

WARDS NATURAL SCIENCE ESTABLISHMENT - MATERIAL SAFETY DATA SHEET

SECTION I: PRODUCT IDENTIFICATION AND USE

Manufacturer/Supplier: WARD'S Natural Science Establishment
 5100 West Henrietta Road Rochester, NY 14692-9012
 Phone: 585-359-2502 -
 Emergency Phone: In U.S. (Chemtrec)

MSDS #694.5
 0800-1700 EST
 1-800-424-9300

Product Name: WARD-SAFE Packing Fluid and holding solution
 Synonyms/Trade Names: Proprietary holding fluid for preserved materials
 Chemical Family: Mixture
 HMIS RATINGS (Scale 0-4): HEALTH = 1, FIRE = 0, REACTIVITY = 0,
 CAS NUMBER: (Mixture)

SECTIONS II and III: INGREDIENTS AND HAZARDS

Where proprietary ingredient shows, the identity of this substance may be made available as provided by Provincial or Federal regulation (as provided in 29CFR 1910.1200 (1).)

INGREDIENTS	%	CAS #	HAZARD DATA
Methyl Alcohol RETEC: PC1400000	2.87	67-56-1	OSHA:200ppm (skin)ACGIH :200ppm
1,2 Propanediol RETEC: TY200000	1.44	57-55-6	OSHA/ACGIH :Skin (human) 10%/2d IRT
Other (proprietary ingredient)	0.68	-----	N/A
Water	95.01	7732-18-5	N/A

Variable traces of original specimen fixatives may have leached from the specimen(s) into this holding fluid and may be present in this holding fluid usually in 'de minimus' amounts.

From arterially embalmed specimens (vertebrates except frogs, fish, and necturus)

Formalin®	<1.00%	50-00-0	OSHA/ACGIH 0.75ppm RETEC LP8925000
Phenol	<1.00%	108-95-2	OSHA/ACGIH 5ppm (skin) RETEC SJ332500
1,2 Ethanediol	<2.00%	107-21-1	Not assigned

From specimens fixed in formalin 3-5% (fish, most invertebrates except insects; mammalian parts)

Formalin®	<1.00%	50-00-0	OSHA/ACGIH 0.75ppm RETEC LP8925000
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From specimens fixed in Wardfix (fish, frogs, necturus)

Formalin	<1.00%	50-00-0	OSHA/ACGIH 0.75ppm RETEC LP8925000
Ketone	<2.00%	Proprietary	Proprietary Information

From specimens fixed in FAA (Earthworms, some botanicals)

Formalin	<1.00%	50-00-0	OSHA/ACGIH 0.75ppm RETEC LP8925000
Denat. Ethyl Alc.	<1.00%	64-17-5	OSHA/ACGIH 1000ppm RETEC KQ6300000
Acetic Acid	<0.50%	64-19-7	OSHA/ACGIH 10ppm RETEC AF1225000

SECTION IV: FIRST AID MEASURES

SKIN CONTACT: PROLONGED DIRECT SKIN CONTACT MAY CAUSE IRRITATION IN HYPERSENSITIVE INDIVIDUALS. Remove any contaminated clothing. Wash affected area. Contact physician if irritation or redness develops.
SKIN ABSORPTION: PROLONGED DIRECT EXPOSURE MAY RESULT IN ABSORPTION OF TRACE AMOUNTS OF ORIGINAL FIXATIVE (Phenol). - if present. Refer to product label for constituent. Contact physician if irritation or redness persists.
EYE CONTACT: DIRECT EYE CONTACT MAY CAUSE IRRITATION due to possible presence of trace amounts of original fixative. 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.
INGESTION: INDUCE VOMITING! If conscious, give 8-10 oz (240-300ml) water to dilute material in stomach. Induce vomiting by gastric lavage at once. Have victim lean forward to minimize aspiration. Contact physician immediately.
INHALATION: REMOVE TO OUTSIDE AIR if signs or symptoms of overexposure are noted. Contact physician if symptoms do not subside within 30 minutes.

SECTION V: 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: Non-combustible material
AUTO IGNITION TEMPERATURE: Non-combustible material
LOWER EXPLOSION LIMIT: Non-combustible material
UPPER EXPLOSION LIMIT: Non-combustible material
EXTINGUISHING MEDIA: Use best for surrounding fire conditions.
FIREFIGHTING: Use best for surrounding fire-fighting conditions.

SECTION VI: SPILL, LEAK AND DISPOSAL PROCEDURES

PERSONAL PROTECTION EQUIPMENT: Eye goggles, nitrile gloves, apron, sleeve protector.
OTHER SAFETY EQUIPMENT: Eyewash station within 15-second walking distance of dissection activities.
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.

SECTION VII: SPECIAL HANDLING PRECAUTIONS/COMMENTS

To promote safe use and handling of this product (both dissection specimens and this preserving fluid), each user 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 (nitrile gloves; ANSI-approved chemical safety goggles; apron or smock), have eyewash stations in close proximity (within a 15-second walk). • Provide for adequate ventilation to assure PEL. The wearing of protective outer clothing (apron, smock, or lab coat, sleeve protectors) is recommended.

SECTION VIII: EXPOSURE LIMITS

EXPOSURE LIMITS: Methyl Alcohol: LD 50 (rat) 5628mg/kg ACGIH (TLV-TWA): 200ppm (260 mg/m3) - skin MACGIH (TLV-STEL): 250ppm (310 mg/m3)-- skin
 1,2 Propanediol: LD50 (rat) 20g/kg; I (skin H) 500mg/kg
 EXPOSURE LIMITS: Repeated Exposure: WARD-SAFE is not a primary skin/eye irritant and 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. If this occurs discontinue use. Contact physician.

SECTION IX: PHYSICAL DATA

APPEARANCE AND ODOR: Clear to slightly yellowish, mobile fluid; slightly alcoholic/banana-almond 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 (H2O=1): <1.0
 SOLUBILITY IN WATER (By weight): Complete
 ODOR THRESHOLD: This fluid may contain variable trace amounts of formalin-off-gasing below PEL (0.75ppm).

SECTION X: 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 XI: TOXICOLOGY - HUMAN HEALTH HAZARD EVALUATION:

LD50 5628mg/kg, rat (Methanol)
 WARD-SAFE contains 2.87% METHYL ALCOHOL. 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 with optic neuritis may result. Fatal dose (100% MA) is 100-250ml. Chronic ingestive exposure may cause visual impairment or blindness.
 © Hazard Communication Standard: As required by 29 CFR 1910.1200(F), formalin present in body tissues as the primary fixative is identified by OSHA as "a potential human carcinogen". Use of dissection materials containing formalin (formaldehyde) as the primary fixative are not expected to off-gas formaldehyde in excess of PEL.

SECTION XII: ECOLOGICAL INFORMATION

WARD-SAFE solutions are very dilute and all constituents are biodegradable. Wardsafe should not have a deleterious effect on the environment. No constituents are listed as Clean Water Act pollutants.

SECTION XIII: DISPOSAL

WARD-SAFE fluid may be 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) Discharge treatment and disposal may be subject to Federal, State/Provincial and local regulations-SEE SECTION XV.

SECTION XIV: TRANSPORTATION

DOT CLASSIFICATION: Not regulated.

WARD-SAFE fluid is non-hazardous and not regulated; hazardous constituents from possible leachate are in de minimus quantities.

SECTION XV: REGULATORY GUIDELINES

DOT CLASSIFICATION: Non-regulated
 HAZARD CLASSIFICATION: General Storage
 RIGHT-TO-KNOW LABELING: WARD-SAFE Holding Fluid Hazardous components: Methyl alcohol 2.87% v/v, CAS# 67-56-1
 CERCLA SECTION 103: 5000 pounds methyl alcohol RO.
 OSHA FORMALDEHYDE STANDARD: WARD-SAFE contains no formalin or phenol. Leaching of variable trace amounts of formalin and/or phenol is possible. These amounts are not expected to exceed 1.0% - see SECTION VIII.

SECTION XVI: SPECIAL PROTECTION INFORMATION

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 passive badge dosimeters available from WARD'S Natural Science Est.
 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. DO NOT wear contact lenses during use of this material or during dissection activities.
 OTHER PROTECTIVE EQUIPMENT: Eye wash stations in close proximity., within 15-second walk.

THE ABOVE INFORMATION IS BELIEVED TO BE ACCURATE AND REPRESENTS THE BEST INFORMATION CURRENTLY AVAILABLE TO US. HOWEVER, WE MAKE NO WARRANTY OR MERCHANTABILITY OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, WITH RESPECT TO SUCH INFORMATION, AND WE ASSUME NO LIABILITY RESULTING FROM SUCH USE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE SUITABILITY OF THIS INFORMATION FOR THEIR PARTICULAR PURPOSES.
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