


1. IDENTIFICATION

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|----------------------------|---|
| 1.1. Product Name | Stemfect™ RNA Transfection Reagent |
| 1.2. Catalog Number | 02-0005 |
| 1.3. Uses and restrictions | For research use only. Not for use in diagnostic or therapeutic applications |
| 1.4. Manufacturer/Supplier | Stemgent®, Inc.
51 Moulton St.
Cambridge, MA 02138 USA
(617) 245-0000 |
| 1.5. In Case of Emergency | <ul style="list-style-type: none"> • For medical emergencies, contact your local emergency center. • For transportation emergencies, contact your local transportation authorities. • For other non-medical or non-environmental emergencies please call (617) 245-0030, 8:00 am-4:00 pm EST, Monday – Friday. |

2. HAZARDS IDENTIFICATION

- | | |
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| 2.1. Classification | GHS Classification in accordance with 29 CFR 1910 (OSHA HCS) <ul style="list-style-type: none"> • Flammable liquids (Category 2), H225 |
| 2.2. Signal Word | Danger |
| 2.3. Symbol |  |
| 2.4. Hazard Statement(s) | Highly flammable liquid and vapor. |
| 2.5. Precautionary Statement(s) | <ul style="list-style-type: none"> • H225 Keep away from heat/sparks/open flames/hot surfaces – No smoking. • P210 Keep container tightly closed. • P233 Ground/bond container and receiving equipment. • P240 Use explosion-proof electrical/ventilating/lighting/equipment. • P242 Use only non-sparking tools. • P243 Take precautionary measures against static discharge. • P280 Wear protective gloves/protective clothing/eye protection/face protection. • P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. • P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction. • P403 + P235 Store in a well-ventilated place. Keep cool. • P501 Dispose of contents/container to an approved waste disposal plant. |
| 2.6. Hazards not otherwise classified (HNOC) or not covered by GHS | None. |

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3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Chemical Name	3.2. Synonyms	3.3. Chemical Formula	3.4. Molecular Weight	3.5. CAS Number
Ethanol	Ethyl Alcohol	C ₂ H ₆ O	46.07 g/mol	64-17-5

HAZARDOUS COMPONENTS WITHIN MIXTURE

Component	CAS-No./EC-No.	Classification	Concentration
Ethanol	CAS-No: 64-17-5 EC-No: 200-578-6	Flam. Liq. 4; H225	95%-100%

4. FIRST AID MEASURES

- 4.1. First Aid Instructions
 - General Advice: Move out of exposure area. Consult a physician.
 - Eyes: Check for and remove contact lenses immediately and flush thoroughly with water for at least 15 minutes. Call a physician.
 - Skin: Immediately flush skin with copious amounts of water. Remove contaminated clothing and shoes and wash before use. Wash off with soap.
 - Ingestion: If swallowed, wash mouth out with water provided person is conscious. Do not induce vomiting. Loosen tight clothing. Contact a physician.
 - Inhalation: If inhaled, remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, call a physician.
 - Puncture Wounds: Wash thoroughly with soap and water. Allow wound to bleed freely. Contact a physician.
- 4.2. Most Important Symptoms/effects, acute and immediate: Described in section 2.
- 4.3. Indications of immediate medical attention and special treatment needed: No data available.

5. FIRE FIGHTING MEASURES

- 5.1. Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- 5.2. Specific hazards arising from the chemical: Carbon oxides
- 5.3. Special protective equipment and precautions for fire-fighters: Wear self contained breathing apparatus and full turnout gear for firefighting if necessary.

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 Order T: 1-800-405-3DNA (3362) ☐
 9000 Virginia Manor Road, Suite 207
 Beltsville, MD 20705 USA



stemgent
 Order T: 877.228.9783
 51 Moulton Street
 Cambridge, MA 02138, USA



reinnervate
 Order T: +44 (0) 1740 625 266
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 Sedgefield, Co. Durham
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6. ACCIDENTAL RELEASE MEASURES

- | | |
|---|--|
| 6.1. Personal precautions, protective equipment, and emergency procedures | Use personal protective equipment (see section 8). Avoid direct contact with skin or eyes and prevent inhalation of vapors, mist, or gas. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Evacuate personnel to safe areas. |
| 6.2. Environmental Precautions | Prevent further leakage or spillage if safe to do so. Do not let product enter drains. |
| 6.3. Methods and materials for containment and clean up | Keep in suitable, closed containers for disposal. Use absorbent, non-reactive material to contain liquid spill. Dispose of absorbent material used to clean spills in accordance with federal, state, and local environmental control regulations. |

7. HANDLING AND STORAGE

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| 7.1. Precautions for safe handling | <ul style="list-style-type: none">• Avoid inhalation, contact with eyes, skin, and clothing.• Keep in well ventilated area• Avoid inhalation of vapors, mist, or gas.• Keep away from sources of ignition• No smoking• For other precautions see section 2.5. |
| 7.2. Conditions for safe storage, including any incompatibilities | Keep containers tightly closed at at 4°C, in a well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. |

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- | | |
|--|---|
| 8.1. Control Parameters | Ethanol, CAS-No: 64-17-5 <ul style="list-style-type: none">• Confirmed Animal Carcinogen with unknown relevance to humans• Upper Respiratory Tract irritation Ethanol Exposure Levels <ul style="list-style-type: none">• TWA: 1000ppm – USA. ACGIH Threshold Limit Values (TLV) 1000ppm; 1900mg/m³ – USA. Occupational Exposure Limits (OSHA) – Table Z-1 limits for air contaminants/USA. NIOSH Recommended Exposure Limits |
| 8.2. Appropriate engineering controls | Safety shower and eye bath. Mechanical exhaust required. |
| 8.3. Protection measures and Personal Protective Equipment | Handle in accordance with good industrial hygiene and safety practices. Wash thoroughly after handling. |
| <ul style="list-style-type: none">• Respiratory Protection | Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows protection is required, use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied respirator. |

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- Eye Protection Chemical safety goggles.
- Skin Protection Protective gloves and lab coat. Use nitrile or butyl rubber gloves with a minimum thickness of 0.3 mm.

