to be directly embryotoxic and has been shown to be a successful cryoprotectant for mammalian semen and embryos
GelGreen dye: No data available

Acute Toxicity:
Toxicity data: LC₅₀>750mg/L. Acute toxicity test, fathead minnows, 96 hour exposure, 100% survival.

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

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

12. ECOLOGICAL INFORMATION

Toxicity

DMSO

Ecotoxicity effects: The LC50(96hrs) for ten species of fish range from 32500 to 43000ppm

Mobility: Miscible with water

Biodegradation: No information available.

Bioaccumulation: non- bioaccumulating since the log of the octanol/water partition coefficient is – 2.03

GelGreen dye

Ecotoxicity effects: Contains no substances known to be hazardous to the environment or not degradable in waste
Water treatment plants

Aquatic toxicity:

Test organism: Fathead Minnow
Test method: EPA600/4-85/013
Result: Not hazardous or toxic to aquatic life according to CCR Title 22 Hazardous Waste

Mobility No information available
Biodegradation: No information available
Bioaccumulation: 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) 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

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.

16. OTHER INFORMATION

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

Prepared by: Regulatory Department
Biotium Inc.

Version no. 2

Reason for revision Application of CLP labeling and corresponding requirements

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.