

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION AND COMPANY

Product Name: Isotonic Differential Diluent
Synonyms: Haematology Diluent
NIOSH/RTECS Number: None
CAS No.: None

Product Number(s): RA-1705, RA-1620
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>
A-1	Salt	Confidential
A-2	Salt	Confidential
A-3	Organic compound.	Confidential
A-4	Salt	Confidential
A-5	Salt	Confidential
B-1	Organic liquid mixture	Confidential
B-2	Organic solution	Confidential
B-3	Organic solution	Confidential

All ingredients are generally classified as non-hazardous.

SECTION III – HAZARDS IDENTIFICATION

Safety Information:

[1] Health
[0] Flammability
[0] Reactivity
[2] Contact

Code

0 = None
1 = Slight
2 = Caution
3 = Severe

Physical Hazards:

None

Potential Health Effects:

A-3, A-4, A-5, B-1, B-2 and B-3 are eye irritants
B-1 and B-3 are potential skin irritants
B-3 is classified as a Corrosive

Product Hazard Classification:

A-1, A-2, A-3, A-4, B-1 and B-3 are listed in the Canadian DSL and the US TSCA.
B-2 is listed in the Canadian DSL, European EINECS and US TSCA.
A-3, A-4 and B-3 are listed in the Canadian WHMIS as Hazardous.
The remainder of the components of this product are considered non-hazardous under OSHA, EU or WHMIS criteria.

SECTION IV – FIRST AID MEASURES

Eye Contact:	Flush eyes thoroughly with water for at least 15 minutes, lifting the eyelid occasionally. If irritation occurs, seek medical attention.
Ingestion:	Wash contact surfaces with water for at least 15 minutes. Seek medical 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. Seek medical attention if irritation occurs.

SECTION V - FIRE AND EXPLOSION HAZARD DATA

Flashpoint:	B-1: 212°F (Pensky-Martens Closed Cup) B-2: >200°F (ASTM D58-79 Tag Closed Cup) B-3: >151°F
Flammable Limits:	Not determined
Autoignition Temperature:	Not determined
Fire Extinguishing Media:	Dry chemical, carbon dioxide, foam or water spray.
Special Fire and Explosion Hazards:	B-1, B-2 and B-3 may burn, but do not ignite readily.
Hazardous Combustion Products:	Toxic fumes and gases may be combustion products.
Firefighter Protective Equipment:	Self-contained breathing apparatus.

SECTION VI – ACCIDENTAL RELEASE MEASURES

Personal Precautions:	No special precautions required. Use good laboratory practice.
Spills and Leaks:	Absorb liquids onto solid disposal media. Sweep up dry materials 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. Avoid contaminating waterways with B-2 or B-3.

SECTION VII - HANDLING AND STORAGE PRECAUTIONS

Handling Precautions:	Use chemical rated gloves and goggles when handling any of these materials. Use good laboratory practice.
Storage Conditions:	Store at 2 to 30°C (30 to 86°F).

SECTION VIII – EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limits:	OSHA – A-4: 15 mg/m ³ (total dust), 5 mg/m ³ (respirable) Others: None established ACGIH – A-4: 10 mg/m ³ Others: None established DFG MAK – None established
Engineering Controls:	Use in well ventilated areas.
Respiratory Protection:	Use a NIOSH/MSHA-approved respirator.
Eye Protection:	Safety glasses, goggles or face shield recommended.
Skin Protection:	Chemical-resistant or equivalent gloves recommended.
Protective Clothing:	Wear appropriate protective clothing to prevent skin exposure.