9. PHYSICAL/CHEMICAL PROPERTIES

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| 9.1. Appearance | Colorless liquid. |
| 9.2. Odor | No data available. |
| 9.3. Odor Threshold | No data available. |
| 9.4. pH | No data available. |
| 9.5. Melting point/freezing point | -114°C (-173°F) |
| 9.6. Initial boiling point and boiling range | 78.3°C (172.9°F) |
| 9.7. Flash point | 14°C (57°F) – closed cup |
| 9.8. Evaporation rate | No data available. |
| 9.9. Flammability (solid, gas); | No data available. |
| 9.10. Upper/lower flammability or explosive limits | Upper: 19% (V)
Lower: 3.3% (V) |
| 9.11. Vapor pressure | 59.4 hPa (44.6 mmHg) at 20°C (68°F) |
| 9.12. Vapor density | No data available. |
| 9.13. Relative density | 0.789 g/mL at 25°C (77°F) 0.816 g/mL at 25°C (77°F) |
| 9.14. Solubility(ies) | No data available. |
| 9.15. Partition coefficient: n-octanol/water | No data available. |
| 9.16. Auto-ignition temperature | 363°C (685.4°F) |
| 9.17. Decomposition temperature | No data available. |
| 9.18. Viscosity | No data available. |
| 9.19. Explosive properties | No data available. |
| 9.20. Oxidizing properties | No data available. |

10. STABILITY/REACTIVITY

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| 10.1. Reactivity | No data available. |
| 10.2. Chemical Stability | This product is stable. |
| 10.3. Possibility of hazardous reactions | Vapors may form explosive mixture with air. |
| 10.4. Conditions to Avoid | Heat, flames, and sparks. Extremes of temperature and direct sunlight. |
| 10.5. Incompatible materials | Alkali metals, Ammonia, oxidizing agents, peroxides. |
| 10.6. Hazardous decomposition products | No data available. |

11. TOXICOLOGICAL INFORMATION

- | | |
|-----------------------------|--------------------|
| 11.1. Toxicological effects | No data available. |
| • Acute toxicity | No data available. |
| • Skin corrosion/irritation | No data available. |

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- Serious eye damage/eye irritation No data available.
- Respiratory or skin sensitization No data available.
- Germ cell mutagenicity No data available.
- Carcinogenicity
 - IARC: No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen.
 - ACGIH: No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.
 - NTP: No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen.
 - OSHA: No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen.
- Reproductive Toxicity No data available.
- Specific target organ toxicity - single exposure No data available.
- Specific target organ toxicity - repeated exposure No data available.
- Aspiration hazard No data available.
- 11.2. Symptoms related to the physical, chemical and toxicological characteristics No data available.
- 11.3. Effects of Short-Term Exposure No data available.
- 11.4. Effects of Long-Term Exposure No data available.
- 11.5. Numerical measures of toxicity No data available.
- 11.6. Other Information Heart – Irregularities – Based on Human Evidence
Stomach – Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION

- 12.1. Toxicity No data available.
- 12.2. Persistence and degradability No data available.
- 12.3. Bioaccumulative potential No data available.
- 12.4. Mobility in soil No data available.
- 12.5. Results of PBT and vPvB assessment No data available.
- 12.6. Other adverse effects No data available.

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13. DISPOSAL CONSIDERATIONS

13.1. Disposal Method

Waste must be disposed of in accordance with federal, state, and local environmental control regulations.

13.2. Personal safety

Refer to section 8.

14. TRANSPORT INFORMATION

- DOT (US)

- UN number: 1170, Class: 3, Packing Group: II

- IMDG

- Proper shipping name: Ethanol

- Marine Pollutant/Poison Inhalation Hazard: No

- IATA

- UN Number: 1170, Class: 3, Packing Group: II, EMS-No: F-E, S-D

- Marine Pollutant: No

- UN Number: 1170, Class: 3, Packing Group: II

- Proper Shipping Name: Ethanol

15. REGULATORY INFORMATION

U.S. Federal Regulations

- SARA 313 components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels.

- SARA 302 components

Does not contain any components subject to reporting.

- SARA 311/312 Hazards

Fire, Chronic Health Hazard

- Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see CFR 61)

Does not contain any components subject to reporting.

U.S. State Regulations

- California Proposition 65

Does not contain any components subject to reporting.

- Massachusetts Right To Know Components

Ethanol, CAS No. 64-17, Revision Date: 2007-03-01

- Pennsylvania Right To Know Components

Ethanol, CAS No. 64-17, Revision Date: 2007-03-01

- New Jersey Right To Know Components

Ethanol, CAS No. 64-17, Revision Date: 2007-03-01

WHMIS Hazard Class

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F).

16. OTHER INFORMATION

Notice

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Stemgent, Inc. shall not be held liable for any damage resulting from handling or from contact with the product. See Stemgent, Inc. website for terms and conditions of sale.

Preparation Date

May 20th, 2015

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Prepared by

1.1
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END OF SAFETY DATA SHEET

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