#644

WARD'S NATURAL SCIENCE MATERIAL SAFETY DATA SHEET

SECTION I: PRODUCT IDENTIFICATION AND USE

MANUFACTURER/SUPPLIER:

Ward's Natural Science
P. O. Box 92912
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MSDS #694

PRODUCT NAME: WARD-safe Packing Fluid
SYNONYMS/TRADE NAMES: Proprietary holding fluid for dissection materials.
CHEMICAL FAMILY: Mixture
PRODUCT SIZE: Variable: fluid-pack, damp-pack.
NFPA RATINGS: (Scale 0-4) **HEALTH** = 1, FIRE = 0, **REACTIVITY** = 0
CAS NUMBER: (Mixture)

OL9721

SECTION II: INGREDIENTS AND HAZARDS

Substances listed are those identified as present at a concentration of 1% or greater, or 0.1% if the substance is a potential carcinogen cited in OSHA Hazard Communication standard. Where proprietary ingredient shows, the identity of this substance may be made available as provided in 29 CFR 1910.1200 (i).

INGREDIENTS	%	CAS #	HAZARD DATA
Methyl Alcohol	02.25	67-56-1	OSHA 200ppm (skin) ACGIH 200ppm RTEC PC1400000
1,2 Propanediol	01.25	57-55-6	OSHA/ACGIH (not listed) RETEC TY 2000000 Skin (human) 10%/2d IRT
Other (proprietary)	00.53	------	------
Water	95.06	------	------
NOTE: Variable traces of either of these fixatives may be present:			
Formalin	00.1-0.3	55-00-0	OSHA/ACGIH 1ppm RETEC LP8925000
Phenol	00.5-0.9	108-95-2	OSHA/ACGIH 5ppm (skin) RETEC SJ3325000

SECTION III: PHYSICAL DATA

APPEARANCE AND ODOR: Clear to slightly yellowish, mobile fluid; slightly alcoholic/banana odor
SINGLE SUBSTANCE: ( ) **MIXTURE:** (XXX)
MELTING POINT (C): Not applicable
BOILING POINT (C): >100 (210 F)
VAPOR PRESSURE (mm Hg): <1.0
EVAPORATION RATE: (N-BUTYL ACETATE = 1): <1.0
VOLATILE FRACTION BY WEIGHT: Approximately 3%
SPECIFIC GRAVITY(H_2O=1): <1.0
SOLUBILITY IN WATER (By weight): Complete
ODOR THRESHOLD: This fluid may contain variable trace amounts of formalin -- offgasing below OSHA PEL of 1.0ppm.

SECTION IV: FIRE AND EXPLOSION DATA

FLAMMABLE MATERIAL: YES ( ) NO (XXX)
FIRE AND EXPLOSION HAZARD SUMMARY: Not a hazard when exposed to heat or flame.
FLASH POINT: Not applicable
AUTO IGNITION TEMPERATURE: Not applicable
LOWER EXPLOSION LIMIT: Not applicable
UPPER EXPLOSION LIMIT: Not applicable
EXTINGUISHING MEDIA: Use best for surrounding fire conditions.
FIREFIGHTING: Use best for surrounding fire-fighting conditions.

SECTION V: REACTIVITY DATA

STABILITY: Normally stable to air, water and light.
INCOMPATIBILITY: Avoid strong oxidizing agents.
CORROSIVITY: Not corrosive.
HAZARDOUS DECOMPOSITION PRODUCTS: Upon thermal decomposition: carbon dioxide; carbon monoxide; water vapor.
HAZARDOUS POLYMERIZATION: Will not occur.
CONDITIONS TO AVOID: Strong oxidizing materials.

