

## SAFETY DATA SHEET

Preparation Date: 3/16/2015

Revision Date: 10/8/2018

Revision Number: G3

### 1. IDENTIFICATION

**Product identifier**

**Product code:** FO110  
**Product Name:** FORMALDEHYDE, 37 PERCENT, SOLUTION, USP

**Other means of identification**

**Synonyms:** Aldehyde formique (French)  
 formaldehído (Spanish)  
 Formalina (Spanish)  
 Fannoform  
 Formalith  
 Formic aldehyde  
 Lysoform  
 Methaldehyde  
 Methanal  
 Methyl aldehyde  
 Methylene oxide  
 Formalin  
 Formol  
 Morbucid  
 Oxomethane  
 Oxymethylene  
 Paraform  
 Superlysoform

**CAS #:** 50-00-0  
**RTECS #** LP8925000  
**CI#:** Not available

**Recommended use of the chemical and restrictions on use**

**Recommended use:** Antimicrobial agent. Germicide. Preservative. Preservative for wood or for treatment against wood rot and decay. Fungicide. Reagent. Dyes. Chemical intermediate.

**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>  
**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 3
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Gases)	Category 3
Acute toxicity - Inhalation (Vapors)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1
Carcinogenicity	Category 1A
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 1
Flammable liquids	Category 3

### Label elements

#### **Danger**

#### **Hazard statements**

Toxic if swallowed  
Toxic in contact with skin  
Toxic if inhaled  
Causes severe skin burns and eye damage  
May cause an allergic skin reaction  
May cause cancer  
Suspected of damaging fertility or the unborn child  
Causes damage to organs  
Causes damage to organs through prolonged or repeated exposure  
Flammable liquid and vapor



#### **Hazards not otherwise classified (HNOC)**

Not Applicable

#### **Other hazards**

Toxic to aquatic life with long lasting effects  
Toxic to aquatic life

#### **Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wear protective gloves/protective clothing/eye protection/face protection  
Wash face, hands and any exposed skin thoroughly after handling

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Do not eat, drink or smoke when using this product  
 Use only outdoors or in a well-ventilated area  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Contaminated work clothing must not be allowed out of the workplace  
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ventilating/lighting/.../equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Keep cool

**Precautionary Statements - Response**

*Specific treatment (see . ? on this label)*  
*Immediately call a POISON CENTER or doctor/physician*  
*Specific treatment (see . ? on this label)*  
 In case of fire: Use CO2, dry chemical, or foam to extinguish.  
 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.  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse  
 If skin irritation or rash occurs: Get medical advice/attention  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a POISON CENTER or doctor/physician.  
 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
 Rinse mouth  
 Do NOT induce vomiting

**Precautionary Statements - Storage**

Store locked up  
 Store in a well-ventilated place. Keep container tightly closed

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Components	CAS-No.	Weight %
Water	7732-18-5	47-53.5
Formaldehyde	50-00-0	36.5-38
Methyl Alcohol	67-56-1	10-15

**4. FIRST AID MEASURES**

**First aid measures**

**General Advice:** National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First aider needs to protect himself.

**Skin Contact:** Wash off immediately with soap and plenty of water. Remove all contaminated clothes and shoes. Continue flushing with plenty of water for at least 15 minutes. Immediate medical attention is required. Call a physician immediately.

**Eye Contact:** Flush eyes with water for 15 minutes. Immediate medical attention is required. Call a physician immediately.

**Inhalation:** Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. WARNING! It may be hazardous to the person providing aid to give

mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Call a physician immediately.

**Ingestion:**

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. If victim is conscious, give milk or water to dilute the Formaldehyde. Immediate medical attention is required. Call a physician or Poison Control Center immediately.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**

Severe skin and eye irritation or burns  
May cause allergic contact dermatitis  
May cause an allergic skin reaction  
May cause brownish discoloration of the skin  
Contains Methyl Alcohol. Methanol can be absorbed through the skin producing systemic effects that include visual disturbances. Absorption through the skin may cause metabolic acidosis  
Ingestion may cause significant visual disturbances including blindness since it contains Methyl alcohol  
Contains Methyl alcohol which can cause metabolic acidosis when ingested or inhaled  
Contains Methyl alcohol. Exposure to high concentrations of Methyl alcohol vapor can cause blurred vision, impaired vision or blindness  
May affect the liver  
May affect the urinary system  
It may affect the blood  
It may affect the brain  
May cause central nervous system effects  
Ingestion may cause nausea, vomiting, and diarrhea  
May affect the cardiovascular system  
May affect the pancreas

