**FISHER FRESH PRESERVED SPECIMENS**

**FISHER-FRESH PRESERVED SPECIMENS**

**MATERIAL SAFETY DATA SHEET**

**FISHER SCIENTIFIC**

EMERGENCY NUMBER: (201) 796-7100

FAIR LAWN NJ 07410

(201) 796-7100

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**SUBSTANCE IDENTIFICATION**

**SUBSTANCE:** FISHER-FRESH PRESERVED SPECIMENS

**TRADE NAMES/EYONYMS:**

- SINGLE PAC SPECIMENS
- MULTI-PAC SPECIMENS
- ACC45341

**CHEMICAL MIXTURE:**

- OIL

**OSHA RATING (SCALE 0-1):**

- HEALTH: 3
- FIRE: 1
- REACTIVITY: 0

**NIEHS RATING (SCALE 0-4):**

- HEALTH: 2
- FIRE: 1
- REACTIVITY: 0

**COMPONENTS AND CONTAMINANTS**

**COMPONENT:** PROPYLENE GLYCOL

- CAS: 57-55-6
- PERCENT: 0.1-9.0

**COMPONENT:** FORMALDEHYDE

- CAS: 50-00-0
- PERCENT: 0.3-0.5

**OTHER CONTAMINANTS:** NONE

**EXPOSURE LIMITS:**

- PROPYLGLYCOL: 50 ppm AL (recommended TWA), 10 mg/m³ AHA recommended TWA (aerosol only)

**FORMALDEHYDE:**

- 0.79 ppm OSHA TWA; 2 ppm OSHA 15 minute STEL; 0.5 ppm OSHA action level
- 100 ppm ACGIH ceiling
- 0.016 ppm NIOSH recommended TWA; 0.1 ppm NIOSH recommended 15 min. ceiling
- 0.5 ppm TLV
- 2 ppm STEL
- 1 ppm FDMG TWA

Measurement method: Particulate filter/impinger (2); visible spectrophotometry

ISO: XAD-2 (R) tube; toluerene gas chromatography with flame ionization detection; NIOSH Vol. III, 2-2541

- 100 pounds SARA Section 307 Threshold Planning Quantity
- 1000 pounds SARA Section 304 Reportable Quantity

**PHYSICAL DATA**

**DESCRIPTION:** Preserved specimen of various animal types with a mild odor.

**MELTING POINT:** Not available

**ODOR:** Not available

**VAPOR DENSITY:** 1

**FIRE AND EXPLOSION DATA**

**FIRE AND EXPLOSION HAZARD:** Slight fire hazard when exposed to heat or flame.

**FIREFIGHTING MEDIA:** Dry chemical, carbon dioxide, water spray or regular foam

**DATE:** 01/12/94

**ACCT:** 888325-99

**INDEX:** 25940114364

**CATION NO:** 59002

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For larger fires, use water spray, fog or regular foam.

**FIREFIGHTING:**

- More container from fire area if you can do it without risk. Do not scatter spilled material with high-pressure water streams. Dike fire-control water for later disposal. (1990 Emergency Response Guidebook, DOT P 58005.9, Guide Page 31).

- Use agents suitable for type of surrounding fire. Avoid breathing hazardous vapors, keep upwind.

**TOXICITY**

**PROPYLENE GLYCOL:**

- IRRITATION DATA: 500 mg/l skin-humans mild, 104 mg/3 days intermittent skin-humans moderate, 10%/2 days skin-mum, 100 mg eye-rabbit mild, 500 mg/24 hours eye-rabbit severe.

- TUMOR DATA: 20,800 mg/kg skin-rabbit LD50 79 gm/kg/56 weeks intermittent skin-rabbit LD50 20 gm/kg oral-rat LD50 22 gm/kg oral-mouse LD50 18.5 gm/kg oral-guinea pig LD50 22.5 gm/kg subcutaneous-rat LD50 17.5 mg/kg subcutaneous-guinea pig LD50 8423 mg/kg intravenous-rat LD50 8660 mg/kg intravenous-mouse LD50 7420 mg/kg intravenous-rabbit LD50 26 gm/kg intravenous-dog LD50 8600 mg/kg intraperitoneal-rat LD50 37 mg/kg intraperitoneal-mouse LD50 14 gm/kg intramuscular-rat LD50 68 gm/kg intramuscular-rabbit LD50 10 gm/kg 3 days continuous

**CARCINOGEN STATUS:** None.

**ACUTE TOXICITY LEVEL:** Relatively non-toxic by dermal absorption and ingestion.

**INHABITING EFFECTS:** Poisoning may affect the central nervous system and kidneys.

**INCREASED RISK FROM EXPOSURE:** Persons with impaired renal function, or pre-existing skin disorders.

**ADDITIONAL DATA:** Alchohol may enhance the toxic effects. Interactions with medications have been reported.

**FORMALDEHYDE:**

- IRRITATION DATA: 50 gm/3 hours intermittent skin-humans mild, 2 mg/24 hours skin-rabbit severe, 500 mg/24 hours skin-rabbit mild, 10%/2 days skin-mum, 100 mg/24 hours eye-rabbit mild, 4%/5 minutes eye-humans, 1 gm/6 minutes nonstandard exposure skin-humans moderate, 750 gm/24 hours eye-rabbit severe, 10 gm/eye-rabbit severe.