SECTION VI: TOXICITY AND HEALTH HAZARD DATA

EXPOSURE LIMITS: Methyl Alcohol ---> ACGIH (TLV-TWA): 200ppm (260 mg/m^3) -- skin
ACGIH (TLV-STEL): 250ppm (310 mg/m^3)-- skin
1,2 Propanediol ---> LD50: rat (oral) 20mg/kg; I (skin H) 500mg/7D
Variable trace amounts of original fixatives: Formalin ---> OSHA (PEL): 1ppm; (STEL): 2ppm (15 min.)
Phenol ---> OSHA/ACGIH 5ppm (skin)

EXPOSURE LIMITS: Repeated Exposure: **WARD-safe** is not a primary skin/eye irritant; not a skin sensitizer in accordance with guidelines of the Consumer Products Safety Commission.
Overexposure: Repeated overexposure may cause transient irritation and/or dermatitis in hypersensitive individuals.

SIGNIFICANT DATA RELEVANT TO HUMAN HEALTH HAZARD EVALUATION: WARD-safe contains 2.25% METHYL ALCOHOL (POISON). Acute ingestion exposure may have symptoms delayed 12 - 18 hours and may include: coughing, headache, dullness, vertigo, anorexia, weakness, fatigue, followed by violent pain in the back, abdomen, or extremities sweating, loss of muscular coordination. Blurred or dimmed vision w/optic neuritis may result. Fatal dose (100% MA) is 100-250ml. Chronic ingestive exposure may cause visual impairment or blindness

#694

SECTION VII: FIRST AID MEASURES

FIRST AID:

Skin contact ---> PROLONGED DIRECT SKIN CONTACT MAY CAUSE IRRITATION IN HYPERSENSITIVE INDIVIDUALS. Remove any contaminated clothing. Wash affected area(s) with soap and water. Contact physician if irritation or redness develops.

Skin Absorption ---> PROLONGED DIRECT EXPOSURE MAY RESULT IN ABSORPTION OF TRACE AMOUNTS OF ORIGINAL FIXATIVE (Phenol) when present (Embalming fluids only).

Eye Contact ---> PROLONGED DIRECT EYE CONTACT MAY CAUSE IRRITATION due to possible presence of trace amounts of original fixative agents. Rinse for 15 minutes (including under eye lids with running water. Contact physician if irritation persists.

Mouth Contact ---> MAY BE TOXIC IF SWALLOWED. MAY CAUSE IRRITATION. Flush mouth with copious amounts of water for at least 15 minutes. VICTIM SHOULD NOT SWALLOW ANY FLUSH MATERIAL. Contact physician for monitoring of toxic ingestion effects.

Ingestion ---> POISONOUS. DO NOT INDUCE VOMITING. If conscious, give 8-10 oz (240-300ml) water to dilute material in stomach. Repeat. If vomiting occurs, have victim lean forward to minimize aspiration. Contact physician immediately.

Inhalation ---> GENERALLY NOT INHALATION HAZARD. NOTE: Variable trace amounts of original fixative may be present -- offgasing of trace formaldehyde gas possible.

NOTES TO PHYSICIAN: This packing fluid may contain variable trace amounts of original fixative agents: formalin and/or phenol.

SECTION VIII: SPILL, LEAK AND DISPOSAL PROCEDURES

PERSONAL PROTECTION EQUIPMENT ---> Eye goggles, nitrile gloves, apron.

SMALL SPILLS: Cover spill area with sorbent material. Wipe up; dispose as inert solid waste. Flush area with water.

LARGE SPILLS: Cover spill area with sorbent material. Wipe up; dispose as inert solid waste. Flush area with water.

LEAKS: Transfer fluid (along with any dissection specimens) to another container. Rinse container with water.

DISPOSAL: WARD-safe fluid may be diluted 10:1 as discharged to a sanitary sewer (if local regulations permit). Specimens in WARD-safe may be disposed of as inert solid waste if they are damp (not wet), and are placed within two sealed plastic bags. Discharge, treatment and disposal may be subject to Federal, State/Provincial and local regulations. -- SEE SECTION X.

