



Serious eye damage (Category 1), H318  
Skin sensitization (Category 1), H317  
Germ cell mutagenicity (Category 2), H341  
Carcinogenicity (Category 1A), H350  
Specific target organ toxicity - single exposure (Category 1), Eyes, H370  
Acute aquatic toxicity (Category 3), H402

## 2.2 GHS Label elements, including precautionary statements



Signal word            **DANGER**

### Hazard statement(s)

H227 Combustible liquid.  
H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H341 Suspected of causing genetic defects.  
H350 May cause cancer.  
H370 Causes damage to organs.  
H402 Harmful to aquatic life.

### Precautionary statement(s)

#### Prevention:

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

#### Response:

P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse mouth.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

**P303 + P361 + P353 IF ON SKIN (or hair):** Take off immediately all contaminated clothing. Rinse skin with water/shower.

**P304 + P340 + P310 IF INHALED:** Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

**P305 + P351 + P338 + P310 IF IN EYES:** Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

**P307 + P311 IF exposed:** Call a POISON CENTER or doctor/physician.

**P333 + P313** If skin irritation or rash occurs: Get medical advice/attention.

**P362** Take off contaminated clothing and wash before reuse.

**P370 + P378** In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**

**P403 + P233** Store in a well-ventilated place. Keep container tightly closed.

**P403 + P235** Store in a well-ventilated place. Keep cool.

**P405** Store locked up.

**Disposal:**

**P501** Dispose of contents/ container to an approved waste disposal plant.

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none**

### **3. INGREDIENTS**

**3.1 SUBSTANCE:** Not applicable

**3.2 MIXTURE:**

<b>Ingredient</b>	<b>CAS No.</b>	<b>% by WT. Range</b>	<b>CLASSIFICATION</b>
Formaldehyde	50-00-0 EC-No.200-001-8 Index-No.605-001-00-5 Reg.-No. 1-2119488953-20-XXXX	37	Flammable liquids (Category 4), H227   Acute toxicity, Oral (Category 3), H301   Acute toxicity, Inhalation (Category 3), H331   Acute toxicity, Dermal (Category 3), H311   Skin corrosion (Category 1B), H314   Serious eye damage (Category 1), H318   Skin sensitization (Category 1), H317   Germ cell mutagenicity (Category 2), H341   Carcinogenicity (Category 1A), H350   STOT - SE (Category 1), Eyes, H370   Acute aquatic toxicity (Category 3), H402
Methanol	67-56-1 EC-No.200-659-6 Index-No.603-001-00-X Reg.-No.01-2119433307-44-XXXX	0-15	Flammable liquids (Category 2), H225   Acute toxicity, Oral (Category 3), H301   Acute toxicity, Inhalation (Category 3), H331   Acute toxicity, Dermal (Category 3), H311   STOT - SE (Category 1), H370

Water	7732-18-5 EC-No.231-791-2	49-63	Not a hazardous substance or mixture.
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#### **4. FIRST-AID MEASURES**

##### **4.1 DESCRIPTION OF FIRST AID MEASURES:**

###### **INHALATION: FORMALDEHYDE 37%**

**\*\*FIRST AID- Remove from exposure area to fresh air immediately. If breathing is difficult give oxygen. If breathing has stopped, perform artificial respiration. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.**

###### **SKIN CONTACT: FORMALDEHYDE 37%**

**\*\*FIRST AID- Remove contaminated clothing and shoes immediately. Wash affected area with waterless cleaner first then soap and large amounts of water until no evidence of chemical remains (approximately 15-20 minutes). For chemical burns cover area with sterile, dry dressing bandage securely, but not too tight. Consult a physician if irritation persists.**

###### **EYE CONTACT: FORMALDEHYDE 37%**

**\*\*FIRST AID- Wash eyes immediately with large amounts of water, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15-20 minutes). Remove contact lenses, if worn, after initial flush. Consult a physician if irritation persists.**

###### **INGESTION: FORMALDEHYDE 37%**

**\*\*FIRST AID- Do not induce vomiting unless directed to do so by medical personnel. Give 4-8oz of water to a conscious patient to help neutralize. Never give anything by mouth to an unconscious person. Immediately consult a physician or poison control center, treat symptomatically.**

##### **4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:**

**Eye:** Causes eye burns, damage irreversible. Vapor causes irritation.

**Skin:** May cause moderate injury- reddening and swelling. Sensitizer. Liquid causes drying, cracking and scaling. Toxic if absorbed through skin.

**Inhalation:** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Can cause inflammation of lining of nose, throat and lungs. Can cause pneumonia and abnormal pulmonary edema. Signs and symptoms of pulmonary edema can be delayed for several hours. Sensitizer of the respiratory system.

**Ingestion:** Toxic if swallowed. Causes severe irritation and inflammation of mouth, throat and stomach. Severe stomach pains follow with possible loss of consciousness. Causes blindness, stupor, nausea and vomiting leading to severe illness, possibly death.

**Chronic:**

Formaldehyde is Mutagenic and Methanol shows limited evidence of Mutagenicity.

**Eye:** Repeated or prolonged exposure to vapor may result in conjunctivitis:

**Skin:** Repeated or prolonged exposure may result in dermatitis:

**Inhalation:** May cause ulcerative changes in the mouth and gastrointestinal disturbances. May sensitize the respiratory system.

**Ingestion:** Prolonged and repeated exposure may damage the liver and kidneys.

**Medical Conditions Aggravated by Exposure:** Skin contact may aggravate an existing dermatitis. Inhalation may aggravate asthma and other respiratory diseases.

#### **4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:**

Specific details on antidote: No recommendation given.

### **5. FIRE FIGHTING MEASURES**

FLASH POINT: 64 °C (147 °F) - TCC

LEL %:7(V)

AUTO-IGNITION TEMP: 385°C (725°F) Methanol

UEL %:70 (V)

AUTO-IGNITION TEMP: 300°C (572°F) Formaldehyde

UNIFORM FIRE CODE: Combustible Liquid: Class III-A

**5.1 SUITABLE EXTINGUISHING MEDIA:** Foam--> x CO2--> x Dry Chemical-->  
x Water-fog--> x Other-->

Unsuitable extinguishing media: Do not use waterjet.

#### **5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR**

**MIXTURE:** Keep containers tightly closed. Combustible liquid; isolate from all sources of ignition. During a fire potentially toxic/irritating fumes from combustion/decomposition products may be generated.

**CONDITIONS OF FLAMMABILITY:** Flammable in the presence of a source of ignition when the temperature is above the flash point.

**HAZARDOUS COMBUSTION PRODUCTS:** Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, carbon oxides and other unidentified organic compounds evolve when this material undergoes combustion.

**5.3 ADVICE FOR FIREFIGHTERS:** Shut off source. Keep unnecessary people away; isolate hazard area and deny entry. Avoid breathing vapors, stay upwind Do not spray pool fires directly. A solid stream of water or foam directed into hot burning liquid can cause frothing. Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Water fog may be used to cool closed containers to prevent pressure build up and possible auto-ignition or explosion when exposed to extreme heat. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Cool containers with flooding amounts of water from as far a distance as possible. Wear NIOSH/MSHA approved self-contained breathing apparatus (SCBA) for confined spaces. Use full fire-fighting protective clothing. If protective equipment is not available or not used, fight fire from a protected location or safe distance.

## **6. ACCIDENTAL RELEASE MEASURES**

**6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:** Combustible Liquid; Eliminate ignition sources in the vicinity of the spill or released vapor. Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations.

### **6.2 ENVIRONMENTAL PRECAUTIONS:**

Keep out of water sources, drains and sewers. Do not flush into surface water or sanitary sewer system

### **6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:**

Methods for cleanup and containment:

Use explosion proof equipment. Shut off valves, contain spill, keep out of water sources and sewers, for smaller spills add non-flammable absorbent such as clay or silica in spill area. For large spills use foam on spill to minimize vapors clean up by vacuuming then using non-flammable absorbent.

#### **Methods for disposal:**

Remove contaminated soil to remove contaminated trace residues. Place all saturated absorbent, using non-sparking tools, in an approved container for disposal. Flush with water to remove trace residue. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations. Keep all nonessential people away.

**REPORTABLE QUANTITY (RQ):** Formaldehyde - 100 lbs.; Methanol-5000lbs, Blend – 270lbs. (calculated)

The Superfund Amendments and Reauthorization Act (SARA) Section 304 requires that a release equal to or greater than the reportable quantity for this substance be immediately reported to the local emergency planning committee and the state emergency response commission (40 CFR 355.40). If the release of this substance is reportable under CERCLA Section 103, the national response center must be notified immediately at (800) 424-8802 or (202) 426-2675 in the metropolitan Washington D.C. area (40 CFR 302.6).

**6.4 REFERENCE TO OTHER SECTIONS:** See Sections 8 and 13.

## **7. HANDLING AND STORAGE**

**7.1 PRECAUTIONS FOR SAFE HANDLING:** Liquid evaporates and forms vapor (fumes), which can catch fire and burn. Invisible vapor spreads easily and can be set on fire by many sources, such as pilot lights, welding equipment, and electrical motors and switches. Vapor is heavier than air and can travel considerable distance to a source of ignition and flash back. Avoid breathing vapors in top of shipping container. Use with adequate ventilation. Avoid prolonged or repeated contact with eyes, skin and clothing. Do not take internally. Avoid breathing vapors in top of shipping container. Avoid work practices that may release volatile components in the atmosphere. Avoid contaminating soil or releasing material into sewage and drainage systems. Use non-sparking tools to open or close containers.

**Advice on general occupational hygiene:**

Wash hands before breaks and after work. Keep away from food, drink and animal feeding stuffs. When using do not smoke.

**STATIC HAZARD:** Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not be sufficient. For more information refer to OSHA Standard 29CFR 1910.106 “Flammable and Combustible Liquids” and National Fire Protection Association (NFPA 77) “Recommended Practice on Static Electricity”.

## **7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:**

Follow maximum allowed pile heights specified in the BOCA codes or the NFPA manual. Local fire authorities should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities. Recommended storage temperature: 15 - 25°C. Store large quantities only in buildings designed to comply with OSHA 1910.106. Keep containers tight and upright to prevent leakage. Do not store with incompatible materials. Keep containers closed when not in use. Do not store in direct sunlight.

**CONTAINER WARNINGS:** Containers should be Bonded and Grounded when pouring. Avoid free fall of liquid in excess of a few inches. Empty containers release residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, or expose such containers to heat, sparks, static electricity or other sources of ignition. Do not attempt to clean. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner.

**7.3 SPECIFIC END USES:** Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## **8. EXPOSURE CONTROL (PERSONAL PROTECTION)**

### **8.1 CONTROL PARAMETERS:**

<b>Ingredient</b>	<b>CAS No.</b>	<b>% by WT. Range</b>	<b>Exposure Limits</b>
Formaldehyde	50-00-0 EC-No.200-001-8 Index-No.605-001-00-5 Reg.-No. 1-2119488953-20-XXXX	37	0.3ppm TWA (ACGIH)  0.016ppm TWA (NIOSH)  0.75ppm PEL (OSHA)  2.0ppm STEL (OSHA)
Methanol	67-56-1 EC-No.200-659-6 Index-No.603-001-00-X Reg.-No.01-2119433307-44-XXXX	0-15	200ppm TWA (ACGIH)  250ppm STEL (ACGIH)  200ppm TWA (OSHA)  250ppm STEL (OSHA)  200ppm TWA (NIOSH)
Water	7732-18-5 EC-No.231-791-2	49-63	None

**Key:** (PEL) = Permissible Exposure Limit OSHA  
(TLV) = Threshold Limit Value OSHA & ACGIH  
(STEL) = Short Term Exposure Limit ACGIH  
(WEEL) = USA. Workplace Environmental Exposure Levels  
(TWA) = Time Weighted Average  
CAS = Chemical Abstracts Registry Number  
IDLH = Immediate Danger to Life and Health  
N.E. =None Established



## 8.2 EXPOSURE CONTROLS

**GENERAL CONSIDERATIONS:** Consider the potential hazards of this material (Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended.

**ENGINEERING CONTROLS:** Provide general dilution or local exhaust ventilation in volume and pattern to keep concentrations within permitted exposure limits. All areas should be ventilated in accordance with OSHA Regulation 29 CFR Part 1910. Explosion proof motors should be used in mechanical ventilation.

**RESPIRATORY PROTECTION:** The specific respirator selected must be based on contamination levels found in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA):

For vapor concentrations 1 to 10 times ACGIH TWA or PEL an air supplied NIOSH/MSHA Approved respirator with full face-piece and organic vapor cartridges. For concentrations over 10 times ACGIH TWA and in confined areas use NIOSH/MHSA approved positive pressure full face-piece supplied air respirator (SCBA).

**BODY CLOTHING:** Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged contact with this substance. Use chemical resistant apron or other impervious clothing. Remove and wash contaminated clothing before reuse.

**SKIN PROTECTION:** Employee must wear appropriate protective gloves to prevent contact with this substance.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.2 mm

Break through time: 60 min

**HYGIENE:** Use good personal hygiene practices, wash hands before eating, drinking, smoking or using toilet facilities.

**EYE/FACE PROTECTION:** Use safety eyewear with splash-guards or face shield. Emergency shower and eyewash should be easily accessible to the work area.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Formaldehyde 37%	
APPEARANCE:	Clear mobile liquid
COLOR:	Colorless
ODOR:	Pungent odor
ODOR THRESHOLD:	No data Available
pH:	No data available
MOLECULAR WEIGHT:	30.03amu (Formaldehyde)
MOLECULAR WEIGHT:	32.04amu (Methanol)
MOLECULAR WEIGHT:	18.015amu (Water)
MELTING POINT:	No data available
BOILING POINT:	100 °C (212 °F)
SPECIFIC GRAVITY:	1.09@25°C
DENSITY (25°C):	1.09 g/ml @25°C (77.0°F)
VAPOR PRESSURE:	40 mmHg@25°C (77.0°F)
VAPOR DENSITY:	1.04
WATER SOLUBILITY:	Soluble
PARTITION COEFFICIENT N-OCTANOL/WATER	log Pow: 0.35
FLASH POINT:	64°C (147°F) - closed cup
EVAPORATION RATE (BUTYL ACETATE=1):	1
UPPER FLAMMABILITY LIMIT:	70% (V)
LOWER FLAMMABILITY LIMIT:	7% (V)
AUTO IGNITION TEMPERATURE:	385°C (725°F) Methanol
AUTO IGNITION TEMPERATURE:	300°C (572°F) Formaldehyde
DECOMPOSITION TEMPERATURE:	No data available
VISCOSITY:	No data available
EXPLOSIVE PROPERTIES:	No data available
OXIDIZING PROPERTIES:	No data available

9.2 OTHER INFORMATION: No data available

## 10. STABILITY AND REACTIVITY INFORMATION

10.1 REACTIVITY: No data available.

10.2 CHEMICAL STABILITY: Unstable ( ) Stable (X)  
Stable under recommended storage conditions. Contains the following stabilizer(s): Methanol (>=10 - <15 %)

10.3 POSSIBILITY OF HAZARDOUS REACTIONS: No data available

HAZARDOUS POLYMERIZATION: May occur ( ) Will not occur (X)

**10.4 CONDITIONS TO AVOID:** Heat, Sparks, Pilot Lights, Static Electricity, and Open Flame.

**10.5 INCOMPATIBLE MATERIALS:** Strong oxidizing agents, Aniline, Phenol, Isocyanates, Acid anhydrides, Strong acids, Strong bases, Amines, Peroxides, Acid chlorides, Alkali metals, Reducing agents

**10.6 HAZARDOUS DECOMPOSITION PRODUCTS:** Fumes, Smoke, Carbon Monoxide, Aldehydes and other decomposition products where combustion is not complete.

## **11. TOXICOLOGICAL INFORMATION**

### **11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:**

Routes of Entry: Inhalation--> x Skin--> x Ingestion--> x Eye--> x

#### **ACUTE HEALTH EFFECTS:**

Effects of overexposure:

**Eye>** Causes eye burns, damage irreversible. Vapor causes irritation.

**Skin>** May cause moderate injury- reddening and swelling. Sensitizer. Liquid causes drying, cracking and scaling. Toxic if absorbed through skin.

**Inhalation>** May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Can cause inflammation of lining of nose, throat and lungs. Can cause pneumonia and abnormal pulmonary edema. Signs and symptoms of pulmonary edema can be delayed for several hours. Sensitizer of the respiratory system.

**Ingestion>** Toxic if swallowed. Causes severe irritation and inflammation of mouth, throat and stomach. Severe stomach pains follow with possible loss of consciousness. Causes blindness, stupor, nausea and vomiting leading to severe illness, possibly death.

**Chronic:**

Formaldehyde is Mutagenic and Methanol shows limited evidence of Mutagenicity.

**Eye>** Repeated or prolonged exposure to vapor may result in conjunctivitis:

**Skin>** Repeated or prolonged exposure may result in dermatitis:

**Inhalation>** May cause ulcerative changes in the mouth and gastrointestinal disturbances. May sensitize the respiratory system.

**Ingestion> Prolonged and repeated exposure may damage the liver and kidneys.**

**Medical Conditions Aggravated by Exposure> Skin contact may aggravate an existing dermatitis. Inhalation may aggravate asthma and other respiratory diseases.**

**ACUTE TOXICITY:**

**The effects of overexposure shown in Section III are based on acute animal toxicity profiles. Typical values are:**

<b>Ingredient</b>	<b> Oral LD50 (Rat)</b>	<b> Skin LD50 (Rabbit)</b>	<b> Inhalation LC50</b>	<b> </b>
<b>Formaldehyde</b>	<b>800mg/kg</b>	<b>270mg/kg</b>	<b>474ppm/4hr</b>	<b> </b>
<b>Methanol</b>	<b>6.2-12.9g/kg</b>	<b>16g/kg</b>	<b>64000ppm/4hr</b>	<b> </b>

**Formaldehyde –**

**SKIN CORROSION/IRRITATION : No data available**

**SERIOUS EYE DAMAGE/EYE IRRITATION: No data available**

**RESPIRATORY OR SKIN SENSITIZATION: May cause sensitization by skin contact.**

**MUTAGENIC EFFECTS: No data available**

**CARCINOGEN STATUS: IARC: 1 - Group 1: Carcinogenic to humans (Formaldehyde)**

**NTP: Known to be human carcinogen (Formaldehyde)**

**OSHA: OSHA specifically regulated carcinogen (Formaldehyde)**

**REPRODUCTIVE TOXICITY: No data available**

**Specific target organ toxicity (STOT-SE) - single exposure (Globally Harmonized System): no data available**

**Specific target organ toxicity (STOT-RE) - repeated exposure (Globally Harmonized System): no data available**

**ASPIRATION HAZARD: No data available**

**11.2 ADDITIONAL INFORMATION: Liver - Irregularities - Based on Human Evidence**

**Methanol –**

**SKIN CORROSION/IRRITATION : Irritating to skin.**

**SERIOUS EYE DAMAGE/EYE IRRITATION: Irritating to eyes. Risk of serious damage to eyes.**

**RESPIRATORY IRRITATION: Irritating to respiratory tract.**

**RESPIRATORY OR SKIN SENSITIZATION: No data available**

**MUTAGENIC EFFECTS:**

Genotoxicity in vitro - Ames test - *S. typhimurium* - with and without metabolic activation - negative

Genotoxicity in vitro - in vitro assay - fibroblast - negative

Mutation in mammalian somatic cells.

Genotoxicity in vivo - mouse - male and female - Intraperitoneal - negative

**CARCINOGENICITY –**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

REPRODUCTIVE TOXICITY: No data available.

**SPECIFIC TARGET ORGAN TOXICITY (STOT-SE) - Single Exposure (Globally Harmonized System)**

Causes damage to organs.

**SPECIFIC TARGET ORGAN TOXICITY (STOT-RE) - Repeated Exposure (Globally Harmonized System)**

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

**11.2 ADDITIONAL DATA: AT INCREASED RISK FROM EXPOSURE:** Persons with kidney, eye or skin disorders.

## **12. ECOLOGICAL INFORMATION**

### **DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS**

May be dangerous if it enters water intakes.

Notify local health and wildlife officials.

Notify operators of nearby water intakes.

Formaldehyde -

#### **12.1 AQUATIC TOXICITY:**

Toxicity to fish:

LC50 - *Oncorhynchus mykiss* (rainbow trout) – 10-1000ppm – 24/48/96.0 hr

Toxicity to daphnia and other aquatic invertebrates:

EC50 - *Daphnia magna* (Water flea) – 2-52ppm - 48 h

Toxicity to algae:

EC50 - *Pseudokirchneriella subcapitata* (green algae) – 0.3-0.5ppm –48hr

**12.2 PERSISTENCE AND DEGRADATION:** Formaldehyde in aqueous effluent is degraded by activated sludge in sewage in 48-72 hours. Atmospheric photochemical degradation is rapid with estimated half-lives of 19 hours or less.

**12.3 BIOACCUMULATIVE POTENTIAL:** The log n-octanol/water partition coefficient is 0.35. This suggests that formaldehyde has relatively low potential to bio-accumulate.

**Biological Oxygen Demand (BOD):** No data available

**Bio-concentration Factor (BCF):** no data available

**12.4 MOBILITY IN SOIL:** No data available

**12.5 RESULTS OF PBT AND vPvB ASSESSMENT:** This substance does not meet the criteria for classification as PBT or vPvB.

**12.6 OTHER ADVERSE EFFECTS:** Harmful to aquatic life.

**Methanol -**

**12.1 ACUTE AQUATIC TOXICITY:**

Toxicity to fish:

LC50 - Lepomis macrochirus (Bluegill) - 15,400.0 mg/L - 96 h

LC50 – Pimphales promelas (Fathead Minnow) – 28200 mg/L – 96 h

LC50 – Oncorhynchus mykiss (Rainbow Trout) – 19500-20700 mg/L – 96 h

NOEC - Oryzias latipes - 7,900 mg/L - 200 h

Toxicity to daphnia and other aquatic invertebrates:

EC50 - Daphnia magna (Water flea) - > 10,000.00 mg/L - 48 h

Toxicity to algae Growth inhibition:

EC50 - Scenedesmus capricornutum (fresh water algae) - 22,000.0 mg/L -96hr

**12.2 PERSISTANCE AND DEGRADABILITY:** Result: 72 % - rapidly biodegradable

**12.3 BIOACCUMULATIVE POTENTIAL:** Cyprinus carpio (Carp) - 72 d at 20 °C

Bioconcentration factor (BCF): 1.0

Biochemical Oxygen Demand (BOD): 600 - 1,120 mg/g

Chemical Oxygen Demand (COD): 1,420 mg/g

No indication of bioaccumulation potential.

**12.4 MOBILITY IN SOIL:** Mobile

**12.5 RESULTS OF PBT AND vPvB ASSESSMENT:** This substance does not meet the criteria for classification as PBT or vPvB.

**12.6 OTHER ADVERSE EFFECTS:** Do not allow this material to enter streams, sewers and other waterways.

### **13. DISPOSAL CONSIDERATIONS**

**13.1 WASTE TREATMENT METHODS:** Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly it is the responsibility of the user to determine the proper storage, transportation, treatment and or disposal methodologies for spent materials and residues at time of disposition. Dispose in accordance with all applicable disposal regulations.

**CONTAMINATED PACKAGING:** Dispose of as unused product.

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

**RCRA:** The unused product is a RCRA hazardous waste if discarded. The RCRA ID

number is: Formaldehyde - D001; Methanol – U154

If the waste is a spent solvent, the appropriate spent solvent code should be used.  
**DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 48 CFR 262**

## 14. TRANSPORT INFORMATION

### Land Transport (DOT)

- 14.1 USDOT ID Number-----> UN2209
- 14.2 USDOT Shipping Name-----> Formaldehyde Solutions
- 14.3 USDOT Hazard Classification-----> 8 (Corrosive Liquid)  
    USDOT Label Codes-----> 8
- 14.4 USDOT Package Code-----> III
- 14.5 Environmental hazard-----> None
- 14.6 Special precautions for user-----> Yes  
    Emergency Response Guide-----> 132  
    Reportable Quantity-----> 270lbs – Blend (calculated)

### Sea Transport (IMDG)

- 14.1 ID Number-----> UN2209
- 14.2 Proper shipping name-----> FORMALDEHYDE SOLUTIONS
- 14.3 Hazard Classification-----> 8 (Corrosive Liquid)  
    Label Codes-----> 8
- 14.4 Package Code-----> III
- 14.5 Marine Pollutant-----> No
- 14.6 Special precautions for user-----> Yes  
    EMS-Number-----> F-A, S-B

### Air Transport (IATA)

- 14.1 ID Number-----> UN2209
- 14.2 Proper shipping name-----> Formaldehyde Solutions
- 14.3 Hazard Classification-----> 8 (Corrosive Liquid)  
    Label Codes-----> 8
- 14.4 Package Code-----> III
- 14.5 Environmental hazard-----> None
- 14.6 Special precautions for user-----> Yes

## 15. REGULATORY INFORMATION

### 15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

#### SARA TITLE III (Superfund Amendment and Reauthorization Act)

SECTION 302 AND 304: Extremely Hazardous Substance List (40 CFR 355) -  
Listed: Formaldehyde CAS-No. 50-00-0

SECTION 313: Toxic Chemicals Listing (40 CFR 372.65) - Listed  
Formaldehyde CAS-No. 50-00-0  
Methanol       CAS-No. 67-56-1

**SECTION 311/312: Hazard Categorization (40 CFR 370) - Acute Health Hazard, Chronic Health Hazard, Fire Hazard**

**CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)**

**SECTION 102(A) Hazardous Substances (40 CFR 302.4) - Listed Formaldehyde CAS-No. 50-00-0 Reportable Quantity – 100lbs.**

**Methanol CAS-No. 67-56-1 Reportable Quantity – 5000lbs. Blend – 270lbs. (calculated)**

**SECTION 101(14) Reportable Quantity:**

**Formaldehyde CAS-No. 50-00-0 Reportable Quantity – 100lbs.**

**Methanol CAS-No. 67-56-1 Reportable Quantity – 5000lbs.**

**Blend – 270lbs. (calculated)**

**Massachusetts Right to Know Components**

**Formaldehyde CAS-No. 50-00-0**

**Methanol CAS-No.67-56-1**

**Pennsylvania Right to Know Components**

**Formaldehyde CAS-No. 50-00-0**

**Methanol CAS-No.67-56-1**

**Water CAS-No. 7732-18-5**

**New Jersey Right to Know Components**

**Formaldehyde CAS-No. 50-00-0**

**Methanol CAS-No.67-56-1**

**Water CAS-No. 7732-18-5**

**California Prop. 65 Components**

**WARNING! This product contains a chemical known to the State of California to cause cancer. Formaldehyde CAS-No. 50-00-0**

**California Prop. 65 Components**

**WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. Methanol CAS-No. 67-56-1**

**TSCA (Toxic Substance Control Act)**

**Formaldehyde CAS-No. 50-00-0, Methanol CAS-No.67-56-1, Water CAS-No. 7732-18-5 are listed on the TSCA Inventory.**

**15.2 CHEMICAL SAFETY ASSESSMENT: A chemical safety assessment has not been carried out for this substance.**

**16. OTHER INFORMATION:**

**HMIS (Hazardous Materials Identification System)**

**Hazard Rating:**

**4-Extreme**

**3-High**



**2-Moderate**  
**1-Slight**  
**0-Insignificant**

**NFPA RATINGS (SCALE 0-4): Health=3 Fire=2 Reactivity=0**  
**HMIS RATINGS (SCALE 0-4): Health=3 Fire=2 Reactivity=0 PPE=X**

**Hazard statement(s) from Section 2 and 3:**

**H227 Combustible liquid.**

**H301 + H311 + H331 Toxic if swallowed, in contact with skin or if inhaled**

**H314 Causes severe skin burns and eye damage.**

**H317 May cause an allergic skin reaction.**

**H318 Causes serious eye damage.**

**H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.**

**H341 Suspected of causing genetic defects.**

**H350 May cause cancer.**

**H370 Causes damage to organs.**

**H402 Harmful to aquatic life.**

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**Revision Content-----> General update all sections**

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**Prepared by-----> T.G. Fenstermaker Jr.**

**Acronyms:**

ACGIH	-	American Conference of Governmental Industrial Hygienists
AIHA	-	American Industrial Hygiene Association
ANSI	-	American Nation Standards Institute
API	-	American Petroleum Institute
CERCLA	-	Comprehensive Emergency Response, Compensation, and Liability Act
DOT	-	U.S. Department of Transportation
EPA	-	U.S. Environmental Protection Agency
HMIS	-	Hazardous Materials Information System
IARC	-	International Agency For Research On Cancer
MSHA	-	Mine Safety and Health Administration
NFPA	-	National Fire Protection Association
NIOSH	-	National Institute of Occupational Safety and Health
NOIC	-	Notice of Intended Change (Proposed change to ACGIH TLV)
NTP	-	National Toxicology Program
OPA	-	Oil Pollution Act of 1990
OSHA	-	U.S. Occupational Safety & Health Administration
PEL	-	Permissible Exposure Limit (OSHA)
RCRA	-	Resource Conservation and Recovery Act
REL	-	Recommended Exposure Limit (NIOSH)
SARA	-	Superfund Amendments and Reauthorization Act of 1986 Title III
SCBA	-	Self-Contained Breathing Apparatus
STEL	-	Short-Term Exposure Limit (generally 15 minutes)
TLV	-	Threshold Limit Value
TSCA	-	Toxic Substances Control Act
TWA	-	Time Weighted Average (8hr.)
WHMIS	-	Canadian Workplace Hazardous Materials Information System

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