

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION AND COMPANY

Product Name: Differential Lyse
Synonyms: Lysing reagent
NIOSH/RTECS Number: None
CAS No.: None

Product Number(s): RA-8500, RA-8001
Manufacturer: Drew Scientific Limited.
Sowerby Woods Business Park
Barrow-in-Furness
Cumbria, LA14 4QR, United Kingdom

SECTION II - INGREDIENTS

| <u>Component</u> | <u>Concentration</u> | <u>CAS Number</u> |
|--------------------------|----------------------|-------------------|
| 2-Propanol | < 2.5% w/v | 67-63-0 |
| Quaternary ammonium salt | < 3.6% w/v | * |
| Potassium cyanide | < 0.02% w/v | 151-50-8 |

*The identities of these components have been withheld as a trade secret. All hazard and property information is included in this MSDS.

SECTION III – HAZARDS IDENTIFICATION

CDS Safety Information:

| | <u>Code</u> |
|------------------|-------------|
| [2] Health | 0 = None |
| [0] Flammability | 1 = Slight |
| [0] Reactivity | 2 = Caution |
| [2] Contact | 3 = Severe |

Physical Hazards: None
Potential Health Effects: Contact irritant for eyes and mucous membranes
Product Hazard Classification: OSHA – Hazardous
EU – Not applicable
WHMIS – Exempt

SECTION IV – FIRST AID MEASURES

Eye Contact: Flush eyes thoroughly with water. If irritation occurs, seek medical attention.

Ingestion: Wash contact surfaces with water. Contact doctor immediately for attention if swallowed.

Inhalation: Move exposed individual to fresh air. If individual is not breathing, begin artificial respiration immediately. Seek medical attention immediately.

Skin Contact: Wash affected area with water for at least 15 minutes.

SECTION V - FIRE AND EXPLOSION HAZARD DATA

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| Flashpoint: | Not applicable |
| Flammable Limits: | Not applicable |
| Autoignition Temperature: | Not applicable |
| Fire Extinguishing Media: | Any. Does not support combustion. |
| Special Fire and Explosion Hazards: | None |
| Hazardous Combustion Products: | None |
| Firefighter Protective Equipment: | Self-contained breathing apparatus. |

SECTION VI – ACCIDENTAL RELEASE MEASURES

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| Personal Precautions: | No special precautions required. Use good laboratory practice. |
| Spills and Leaks: | Dispose through a sanitary sewer, or use absorbent material and dispose as non-hazardous solid waste. Disposal must comply with Federal, State and Local requirements. |
| Environmental Precautions: | Contain spill to prevent contamination of surrounding areas. |

SECTION VII - HANDLING AND STORAGE PRECAUTIONS

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| Handling Precautions: | Avoid eye and mucous membrane contact. Use good laboratory practice. |
| Storage Conditions: | Store at 2 to 30°C (30 to 86°F). |

SECTION VIII – EXPOSURE CONTROL AND PERSONAL PROTECTION

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| Exposure Limits: | OSHA – None established ACGIH – 2-Propanol: 500 ppm STEL; 400 ppm TWA DFG MAK – 2-Propanol: 200 ppm MAK; 500 mg/m ³ MAK |
| Engineering Controls: | Use in well ventilated areas. |
| Respiratory Protection: | Under normal use conditions, no respiratory protection is required. |
| Eye Protection: | Safety glasses, goggles or face shield recommended. |
| Skin Protection: | Latex or equivalent gloves recommended. |

SECTION IX – PHYSICAL AND CHEMICAL PROPERTIES

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| Boiling Point: | N/A | Vapour Pressure (mm Hg): | N/A |
| Melting Point: | N/A | Vapour Density (Air = 1): | N/A |
| Specific Gravity: | 1.05 (Water = 1) | Evaporation Rate | |
| Solubility (water): | Miscible | (butyl acetate = 1): | N/A |
| Appearance and Colour: | Clear, colourless liquid | | |

SECTION X - REACTIVITY DATA

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| Stability: | Stable at normal temperatures and pressures. |
| Conditions to Avoid: | Avoid freezing. Keep away from incompatible materials. |
| Hazardous Incompatibility: | Strong acids, strong oxidizers |
| Decomposition Products: | None |

SECTION XI – TOXICOLOGICAL INFORMATION

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| Toxicity of Hazardous Ingredients: | 2-Propanol: Inhalation: LD50 (Rat) = 16,000 ppm/8 hr. shift Ingestion: LD50 (Rat) = 5,045 mg/kg; LD50(Mouse) = 3,600 mg/kg Skin: LD50 (Rabbit) = 12,800 mg/kg |
| Primary Routes of Exposure: | Contact with eyes, mucous membranes, skin and inhalation. |
| Effects of Acute Exposure: | Eyes: Severe burns, irritation, possible loss of sight. Inhalation: Coughing, difficulty in breathing Skin: Irritation and redness Ingestion: Burning in mouth throat, stomach; nausea, vomiting, diarrhoea, shock and loss of consciousness. Full toxicological properties have not been determined for this product. |
| Effects of Chronic Exposure: | Eye, inhalation and skin effects are similar to acute exposure. No long-term effects of ingestion have been reported in humans. |
| Symptoms of Overexposure: | Eyes: Redness, burning and watering. Inhalation: Coughing, difficulty breathing, depression and coma. Skin: Redness, dry, cracking. Ingestion: Burning mouth, throat, stomach, nausea, vomiting, diarrhoea, shock and loss of consciousness. |
| Carcinogenicity: | Contains no ingredients listed as potential carcinogens by ACGIH, IARC, NTP or OSHA. |
| Other Effects: | None known. |
| Conditions Aggravated by Exposure: | Acute or chronic eye and skin conditions may be aggravated by this product. |

SECTION XII – ECOLOGICAL INFORMATION

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| Ecotoxicity: | Toxic to fish and other water-borne organisms. |
| Biodegradability: | No information available. |
| Mobility: | No information available. |

SECTION XIII – WASTE DISPOSAL

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| Waste Disposal: | Waste disposal must comply with Federal, State and Local requirements. Contact local authorities for information. |
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SECTION XIV – TRANSPORT INFORMATION

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| Transport Regulations: | Transportation of this product not regulated according to the definition of hazardous in 49CFR (US DOT). Transportation of this product is also not regulated by IATA, ICAO, Canadian TDG or European ADR. |
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SECTION XV – REGULATORY INFORMATION

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| US Regulatory Information: | |
| SARA 313: | 2-Propanol is subject to reporting requirements specified by Section 313, Title III of SARA. |
| California Proposition 65: | No compounds listed. |
| Massachusetts MSL: | 2-Propanol is listed. Potassium cyanide is listed. |
| New Jersey Dept. of Health RTK: | 2-Propanol is listed. Potassium cyanide is listed. |
| Pennsylvania RTK: | 2-Propanol is listed. Potassium cyanide is listed. |

SECTION XV – REGULATORY INFORMATION (Continued)

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| Canada: | Product is exempt from WHMIS and MSDS requirements. |
| Ingredients on Disclosure List: | 2-Propanol |
| Ingredients with Unknown | |

Toxicological Properties:
EU:

Exempt product
No dangerous ingredients listed.

SECTION XVI – OTHER INFORMATION

Drew Scientific Limited believes the information contained herein to be valid and accurate. No warranties or representations are made or implied as to its validity, accuracy or currency. Drew Scientific Limited shall not be liable or otherwise responsible in any way for the use of this information. Disposal of hazardous materials may be subject to local laws or regulation.