SECTION IX – PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: Hg	B-1: 190°C B-2: 100°C B-3: 189°C	Vapour Pressure (mm Hg):	B-3: 0.06 mm
Melting Point: determined	A-5: 155°C Others: Not determined	Vapour Density (Air = 1):	Not
Specific Gravity:	B-1: 1.081(Water = 1) B-2: 1.145 – 1.16 (butyl acetate = 1) B-3: 1.03	Evaporation Rate	Not determined
Solubility (water):	Soluble	pH:	B-2: 10.3 – 11.3
Appearance and Colour:	Solids: White crystals or powder yellow	Liquids: Clear, colourless to light	

SECTION X - REACTIVITY DATA

Stability:	All materials are stable at normal temperatures and pressures.
Conditions to Avoid:	Keep away from strong oxidizers, non-noble metals and nitrates. Avoid freezing. Avoid sources of ignition.
Hazardous Incompatibility:	Strong oxidizers, non-noble metals and nitrates.
Decomposition Products:	Oxides of nitrogen, sulphur and hydrogen chloride gas.

SECTION XI – TOXICOLOGICAL INFORMATION

Toxicity of Hazardous Ingredients:	None
Primary Routes of Exposure:	Contact with eyes, mucous membranes, skin punctures, ingestion and inhalation.
Effects of Acute Exposure:	A-5: Peripheral nerve and sensation depression. B-2: Caustic burns of eyes, mucous membranes, skin. B-3: Extremely destructive to eyes, mucous membranes and upper respiratory tract.
Effects of Chronic Exposure: possible.	B-2 and B-3: Skin sensitisation and allergic response
Symptoms of Overexposure: cause	A-5: Peripheral numbness. B-2: Moderate to severe eye irritation; inhalation may hemorrhagic lungs. B-3: Mild to moderate dermatitis.
Carcinogenicity:	Contains no ingredients listed as potential carcinogens by ACGIH, IARC, NTP or OSHA.
Other Effects:	None known.
Conditions Aggravated by Exposure:	None known.

SECTION XII – ECOLOGICAL INFORMATION

Ecotoxicity:	A-4: 24-Hr-EC50, <i>Daphnia magna</i> : 1033 mg/L B-2: LC50 (bluegill sunfish, ad.) = 44.8 mg/L, LC50 (bluegill fingerlings) = 27 mg/L, LC50 (rainbow trout) = 67.3 mg/L B-3: LC50 (rainbow trout) = 0.19 mg/L @ 96 hr., LC50 (bluegill) = 0.28 mg/L @ 96 hr., EC50, <i>Daphnia magna</i> : 0.16 mg/L @ 48 hr.
Biodegradability:	No information available for other materials. A-3: Rapidly biodegradable.
Mobility:	No information available for other materials. No information available.

SECTION XIII – WASTE DISPOSAL

Waste Disposal: Waste disposal must comply with Federal, State and Local requirements. Contact local authorities for information.
A-5 and B-3: Dissolve material in a combustible solvent and burn in a chemical incinerator, equipped with an afterburner and a scrubber.

SECTION XIV – TRANSPORT INFORMATION

Transport Regulations: **DOT:** B-3: Corrosive liquid, n.o.s (Corrosive hazard label). UN# 1760.
Class 8. Packing Group II.
IATA: B-3: Corrosive liquid, n.o.s. IATA # 1760. Hazard Class 8.
Packing Group II.
Transportation of the remaining materials not regulated under US DOT, IATA, ICAO, Canadian TDG or European ADR.

SECTION XV – REGULATORY INFORMATION

US Regulatory Information:

TSCA:	All materials are listed.
SARA 313:	Not listed.
California Proposition 65:	Not listed.
Massachusetts MSL:	A-1 is listed.
New Jersey Dept. of Health RTK:	Not listed.
Pennsylvania RTK:	A-1 is listed.
Florida Substance List:	Not listed.

Canada: A-1: Listed on DSL/NDSL List, WHMIS: D2B
A-2: Listed on DSL/NDSL List, WHMIS: Not controlled.
A-3: Listed on DSL/NDSL List, WHMIS: D2B
A-4: Listed on DSL/NDSL List, WHMIS: Not listed.
B-3: WHMIS: Listed.

Ingredients on Disclosure List: None.
Ingredients with Unknown Toxicological Properties: None

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.