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:**

For Ingestion of Formaldehyde solution which contains Methyl Alcohol:  
1. Support vital functions, correct for dehydration and shock, and manage fluid balance.  
2. The currently recommended medical management of poisoning includes the following methods:  
a. Emptying the stomach by gastric lavage. It is useful if initiated within < 1 of ingestion.  
b. Correct metabolic acidosis with intravenous administration of sodium bicarbonate, adjusting the administration rate according to repeated and frequent measurement of acid/base status.  
c. Treat with Folic acid and Ethanol or Fomepizole therapy. Administer ethanol (orally or by IV (intravenously)) or Fomepizole therapy by IV (intravenously) as an antidote to inhibit the formation of toxic metabolites. Please note that if Ethanol therapy is used, monitor blood glucose, especially in children. Ethanol can cause hypoglycemia.  
d. When patients are diagnosed and treated early in the course with the above methods, hemodialysis may be avoided if fomepizole or ethanol therapy is effective, and the metabolic acidosis is corrected, and no renal failure is present. However, once severe acidosis and renal failure occurred, hemodialysis is necessary. Hemodialysis is effective in removing formate, and Methyl alcohol and toxic metabolites, and correcting metabolic acidosis.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:**

Carbon dioxide (CO2). Dry chemical. Water spray mist or foam. Alcohol-resistant foam.

**Unsuitable Extinguishing Media:** Do not use a solid (straight) water stream as it may scatter and spread fire.

### Specific hazards arising from the chemical

**Hazardous Combustion Products:** Carbon Monoxide, Carbon Dioxide.

**Specific hazards:** Flammable. May be ignited by heat, sparks or flames. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Container explosion may occur under fire conditions or when heated.

### Special Protective Actions for Firefighters

**Specific Methods:** Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal; do not scatter the material.

**Special Protective Equipment for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:** Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth).

**Methods for cleaning up** Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Technical Measures/Precautions:**

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Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

**Safe Handling Advice**

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

**Conditions for safe storage, including any incompatibilities**

**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store in a segregated and approved area. Store away from incompatible materials.

**Incompatible Materials:**

- Oxidizing agents
- Acids
- Bases
- Alkalis
- Amines
- Ammonia
- Alkali Metals
- Alkaline Earth metals
- dithiocarbamates
- Phenol
- nitrides
- isocyanates
- Anhydrides
- Nitromethane
- Iron
- Silver
- Nitrogen oxides

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Control parameters

**National occupational exposure limits**

**United States**

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
Water	7732-18-5	None	None	None	None
Formaldehyde	50-00-0	0.75 ppm TWA 2 ppm STEL	0.016 ppm TWA 0.1 ppm Ceiling 15 min	0.3 ppm STEL 0.1 ppm TWA	None
Methyl Alcohol	67-56-1	200 ppm TWA 260 mg/m <sup>3</sup> TWA	200 ppm TWA 260 mg/m <sup>3</sup> TWA 250 ppm STEL 325 mg/m <sup>3</sup> STEL	250 ppm STEL 200 ppm TWA	Not determined

**Canada**

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Water	7732-18-5	None	None	None	None
Formaldehyde	50-00-0	1 ppm Ceiling 1.3 mg/m <sup>3</sup> Ceiling 0.75 ppm TWA 0.9 mg/m <sup>3</sup> TWA	0.3 ppm TWA 1 ppm Ceiling	1.5 ppm Ceiling 1 ppm STEL	2 ppm Ceiling 3 mg/m <sup>3</sup> Ceiling

Methyl Alcohol	67-56-1	200 ppm TWA 262 mg/m <sup>3</sup> TWA 250 ppm STEL 328 mg/m <sup>3</sup> STEL	200 ppm TWA 250 ppm STEL	200 ppm TWA 250 ppm STEL	200 ppm TWAEV 262 mg/m <sup>3</sup> TWAEV 250 ppm STEV 328 mg/m <sup>3</sup> STEV
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### Australia and Mexico

Components	CAS-No.	Australia	Mexico
Water	7732-18-5	None	None
Formaldehyde	50-00-0	1 ppm/1.2 mg/m <sup>3</sup> TWA 2 ppm/2.5 mg/m <sup>3</sup> STEL probable carcinogen	2 ppm Ceiling 3 mg/m <sup>3</sup> Ceiling
Methyl Alcohol	67-56-1	250 ppm STEL 328 mg/m <sup>3</sup> STEL 200 ppm TWA 262 mg/m <sup>3</sup> STEL	200 ppm TWA 260 mg/m <sup>3</sup> TWA 250 ppm STEL 310 mg/m <sup>3</sup> STEL

