

SECTION 1: Identification

1.1. Identification

Product form : Mixture
 Trade name : STOCK NUCLEIC ACID DYE SOLUTION
 Other means of identification : SYTO® 13

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Product Use: This product is for laboratory research use only and is not intended for human or animal diagnostics, therapeutic, or other clinical uses.

NOTE: This product is supplied in a kit with more than one material; therefore please refer to the SDS for each component for hazard information.

1.3. Details of the supplier of the safety data sheet

Litron Laboratories
 3500 Winton Place
 Rochester, NY 14623
 Phone: 585-442-0930 / 877-4-LITRON

1.4. Emergency telephone number

Emergency number : 585-442-0930

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Flam. Liq. 4 H227 - Combustible liquid

Full text of H-statements: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US) : Warning
 Hazard statements (GHS-US) : H227 - Combustible liquid
 Precautionary statements (GHS-US) : P210 - Keep away from open flames. - No smoking
 P280 - Wear eye protection, protective gloves
 P370+P378 - In case of fire: Use carbon dioxide (CO2), dry extinguishing powder, foam to extinguish
 P403+P235 - Store in a well-ventilated place. Keep cool
 P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

other hazards which do not result in classification : Prolonged or repeated contact with the skin may cause dermatitis. Dimethyl sulfoxide significantly enhances the absorption of numerous chemicals and drugs.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

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according to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Name	Product identifier	%	GHS-US classification
Dimethyl sulfoxide	(CAS No) 67-68-5	> 98	Flam. Liq. 4, H227

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Seek medical attention if ill effect or irritation develops.
- First-aid measures after skin contact : Wash off immediately with soap and plenty of water. If irritation persists, consult a doctor.
- First-aid measures after eye contact : Rinse immediately and plentifully with water, also under the eyelids, for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: get medical advice/attention.
- First-aid measures after ingestion : Rinse mouth thoroughly with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after skin contact : May cause moderate irritation, including burning sensation, tearing, redness or swelling. Dimethyl sulfoxide significantly enhances the absorption of numerous chemicals and drugs. Garlic-like taste and odor may develop on the breath and skin. Transient disturbances of color vision, photophobia, headache, diarrhea, and dermatitis may result from skin applications.
- Symptoms/injuries after eye contact : May cause moderate irritation, including burning sensation, tearing, redness or swelling.
- Symptoms/injuries after ingestion : Inhalation may cause irritation, cough, shortness of breath.
- Symptoms/injuries upon intravenous administration : May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
- Chronic symptoms : Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.
- Unsuitable extinguishing media : Do not use water jet.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Combustible liquid. Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases. Sulphur oxides. Formaldehyde. Methyl mercaptan.
- Explosion hazard : Releases vapors above flash point. Explosive vapor/air mixtures may be formed. Prolonged exposure to fire may cause containers to rupture/explode.
- Reactivity : The product is non-reactive under normal conditions of use, storage and transport. Material is hygroscopic.

5.3. Advice for firefighters

- Protective equipment for firefighters : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Limit access only to the necessary cleaning personnel. Avoid any direct contact with the product.

6.1.1. For non-emergency personnel

- Protective equipment : Wear suitable protective clothing. Refer to section 8.
- Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking.

6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Do not flush down sewers. Notify authorities if product enters sewers or public waters.

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6.3. Methods and material for containment and cleaning up

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| For containment | : Stop leak if safe to do so. Contain and/or absorb spill with inert material (sand, vermiculite or other appropriate material), then place in suitable container. |
| Methods for cleaning up | : Ventilate affected area. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Do not absorb with saw-dust or any other combustible absorbent material. Collect all waste in suitable and labelled containers and dispose according to local legislation. |
| Other information | : Dispose of materials or solid residues at an authorized site. |

6.4. Reference to other sections

For further information refer to section 8: Exposure-controls/personal protection. For disposal of residues refer to section 13: Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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| Additional hazards when processed | : Containers remain hazardous when empty. Continue to observe all precautions. |
| Precautions for safe handling | : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Keep container tightly closed to avoid moisture absorption and contamination. |
| Hygiene measures | : Handle in accordance with good industrial hygiene and safety practices. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse. |

7.2. Conditions for safe storage, including any incompatibilities

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|------------------------|--|
| Storage conditions | : Store in a well-ventilated place. Keep cool. Keep container tightly closed and dry. Keep away from open flames, hot surfaces and sources of ignition. Store away from direct sunlight or other heat sources. |
| Incompatible materials | : Strong oxidizers. Acylhalides. Arylhalides. Bromobenzoyl acetanilide. Magnesium perchlorate. Perchloric acid. Sodium hydroxide. |
| Storage temperature | : -20 °C |