SECTION IX: SPECIAL PROTECTION INFORMATION

PROTECTIVE EQUIPMENT: (Regulatory Guidelines)

Ventilation: Local exhaust ventilation is recommended when working with dissection material in this preservation solution due to the presence of variable trace amounts of formalin which may be present.

Respiratory Protection: Not generally required. Monitoring of non-ventilated work areas for PEL recommended. (For formaldehyde -- use Bacharach passive badges available from WARD'S.)

Skin Protection: (EXCELLENT/GOOD): Butyl rubber, nitrile rubber. (GOOD/FAIR): natural rubber, neoprene rubber used by dissectors or users of this solution. Apron/lab coat advised.

Eye Protection: Splash-proof chemical safety goggles worn by dissectors or users of this solution.

OTHER PROTECTIVE EQUIPMENT: Eye-wash stations in close proximity to dissection activities or during solution use.

SECTION X: REGULATORY GUIDELINES

DOT CLASSIFICATION: Non-regulated

HAZARD CLASSIFICATION: POISON - contains Methyl Alcohol (2.25%)

OTHER REGULATORY GUIDELINES:

RIGHT-TO-KNOW LABELING ---> WARD-safe Preserving Fluid,
POISON
Hazardous components: Methyl Alcohol 2.25% v/v, CAS# 67-56-1
Safety Equipment: Nitrile/butyl rubber gloves, splash-proof eyegoggles, apron.

CERCLA SECTION 103: 5000 pounds methyl alcohol RQ

OSHA FORMALDEHYDE STANDARD: WARD-safe contains no formalin or phenol. Dissection specimens immersed in this preserving fluid may contain variable trace amounts of original fixative agents formalin and/or phenol. Formaldehyde off-gasing of specimens immersed and/or processed in this fluid are not expected to exceed the OSHA PEL of 1.0ppm during normal use. Leaching of variable trace amounts of formalin and/or phenol can be expected to occur during storage. These amounts are not expected to exceed 0.3% (formalin) and/or 0.9% (phenol).

SECTION XI: SPECIAL HANDLING PRECAUTIONS/COMMENTS

To promote safe use and handling of this product (both dissection specimens and this preserving fluid), each customer or recipient of this product should read this MSDS and observe the following:

Use in well-ventilated area(s), under proper supervision of a qualified individual knowledgeable in all aspects of dissection laboratory safety. Avoid eye and skin contact. Do not ingest. During dissection activities wear proper personal protection equipment; have eyewash stations in close proximity. The wearing of an apron, smock, or lab coat is recommended.

SPECIMEN USE AND STORAGE:

* Flush all internal body cavities in running water to remove any accumulated fixative prior to dissection.
* Apply Humectant Spray to surfaces of dissection specimens to reduce mold and to keep body tissues moist.
* Return dissected specimens to WARD-safe (immersion) or to sealed plastic bags with specimens wrapped in cloth or paper towelling moistened in WARD-safe.

DISSECTION HINTS:

* NEVER make an initial body cavity incision without wearing protective eyewear. A stream of fixative may be ejected into the eye.
* Dessicated specimen tissues can be restored by spraying with Humectant Spray.

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REV #: 4.4 DATE: Revised 89/03/03 Signed: Safety Officer - 716-359-2502

Lab No. 88T-10100-00

SUMMARY

The test article, [redacted] Ward-Safe II, was evaluated for primary skin irritation in accordance with the guidelines of the Consumer Product Safety Commission. A 0.5 ml dose of the test article was applied to the intact and abraded skin of six rabbits and left in place for 24 hours. Test sites were graded for erythema and edema at 24 and 72 hours after sample application. The study was initiated on August 3, 1988 and terminated on August 6, 1988.

Under the conditions of this test, the test article would not be considered a primary irritant to the skin. The Primary Irritation Index was calculated to be 0.00.

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Date: August 12, 1988

DG/dml