### Appropriate engineering controls

#### Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

- Eye protection:** Goggles Face-shield.
- Skin and body protection:** Gloves  
Boots  
Chemical resistant protective suit
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Liquid	<b>Appearance:</b> No information available.	<b>Color:</b> Clear. Colorless.
<b>Odor:</b> Pungent. Irritating.	<b>Taste</b> No information available.	<b>Formula:</b> HCHO
<b>Molecular/Formula weight (g/mole):</b> 30.03	<b>Flammability:</b> No information available	<b>Flash point (°C):</b> 50
<b>Flashpoint (°C/°F):</b> 50-60 °C/122-140 °F	<b>Flash Point Tested according to:</b> Closed cup	<b>Autoignition Temperature (°C/°F):</b> 424-430 °C/795-806 °F
<b>Lower Explosion Limit (%):</b> Formaldehyde gas: 7% Methyl alcohol: 6%	<b>Upper Explosion Limit (%):</b> Formaldehyde gas: 73% Methyl alcohol: 36.5%	<b>Melting point/range(°C/°F):</b> -15 °C/5 °F
<b>Decomposition temperature(°C/°F):</b> No information available	<b>Boiling point/range(°C/°F):</b> 96-98 °C/204.8-208.4 °F	<b>Bulk density:</b> No information available

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**Density (g/cm<sup>3</sup>):**  
No information available

**Specific gravity:**  
1.067-1.085

**pH:**  
No information available

**Vapor pressure @ 20°C (kPa):**  
2.2-2.4

**Evaporation rate:**  
No information available

**Vapor density:**  
1.03-1.04

**VOC content (g/L):**  
No information available

**Odor threshold (ppm):**  
0.05-1.0

**Partition coefficient  
(n-octanol/water):**  
No information available

**Viscosity:**  
No information available

**Miscibility:**  
No information available

**Solubility:**  
Very soluble in water  
Soluble in hot alcohol  
Soluble in Benzene  
Soluble in Acetone  
Soluble in Ether

## 10. STABILITY AND REACTIVITY

### Reactivity

Reactions with peroxide, organic peroxides, nitrogen dioxide, performic acid, magnesium carbonate cause explosions  
Reacts with Sodium hydroxide to yield formic acid and hydrogen  
Reacts with alkali and alkaline earth metals to generate heat and form flammable hydrogen gas  
Reacts exothermically with AZO compounds giving off nitrogen gas

### Chemical stability

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Ignition sources.

**Incompatible Materials:**

- Oxidizing agents
- Acids
- Bases
- Alkalis
- Amines
- Ammonia
- Alkali Metals
- Alkaline Earth metals
- dithiocarbamates
- Phenol
- nitrides
- isocyanates
- Anhydrides
- Nitromethane
- Iron
- Silver
- Nitrogen oxides

**Hazardous decomposition products:** Carbon monoxide. Carbon dioxide.

### Other Information

**Corrosivity:** No information available

Special Remarks on Corrosivity: No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Ingestion. Skin. Eyes. Inhalation.

### Acute Toxicity

### Component Information

Water	
CAS-No.	7732-18-5

**LD50/oral/rat** = > 90 mL/kg Oral LD50 Rat  
**LD50/oral/mouse** = No information available  
**LD50/dermal/rabbit** = No information available  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = No information available  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50information** = No information available

Formaldehyde	
CAS-No.	50-00-0

**LD50/oral/rat** = 100 mg/kg Oral LD50 Rat  
**LD50/oral/mouse** = 500 mg/kg (RTECS)  
385 mg/kg (RTECS)  
42 mg/kg (RTECS)  
**LD50/dermal/rabbit** = 270 mg/kg Dermal LD50Rabbit  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = 0.578 mg/L Inhalation LC50 Rat 4 h  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50information** = 260 mg/kg oral LD50 Guinea Pig

Methyl Alcohol	
CAS-No.	67-56-1

**LD50/oral/rat** = 5628 mg/kg (EU Chemicals Bureau IUCLID datasheet)  
5600 mg/kg (RTECS)  
6200 mg/kg Oral LD50 Rat (LOLI; EU Chemicals Bureau IUCLID dataset)  
**LD50/oral/mouse** = 5800 mg/kg  
**LD50/dermal/rabbit** = 15800 mg/kg; 15840 mg/kg Dermal LD50 Rabbit  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = 83.2 mg/L Inhalation LC50 Rat 4 h  
64000 ppm 4 h; 22500 ppm Inhalation LC50 8h  
**LC50/inhalation/mouse** = 41000 ppm 6 h  
**Other LD50 or LC50information** = 14200 mg/kg Oral LD50 Rabbit  
7500 mg/kg Oral LD50 Dog  
>5000 mg/kg Oral LD50 Pig  
7000 mg/kg Oral LD50 Monkey  
22500 ppm Inhalation LC50 Rat 8 hr.