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

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|-----------------------------------|---|
| Appropriate engineering controls | : Ensure good ventilation of the work station. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. |
| Materials for protective clothing | : Lab coat. |
| Hand protection | : Protective gloves made of rubber or PVC. |
| Eye protection | : Safety glasses. |
| Skin and body protection | : Wear suitable protective clothing. |
| Respiratory protection | : No special respiratory protection equipment is recommended under normal conditions of use with adequate ventilation. |
| Environmental exposure controls | : Avoid release to the environment. |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

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|---|---------------------|
| Physical state | : Liquid |
| Appearance | : Clear. |
| Color | : green |
| Odor | : garlic-like |
| Odor threshold | : No data available |
| pH | : No data available |
| Melting point | : 18.5 °C |
| Freezing point | : No data available |
| Boiling point | : 189 °C |
| Flash point | : 89 °C |
| Relative evaporation rate (butyl acetate=1) | : 4.3 |
| Flammability (solid, gas) | : No data available |
| Explosive limits | : 2.6 - 63 vol % |

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Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: 0.42 mm Hg @ 20°C
Relative density	: No data available
Relative vapor density at 20 °C	: 2.7
Solubility	: Water: Soluble
Log Pow	: No data available
Auto-ignition temperature	: 215 °C
Decomposition temperature	: No data available
Viscosity	: 1.1 cP @ 27°C
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

Additional information	: Hygroscopic
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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport. Material is hygroscopic.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Hazardous polymerization does not occur.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong oxidizers. Acylhalides. Arylhalides. Bromobenzoyl acetanilide. Magnesium perchlorate. Perchloric acid. Sodium hydroxide.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Incomplete combustion releases dangerous carbon monoxide, carbon dioxide and other toxic gases. Sulphur oxides. Formaldehyde. Methyl mercaptan.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure	: Skin and eye contact; Ingestion; Inhalation
Acute toxicity	: Not classified (Based on available data, the classification criteria are not met)

Dimethyl sulfoxide (67-68-5)

LD50 oral rat	14500 mg/kg
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitization	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
Specific target organ toxicity (single exposure)	: Not classified (Based on available data, the classification criteria are not met)

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Specific target organ toxicity (repeated exposure)	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Symptoms/injuries after skin contact	: May cause moderate irritation, including burning sensation, tearing, redness or swelling. Dimethyl sulfoxide significantly enhances the absorption of numerous chemicals and drugs. Garlic-like taste and odor may develop on the breath and skin. Transient disturbances of color vision, photophobia, headache, diarrhea, and dermatitis may result from skin applications.
Symptoms/injuries after eye contact	: May cause moderate irritation, including burning sensation, tearing, redness or swelling.
Symptoms/injuries after inhalation	: Inhalation may cause irritation, cough, shortness of breath.
Symptoms/injuries after ingestion	: May cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Chronic symptoms	: Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : This material has not been tested for environmental effects.

Dimethyl sulfoxide (67-68-5)	
LC50 fish 1	34000 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
LC50 fish 2	33 - 37 g/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

12.2. Persistence and degradability

NUCLEIC ACID DYE B	
Persistence and degradability	Not readily biodegradable.

12.3. Bioaccumulative potential

Dimethyl sulfoxide (67-68-5)	
Log Pow	-2.03

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Waste disposal recommendations	: Dispose of in accordance with relevant local regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not regulated for transport

TDG

No additional information available

Transport by sea

No additional information available

Air transport

No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

Dimethyl sulfoxide (67-68-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. International regulations

CANADA

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Dimethyl sulfoxide (67-68-5)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class B Division 3 - Combustible Liquid

EU-Regulations

No additional information available

National regulations

Dimethyl sulfoxide (67-68-5)

Listed on the AICS (Australian Inventory of Chemical Substances)

Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory

Listed on the Korean ECL (Existing Chemicals List)

Listed on NZIoC (New Zealand Inventory of Chemicals)

Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Listed on the Canadian IDL (Ingredient Disclosure List)

Listed on INSQ (Mexican national Inventory of Chemical Substances)

Listed on Turkish inventory of chemical

15.3. US State regulations

No additional information available

SECTION 16: Other information

No additional information available

Date of issue: 07/17/20

Full text of H-statements:

Flam. Liq. 4	Flammable liquids Category 4
H227	Combustible liquid

SDS US (GHS HazCom 2012)

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 Litron Laboratories 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 WARRANTY, EXPRESS OR IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE.