SECTION 1: Identification of the substance/mixture and of the company/undertaking

Identification of the substance or mixture

Product code: S11366  
Product name: SYTO® 85 orange fluorescent nucleic acid stain

Company/undertaking identification

Life Technologies Corporation  
5781 Van Allen Way  
PO Box 6482  
Carlsbad, CA 92008  
+1 760 603 7200

Life Technologies  
5250 Mainway Drive  
Burlington, ONT  
CANADA L7L 6A4  
800/263-6236

24 hour Emergency Response:  
866-536-0631  
301-431-8585  
Outside of the U.S. +1-301-431-8585

Country specific Emergency Number (if available):  
CHEMTREC Brazil (Rio De Janeiro) +(55)-2139581449 (português)

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

SECTION 2: Hazards identification

GHS - Classification

Signal Word  
WARNING

Health hazards  
Not Hazardous

Physical hazards

<table>
<thead>
<tr>
<th>GHS Physical Hazard 1</th>
<th></th>
<th>Flammable liquids</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHS Physical Hazard Category Number</td>
<td>Category 4</td>
<td></td>
</tr>
</tbody>
</table>

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

Principle Routes of Exposure
Potential Health Effects

**eyes**  
Mild eye irritation.

**Skin**  
Mild skin irritation. Components of the product may be absorbed into the body through the skin.

Specific effects

- **Carcinogenic effects**: None.
- **Mutagenic effects**: None.
- **Reproductive toxicity**: None.
- **Sensitization**: No sensitization responses were observed.

Target Organ Effects  
No known effects under normal use conditions.

**SECTION 3: Composition/information on ingredients**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No</th>
<th>EINECS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethylsulfoxide</td>
<td>67-68-5</td>
<td>200-664-3</td>
<td>95-100</td>
</tr>
<tr>
<td>67-68-5 (95-100)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

We recommend handling all chemicals with caution.

**SECTION 4: First aid measures**

- **Skin contact**: Wash off immediately with plenty of water. If symptoms occur, obtain medical advice.
- **Eye contact**: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician if necessary.
- **Ingestion**: Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.
- **Inhalation**: Remove to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.
- **Most important symptoms and effects, both acute and delayed**: H227 - Combustible liquid

- **Notes to Physician**: Treat symptomatically.

**SECTION 5: Firefighting measures**

- **Suitable extinguishing media**: Water spray. Carbon dioxide (CO2). Foam. Dry chemical.
- **Special protective equipment for firefighters**: Wear self-contained breathing apparatus and protective suit.
- **Specific hazards arising from the chemical**: Not known

**SECTION 6: Accidental release measures**

- **Personal precautions**: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Use personal protection equipment.
- **Methods for cleaning up**: Soak up with inert absorbent material. Sweep up and shovel into suitable
Environmental precautions

Prevent further leakage or spillage if safe to do so.

See Section 12 for more information.

SECTION 7: Handling and storage

Handling
Avoid contact with skin and eyes. Always wear recommended Personal Protective Equipment.

Storage
Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Do not store near combustible materials. Keep in properly labeled containers.

SECTION 8: Exposure controls/personal protection

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL</th>
<th>OSHA PEL (Ceiling)</th>
<th>ACGIH OEL (TWA)</th>
<th>ACGIH OEL (STEL)</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethylsulfoxide</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Engineering measures
Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment
Personal Protective Equipment requirements are dependent on the user institution's risk assessment and are specific to the risk assessment for each laboratory where this material may be used.

Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection
Impervious butyl rubber gloves. Nitrile gloves are not recommended. Some brands of Nitrile gloves have breakthrough times of five minutes.

Eye protection
Wear safety glasses with side shields (or goggles).

Skin and Body Protection
Lightweight protective clothing.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls
Prevent product from entering drains.

SECTION 9: Physical and chemical properties

General information

Form
Liquid

Appearance
No information available

Odor
No data available

Odor Threshold
No data available

Boiling point / boiling range
°C 188 - 190
°F 370 - 374

Melting point / melting range
°C 18 - 19
°F 64.4 - 66.2

Flash point
°C 87 - 89
°F 188.6 - 192.2

Autoignition Temperature
°C 214 - 216
°F 417.2 - 420.8

Evaporation rate
No data available

Flammability (solid, gas)
No data available

Oxidizing properties
No information available
Water solubility: miscible
Upper explosion limit: 61% - 64%
Lower explosion limit: 2.4% - 2.8%
Partition coefficient: No data available
n-octanol/water: No data available
Vapor Pressure: No data available
Vapor density: No data available
Viscosity: No data available
pH value: No data available
PH Range: 6-8

SECTION 10: Stability and reactivity

Stability: Stable under normal conditions.
Materials to avoid: Strong acids. Strong oxidizing agents.
Possibility of hazardous reactions: Hazardous reaction has not been reported
Polymerization: Hazardous polymerization does not occur.
Conditions to avoid: None under normal processing.

SECTION 11: Toxicological information

Acute Toxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 (oral, rat/mouse)</th>
<th>LD50 (dermal, rat/rabbit)</th>
<th>LC50 (inhalation, rat/mouse)</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethylsulfoxide</td>
<td>14500 mg/kg Oral LD50</td>
<td>&gt;40000 mg/kg bw</td>
<td>&gt;5000 mg/l</td>
</tr>
</tbody>
</table>

Principle Routes of Exposure

Potential Health Effects

- **eyes**: Mild eye irritation.
- **Skin**: Mild skin irritation. Components of the product may be absorbed into the body through the skin.
- **inhalation**: No information available.
- **Ingestion**: No information available.

Carcinogenic effects: None.
Mutagenic effects: None.
Reproductive toxicity: None.
Sensitization: No sensitization responses were observed.

SECTION 12: Ecological information

Ecotoxicity: Contains no substances known to be hazardous to the environment or not
Mobility
degradable in waste water treatment plants.
completely soluble.

Biodegradation
Inherently biodegradable.

Bioaccumulation
Material does not bioaccumulate.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Freshwater Algae Data</th>
<th>Water Flea Data</th>
<th>Freshwater Fish Species Data</th>
<th>Microtox Data</th>
<th>log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethylsulfoxide</td>
<td>Skeletonema costatum EC50=12350 - 25500 mg/L (96 h)</td>
<td>Daphnia species EC50=7000 mg/L (24 h)</td>
<td></td>
<td></td>
<td>logPow-2.03</td>
</tr>
</tbody>
</table>

SECTION 13: Disposal considerations
Dispose of contents/containers in accordance with local regulations.

SECTION 14: Transport information

IATA
Proper Shipping Name
No dangerous good in sense of these transport regulations
Hazard Class
None
Subsidiary class
None
Packing group
None
UN-No
none
Environmental hazards
None

SECTION 15: Regulatory information

<table>
<thead>
<tr>
<th>Component</th>
<th>US TSCA</th>
</tr>
</thead>
<tbody>
<tr>
<td>dimethylsulfoxide</td>
<td>Listed</td>
</tr>
<tr>
<td>67-68-5 ( 95-100 )</td>
<td></td>
</tr>
</tbody>
</table>

US Federal Regulations

SARA 313
This product is not regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contains HAPs.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

WHMIS Hazard Class
B3 - Combustible liquid

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.
SECTION 16: Other information

Reason for revision

SDS sections updated.

For research use only. Not intended for human or animal diagnostic or therapeutic uses.

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRENTY, EXPRESSED OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet