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MATERIAL SAFETY DATA SHEET

EMERGENCY ASSISTANCE - 24 hour

For emergency assistance involving chemicals call CHEMTREC (800) 424-9300.

SECTION 1: MATERIAL INFORMATION

Common Name: **FORMALIN (10% NEUTRAL)**
Synonyms: Formaldehyde 3.7% Neutralized
Catalog Number: E2000, E2010, E2020, E7000, E7001, E7020, E9000, E9020, E9100, E9120, E9122, E9126, E9136, E9210, E9250, E9252, E9905, K1100, K1200, K1225,
CAS #: N/AV
WARNING: POISON, TOXIC, CARCINOGENIC

SECTION 2: HAZARDOUS INGREDIENTS

<u>Hazardous Components</u>	<u>CAS #</u>	<u>Chemical Family</u>	<u>Molecular Formula</u>	<u>Approximate Concentration</u>
Formaldehyde 37%	50-00-0	Aldehyde	CH ₂ O	10.0%

SECTION 3: PHYSICAL DATA

Appearance: Colorless Liquid	pH: N/AV	Vapor Density: N/AV
Boiling Point: N/AV	Solubility in Water: Appreciable	Flash Point: N/AV
Melting Point: N/AV	Vapor Pressure: N/AV	Evaporation Rate: N/AV
Odor: Formaldehyde	Specific Gravity: N/AV	

SECTION 4: FIRE AND EXPLOSION HAZARD

Flammable: No

Flammable Limits:

Upper: N/AP Lower: N/AP

Extinguish Media:

Water spray, CO₂, dry chemical, "alcohol" or polymer foam.
 Water spray to cool exposed containers and disperse vapors.

Special Hazards:

Wear self-contained, positive-pressure breathing apparatus and full protective clothing.

Unusual Fire and Explosion Hazards:

Vapor extremely hazardous, flammable in air. Emits toxic fumes under fire conditions.

SECTION 5: REACTIVITY DATA

Stable: Unstable:

Conditions to Avoid:

Heat, sparks, open flame

Materials to Avoid:

- Water
- Acids - (Perchloric acid + aniline, performic acid)
- Bases
- Corrosives
- Oxidizers
- Other: Strong alkalis, nitrogen dioxide at 180°C, nitromethane, magnesium carbonate, hydrogen peroxide.

Hazardous Decomposition Products:

Contact with Hydrochloric Acid may form a carcinogenic compound: bis-chloromethyl ether.

SECTION 6: HEALTH HAZARD DATA

To the best of our knowledge, the chemical, physical, and toxicological properties of this mixture have not been thoroughly investigated. Presented below are specific data on each of the subcomponent ingredients:

<u>Hazardous Component</u>	<u>%</u>	<u>Threshold Limit Value</u>	<u>TXDS</u>
Formaldehyde 37%	10.0	1 ppm	ORL-HMN LDLO: 36 mg/kg IHL-HMN TCLO: 17 mg/m ³ /30 M

Effects of Overexposure (Acute and Chronic):

POISON: Use caution to prevent contact. May be fatal or cause blindness if swallowed. May cause severe burns to eyes. Vapor may cause severe respiratory irritation.

Carcinogenicity: These products contain a carcinogen at 0.1% or greater.

First Aid Procedure:

Skin Contact: Flush with water. Get medical attention if necessary for burns or dermatitis.

Eye Contact: Flush with water for 15 minutes; get immediate medical attention.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration; if breathing is difficult, give oxygen; seek medical attention.

Ingestion: Do not induce vomiting; get immediate medical attention. If conscious, dilute, inactivate, or absorb the ingested formaldehyde by giving milk, activated charcoal, or water.

In all cases of overexposure seek medical attention.

Wash contaminated clothing before reuse.

SECTION 7: SPILL OR LEAK PROCEDURES AND DISPOSAL

Steps to be taken if Material is Released or Spilled:

Ventilate area; using protective apparatus, take up with absorbent. Wash spill site after material pickup is complete.

Waste Disposal Method:

Observe all local, provincial, state, and federal regulations.

SECTION 8: SPECIAL PROTECTION INFORMATION

Provide adequate general mechanical and local exhaust ventilation.

Avoid prolonged or repeated inhalation of vapor.

Protect eyes, skin, and clothing with safety goggles and gloves.

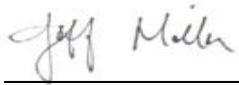
Wash thoroughly after handling.

SECTION 9: SPECIAL HANDLING AND STORAGE PRECAUTIONS

Keep container tightly closed. Protect against physical damage. Store in a cool, dry place, separate from oxidizing and alkaline material.

SECTION 10: MSDS PREPARATION AND INFORMATION

Date Issued: 8/89
Current Revision: 1/08
Revised By: Jeff Miller

Authorized Signature:  _____

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES:

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This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assume the risk of his use thereof.

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SECTION 1: MATERIAL INFORMATION

Common Name: ZINC PVA FIXATIVE
Synonyms: Polyvinyl Alcohol Fixative
Catalog Number: E9210, E9250, E9252, E9906, E9907, R7010,
CAS #: N/AV
WARNING: POISON, FLAMMABLE

SECTION 2: HAZARDOUS INGREDIENTS

<u>Hazardous Components</u>	<u>CAS #</u>	<u>Chemical Family</u>	<u>Molecular Formula</u>	<u>Approximate Concentration</u>
Zinc Sulfate	7733-02-0	Metallic Salt	ZnSO ₄	less than 20%
Ethanol, denatured	64-17-5	Alcohol	C ₂ H ₅ OH	31%
Acetic Acid, Glacial	64-19-7	Organic Acid	CH ₃ COOH	5%

SECTION 3: PHYSICAL DATA

Appearance: Clear, colorless liquid	pH: N/AV	Vapor Density: N/AV
Boiling Point: N/AV	Solubility in Water: Appreciable	Flash Point: 22°C (72°F) cc
Melting Point: N/AV	Vapor Pressure: N/AV	Evaporation Rate: N/AV
Odor: Alcohol odor	Specific Gravity: N/AV	

SECTION 4: FIRE AND EXPLOSION HAZARD

Flammable: Yes: Flammable liquid

Flammable Limits:

Upper: N/AV Lower: N/AV

Extinguish Media:

Carbon dioxide or dry chemical for small fires.
 "Alcohol" foam or water spray for large fires.

Special Hazards:

Wear self-contained, positive-pressure breathing apparatus and full protective clothing.

Unusual Fire and Explosion Hazards:

Emits toxic fumes under fire conditions.

SECTION 5: REACTIVITY DATA

Stable: Unstable:

Conditions to Avoid:

Heat, sparks, open flame

Materials to Avoid:

- Water -
- Acids - (Strong mineral)
- Bases - (Strong)
- Corrosives -
- Oxidizers -
- Other: Metals, nitric acid, potassium, and sodium

Hazardous Decomposition Products:

Carbon dioxide, carbon monoxide, SO_x and ZnO

SECTION 6: HEALTH HAZARD DATA

To the best of our knowledge, the chemical, physical, and toxicological properties of this mixture have not been thoroughly investigated. Presented below are specific data on each of the subcomponent ingredients:

<u>Hazardous Component</u>	<u>%</u>	<u>Threshold Limit Value</u>	<u>TXDS</u>
Zinc Sulfate	Less than 20%	N/AV	N/AV
Ethanol, denatured	31%	1000 ppm	N/AV
Acetic Acid, Glacial	5%	10 ppm	ORL-HMNTDLO: 1470 mcg/kg

Effects of Overexposure (Acute and Chronic):

POISON: Moderately toxic by ingestion. Poison by skin absorption in large quantities. May cause burns, eye damage, blindness, nausea, vomiting, inebriation headache, coughing, chest pain, stomach pain, damage of nasal and respiratory passages, mucous membranes, and throat tissue. Vapors may cause drowsiness.

Carcinogenicity: These products do not contain any carcinogens at 0.1% or greater.

First Aid Procedure:

Skin Contact: Wash with soap and copious amounts of water for at least 15 minutes.
Eye Contact: Flush with water for 15 minutes; get immediate medical attention.
Inhalation: Remove to fresh air. If not breathing, give artificial respiration; if breathing is difficult, give oxygen. Seek medical attention.
Ingestion: If conscious, induce vomiting.

Discard all contaminated clothing. In all cases of overexposure, seek medical attention immediately.

SECTION 7: SPILL OR LEAK PROCEDURES AND DISPOSAL

Evacuate and ventilate area.

Steps to be taken if Material is Released or Spilled:

Pick up using an absorbent material and place in closed container. Wash area and put washings in closed container.

Waste Disposal Method:

Observe all local, provincial, state, and federal regulations.

SECTION 8: SPECIAL PROTECTION INFORMATION

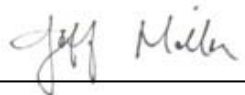
Pick up using an absorbent material and place in closed container.
Wash area and put washings in closed container.

SECTION 9: SPECIAL HANDLING AND STORAGE PRECAUTIONS

Keep containers tightly closed. Store in cool, dry, area away from heat, sparks and open flame. Protect from physical damage. Wash hands after handling.

SECTION 10: MSDS PREPARATION AND INFORMATION

Date Issued: 3/93
Revision Date: 1/08
Revised By: Jeff Miller

Authorized Signature: 

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