- TUMOR DATA: 17 mg/kg/30 minutes inhalation-humans TDL0; 30 gm/m³ inhalation-man/rat TDL0; 200 mg/m³ skin-rabbit LD50; 400 mg/m³/2 hours inhalation-rat TDL0; 400 mg/m³/2 hours inhalation-rat LD50; 92 mg/m³/2 hours inhalation-rat LD50; 20 mg/m³/2 hours inhalation-rat LD50; 27 mg/kg skin-rabbit LD50; 100 mg/kg oral-women LD50; 425 mg/kg oral-mouse LD50; 275 mg/kg oral-guinea pig LD50; 320 mg/kg subcutaneous-rabbit LD50; 350 mg/kg intravenous-rabbit LD50; 240 mg/kg subcutaneous-rabbit LD50; 87 mg/kg intravenous-rabbit LD50; 87 mg/kg intravenous-rabbit LD50; 16 mg/kg intraperitoneal-mouse LD50; 477 mg/kg oral-mouse LD50; 700 mg/kg eye-rabbit LD50; 477 mg/kg intravenous-mouse LD50; 700 mg/kg dermal data (RTCS); reproductive effects data (RTCS); tumorigenic data (RTCS).


- Epidemiological studies and case reports indicate an excess occurrence of a number of cancers, but evidence for involvement of formaldehyde is strongest for nasal cavity carcinoma. A significant incidence of squamous cell carcinoma of the nasal cavity was induced in rats exposed to formaldehyde (IARC Group-2A).

**LOCAL EFFECTS:** Corrosive, irritation, skin, eye, ingestion.

**ACUTE TOXICITY LEVEL:** Highly toxic by inhalation, skin, eye, ingestion.

**INHABITING EFFECTS:** SENSITIVE, respiratory, dermal. Poisoning may also affect the kidneys.

**AT INCREASED RISK FROM EXPOSURE:** Pneumonia with asthma, chronic skin disease or preexisting lung disease.

**HEALTH EFFECTS AND FIRST AID**

**INHALATION:**

- PROPYLENE GLYCOL: ACUTE EXPOSURE: Due to its low vapor pressure, inhalation is unlikely at room temperature. However, high concentrations may cause headache, pulmonary edema, and dizziness.

**CHRONIC EXPOSURE:** Repeated or prolonged exposure to saturated and supersaturated atmospheres has produced no adverse effects in humans or animals.

**FORMALDEHYDE:**

- CORROSIVE/SENSITIZER/CARCINOGEN/HIGHLY TOXIC.

**ACUTE EXPOSURE:** Concentrations of 0.1-5.0 ppm may cause irritation of the nose and throat: 10-20 ppm may cause difficulty in breathing, a burning sensation in the nose and throat, and coughing; 25-50 ppm may cause tissue
damage and serious respiratory tract injury such as pneumonitis and pulmonary edema. Other symptoms may include sneezing, pharyngitis, tachycardia, chest constriction, bronchitis, headache, dyspnea, excessive thirst, weakness, palpitations, anxiety, and nausea and vomiting. Very high concentrations have caused human deaths. Hypersensitivity reactions such as laryngeal edema, asthmatic bronchitis, severe obstructive tracheobronchitis, and urticaria have been reported in individuals exposed via inhalation.

CHRONIC EXPOSURE - Repeated or prolonged exposure may cause headache, dizziness, nausea, drowsiness, respiratory irritants, and pulmonary and pulmonary sensitization. Neuropsychological effects may include sleep disturbances, irritability, altered sense of taste and smell, memory deficits, loss of concentration, and mood alterations. Monstrous disorders and cardiovascular and gastrointestinal symptoms have been reported in animals. Offspring of rats exposed continuously to prophylactic did not display any visible malformations. The duration of pregnancy and weight of fetal adrenal glands were increased and weight of fetal lungs were decreased.

The term exposure to formaldehyde is related to the association of an increased risk of cancer of the upper respiratory tract and nasopharyngeal and oropharyngeal cancer in humans. Sufficient evidence exists for cancer of the upper respiratory tract and nasopharyngeal and oropharyngeal cancer in humans. Sufficient evidence exists for cancer of the upper respiratory tract and nasopharyngeal and oropharyngeal cancer in humans. Sufficient evidence exists for cancer of the upper respiratory tract and nasopharyngeal and oropharyngeal cancer in humans. Sufficient evidence exists for cancer of the upper respiratory tract and nasopharyngeal and oropharyngeal cancer in humans.

SKIN CONTACT:

ACUTE EXPOSURE - Contact may cause irritation in some individuals, particularly on dehydrated or occluded skin. Allergic reactions possibly including dermatitis or erythematous edematous plaques may occur in sensitive persons. Skin absorption may occur and produce central nervous system depression with headache, nausea and dizziness.

CHRONIC EXPOSURE - Repeated or prolonged contact may cause mild to moderate irritation in humans. Allergic skin reactions have been reported in experimental animals. Propylene glycol possesses otoxic properties when instilled in the ear.

FORMALDEHYDE:

ACUTE TOXICITY:

REACTIVITY:

STABLE under normal temperatures and pressures.

INCOMPATIBILITIES:


METALS (LIGHT): Reaction forms flammable hydrogen gas.

ACIDS (ORGANIC): Hydrogen peroxide, sulfuric acid, hydrochloric acid, and nitric acid.

PLASTICS: May be attacked.

BAKING SODA: Incompatible.

BRASS: Incompatible.

SEE ALSO: Alcohols

ALKOHOLS:


FORMALDEHYDE:


FIRST AID: Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.

EYE CONTACT:

ACUTE EXPOSURE - A drop applied to the human eye caused immediate stinging, blurring of vision, and lacrimation, followed by mild transient conjunctival hyperemia, but no residual discomfort or injury.

CHRONIC EXPOSURE - No data available.

FORMALDEHYDE:

ACUTE EXPOSURE - Concentrations of 0.05-30 ppm may cause irritation with redness, itching, pain, blurred vision, and mild lacrimation. 4-20 ppm may cause profuse lacrimation, and damage Aqueous solutions have caused effects ranging from transient minor injury to discomfort to severe, permanent corneal opacification, and loss of vision. Contact specification may be delayed from several minutes to hours. CHRONIC EXPOSURE - Effects depend on the concentration and duration of exposure. Repeated or prolonged contact with corrosive substances may result in conjunctivitis or effects as in acute exposure.

AID: Wash eyes immediately with large amounts of water or normal saline, then lifting upper and lower lids, until no evidence of chemical remains (approximately 15-20 minutes). Get medical attention immediately.
BISULFIDES: Incompatible.
COPPER: Formaldehyde solutions may be corrosive.
COPPER ALLOYS: Formaldehyde solutions may be corrosive.
COPPER SALTS: Formaldehyde solutions may be corrosive.
IODINE: Incompatible
IRON PREPARATIONS: Incompatible.
ISOCYANATES: Formaldehyde solutions react.
HYDROCHLORIC ACID: Forms highly toxic bischloromethyl) ether.
HYDROGEN PEROXIDE: Violent reaction.
NITROGEN DIOXIDE: Slow reaction becomes explosive around 180 C.
NITROMETHANE: Forms explosive compound in the presence of alkali.
OXIDES: Formaldehyde solutions react.
OXIDIZERS (STRONG): Fire and explosion hazard.
PEROXOFORMIC ACID (CONCENTRATED): Violent oxidation reaction.
PHENOL: Polymerization reaction with sudden pressure development.
POTASSIUM PERMANGANATE: Incompatible.
SILVER SALTS: Incompatible.
STEEL: Formaldehyde solutions may be corrosive.
UREA: Formaldehyde solutions react.

DECOMPOSITION:
The thermal decomposition may release toxic and/or hazardous gases.

POLYMERIZATION:
Hazardous polymerization has not been reported to occur under normal temperatures and pressures.

STORAGE AND DISPOSAL
Observe all federal, state, and local regulations when storing or disposing of this substance.

**Storage**
Keep in a tightly closed container. Store in a cool, dry, ventilated area.
Store away from incompatible substances.
Threshold Planning Quantity (TPQ):
The Superfund Amendments and Reauthorization Act (SARA) Section 302 requires that each facility where any extremely hazardous substance is present in a quantity to or greater than the TPQ establish for that substance the state emergency response commission for the state in which it is located. Section 303 of SARA requires that these facilities to participate in state emergency response planning (40 CFR 355.30).

CONDITIONS TO AVOID:
May burn but does not ignite readily. Avoid contact with strong oxidizers, excessive heat, sparks, or open flame.

SPILL AND LEAK PROCEDURES
WATER SPILL:
The California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) prohibits contaminating any known source of drinking water with substances known to cause cancer and/or reproductive toxicity.

OCUPATIONAL SPILL:
Soak up spill with vermiculite or other absorbent material and place into suitable containers for later disposal.
Reportable Quantity (RQ):
The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity established for that substance is immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.41). If the release of this substance is reportable under CERCLA Section 103, the National Response Center be notified immediately at (800) 424-8802 or (202) 260-7476 in the metropolitan Washington, D.C. area (40 CFR 302.6).

PROTECTIVE EQUIPMENT
VENTILATION:
Provide general dilution ventilation.
RESPIRATOR:
Based on the components present and/or information in physical data, health affects or toxicity sections, no respirator would be required under the normal conditions of use. However, air contamination monitoring should be carried out to assure that the employees are not exposed to harmful concentrations of any of the above mentioned components.
If respiratory protection is required, it must be based on the contamination levels found in the workplace, must not exceed the working limits of the respirator and be jointly approved by the National Institute for