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**MATERIAL SAFETY DATA SHEET**Date Revised: July 2, 2008

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**1. PRODUCT AND COMPANY INFORMATION**

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**Product Name:** GelRed Nucleic Acid Stain, 10,000X in DMSO  
**Catalog Number:** 41002  
**Unit Size:** 0.5mL  
**Manufacturer/Supplier:** Biotium, Inc.  
3423 Investment Blvd. Suite 8. Hayward, CA 94545, USA  
Phone: 1-510-265-1027, Fax: 1-510-265-1352  
Web: <http://www.biotium.com>  
Emergency Phone: 1-510-265-1027

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**2. COMPOSITION AND INFORMATION ON INGREDIENTS**

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**INGREDIENT A:** GelRed  
**Molecular Formula:** Proprietary  
**Molecular Weight:** Proprietary  
**CAS Number/Name:** Not applicable  
**INGREDIENT B:** DMSO  
**Molecular Formula:** C<sub>2</sub>H<sub>6</sub>OS  
**Molecular Weight:** 78.13  
**CAS Number/Name:** [67-68-5]

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**3. HAZARDS IDENTIFICATION**

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**Emergency Overview:** Handle with care—substance has not been fully tested.

**POTENTIAL HEALTH EFFECTS**

**Inhalation:** May cause irritation to respiratory tract  
**Ingestions:** May be harmful if swallowed  
**Skin:** May cause skin irritation  
**Eyes:** May cause eye irritation  
**Chronic Exposures:** Not available  
**Target Organs:** Eyes, skin

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**4. FIRST AID MEASURES**

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**Oral Exposure**

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

**Inhalation Exposure**

If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

**Dermal Exposure**

In case of contact, immediately wash skin with soap and copious amounts of water.

**Eye Exposure**

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

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**5. FIRE FIGHTING MEASURES**

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Use carbon dioxide, dry chemical extinguishers, foam extinguishers or water. An approved self-contained breathing apparatus and protective clothing are recommended.

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**6. ACCIDENTAL RELEASE MEASURES**

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Personal precautions: Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment. Follow all fire fighting procedures Use appropriate protective equipment and methods to clean up spilled substance promptly. Absorb spill onto an appropriate material. Collect and dispose of all waste in accordance with applicable laws.

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## 7. HANDLING AND STORAGE

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### Storage

Storage conditions are not critical. Avoid long-term light exposure

### Handling

User exposure: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure. Under no circumstances eat, drink, or smoke while handling this material. Wash hands and face thoroughly after working with material. Contaminated clothing should be removed and washed before re-use.

Recommended: Use original container

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## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

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Gloves, protective clothing and eyewear should be worn and safe laboratory practices followed. Use in a well ventilated area.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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<b>Form:</b>	Dark Red Liquid
<b>Odor:</b>	Not available
<b>Solubility in Water:</b>	Low (high for DMSO)
<b>Specific Gravity:</b>	Not available. (1.101 for DMSO)
<b>pH:</b>	Not available
<b>Boiling Point:</b>	Not available. (189° C for DMSO)
<b>Melting Point:</b>	Not available. (18.4° C for DMSO)
<b>Flash Point:</b>	Not available. (94° C for DMSO)
<b>Vapor Pressure:</b>	Not available. (0.42 mm 20° C for DMSO)

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## 10. STABILITY AND REACTIVITY

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**Stability:** Stable

**Thermal Decomposition:** No decomposition if used according to specifications

**Dangerous Reactions:** Strong oxidizing agents, strong reducing agents, strong acids, acid chlorides, phosphorous halides

**Dangerous Products of Decomposition:** Carbon monoxide, carbon dioxide, hydrogen chloride gas

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## 11. TOXICOLOGICAL INFORMATION

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**Routes of Exposure:** Multiple routes: May cause irritation. May be harmful by inhalation, ingestion, or skin absorption.

**RTECS Number:** Not available

**Toxicity:** GelRed was subjected to a series of tests both by Biotium and by three independent testing services to assess the dye's safety for routine handling and disposal. These tests include: 1) glove penetration test; 2) cell membrane permeability and cytotoxicity test; 3) Ames test; and 4) environmental safety tests. Test results confirm that the dye is impenetrable to both latex gloves and cell membranes. The dye is noncytotoxic and nonmutagenic at concentrations well above the working concentrations used in gel staining. Furthermore, GelRed has successfully passed environmental safety tests in compliance with CCR Title 22 Hazardous Waste Characterization. As a result, GelRed is not classified as hazardous waste, thus can be safely disposed of down the drain or as regular trash, providing convenience and reducing cost in waste disposal. However, since these tests were not performed on human, we still advise that researchers exercise precautions when handling the dye or any other DNA-binding molecules by wearing protective gears.

**Carcinogenicity:** Not listed by NTP, IARC or OSHA

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## 12. ECOLOGICAL INFORMATION

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not classified as hazardous waste, thus can be safely disposed of down the drain or as regular trash, see **Section 11 Toxicity**

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## 13. DISPOSAL CONSIDERATIONS

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Consult local, state or national regulations for proper disposal. Chemical residues are generally classified as hazardous or special waste, and as such are covered by regulations, which vary according to location. Contact your local waste disposal authority for advice, or pass to a chemical disposal company.

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## 14. TRANSPORT INFORMATION

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### DOT

**Hazards Class:** Combustible liquid  
**UN Number:** NA1993  
**Packing Group:** III  
**Proper Shipping Name (Technical Name):** Combustible liquid, n.o.s.

### IATA

**Hazardous for air Transport:** Non-Hazardous for air transport.

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## 15. REGULATIONS

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### US Regulations

**Sara Listed:** No

**US Toxic Substances Control Act (TSCA):** DMSO is listed

**US Other:** DMSO is combustible and readily absorbed through skin.

### EU Regulations

**EEC EINECS Number:** 200-664-3 for DMSO

**EEC Risk Statements:** For DMSO: Irritant R36/37/38 Irritating to eyes, respiratory system and skin.

**EU Safety Statements:** For DMSO: S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36 Wear suitable protective clothing. S23 Do not breathe vapor.

**EU Additional Classification:** Not available

**Symbol of danger:** Xi

**Indication of danger:** Irritation

**Other Country Regulations:** For DMSO: German regulatory: 1WGK

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## 16. OTHER INFORMATION

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**Disclaimer:** 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.