### Product Information

**LD50/oral/rat** =  
**VALUE- Acute Tox Oral** = No information available

**LD50/oral/mouse** =  
**Value - Acute Tox Oral** = No information available

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**LD50/dermal/rabbit****VALUE-Acute Tox Dermal** = No information available**LD50/dermal/rat****VALUE -Acute Tox Dermal** = No information available**LC50/inhalation/rat****VALUE-Vapor** = No information available**VALUE-Gas** = No information available**VALUE-Dust/Mist** = No information available**LC50/Inhalation/mouse****VALUE-Vapor** = No information available**VALUE - Gas** = No information available**VALUE - Dust/Mist** = No information available**Symptoms****Skin Contact:**

Extremely irritating to the skin. Causes skin burns. Harmful if absorbed through skin. May cause sensitization by skin contact. May cause brownish discoloration of the skin. May cause dermatitis, hives, pustular vesicular lesions. May cause hardening of the skin. Methanol can be absorbed through the skin, producing systemic effects that include visual disturbances. Absorption through the skin may cause metabolic acidosis.

**Eye Contact:**

Severe eye irritation. Causes eye burns. Lachrymator (substance which increases the flow of tears). May cause irreversible eye damage.

**Inhalation**

Exposure to vapor or mist causes eye irritation. Causes lacrimation. Causes conjunctivitis. Irritating to respiratory system. May cause dry or sore throat, itching and burning sensations of the nose, and coughing. May cause cough, laryngospasm, tracheitis, pulmonary edema. May cause rhinitis, pharyngitis. May cause bronchitis. May cause pneumonia. May cause anosmia (loss of the sense of smell). May cause muscle weakness. May cause headache. May cause fatigue. It may affect behavior/central nervous system (ataxia). May affect behavior/central nervous system (tetany, coma). It may affect the cardiovascular system (rapid heart beat (tachycardia), palpitations). May cause gastroenteritis (inflammation of the stomach and intestines). May cause nausea, vomiting. May cause constipation. It may affect the peripheral nervous system (spastic paralysis with or without sensory change). Contains Methyl alcohol. Exposure to high concentrations of Methyl alcohol vapor or mist can cause blurred vision, impaired vision or blindness, and metabolic acidosis.

**Ingestion**

Toxic if swallowed. Causes digestive (gastrointestinal) tract irritation. Causes digestive or gastrointestinal tract burns. Ingestion may cause nausea, vomiting, diarrhea. May cause abdominal pain. May cause ulceration or bleeding from the stomach. May affect the liver and cause jaundice, a yellowing of the skin and/or eyes. May affect urinary system (kidneys). It may cause reduction in body temperature. May affect the cardiovascular system (hypotension). May affect the cardiovascular system (cardiac arrhythmias). May affect respiration (tachypnea (rapid breathing)). May affect respiration (difficult or labored breathing resulting in shortness of breath). Contains Methyl alcohol which can affect vision and cause blindness if swallowed. Contains Methyl alcohol which can cause metabolic acidosis. May cause central nervous system effects (affect behavior). May affect behavior/central nervous system (lethargy, fatigue). May affect behavior/central nervous system (dizziness, headache). May affect behavior/central nervous system (convulsions/seizures). May affect behavior/central nervous system (vertigo, muscle weakness hallucinations/distorted perceptions, ataxia,

convulsions). May affect behavior/central nervous system (somnia, tremor). May affect behavior/central nervous system (depression or excitement). May affect behavior/central nervous system (sleeping problems, memory loss). It may affect the pancreas (pancreatitis). May cause hyperglycemia.

**Aspiration hazard** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated inhalation may cause a delayed allergic or hypersensitivity reaction. Prolonged or repeated inhalation may affect metabolism (weight loss). Prolonged or repeated inhalation may affect the blood (changes in white blood cell count). Prolonged or repeated inhalation may affect the blood (changes in serum composition). Prolonged or repeated inhalation may affect respiration. Prolonged or repeated inhalation may affect the liver. Prolonged or repeated inhalation may affect the kidneys. Prolonged or repeated inhalation and/or ingestion may cause central nervous system effects (affect behavior). Prolonged or repeated inhalation may cause headache. Prolonged or repeated inhalation may affect the brain. Prolonged or repeated inhalation may affect the bone marrow (changes in bone marrow). Prolonged or repeated inhalation may affect the spleen. Prolonged or repeated inhalation may affect the adrenal gland. Prolonged or repeated ingestion may cause gastritis. Prolonged or repeated ingestion may cause weight loss. Prolonged or repeated inhalation may affect the peripheral nervous system. Prolonged or repeated ingestion may affect the liver, and kidneys. Prolonged or repeated ingestion may affect the blood (changes in serum composition). Prolonged or repeated ingestion may affect the blood (changes in red blood cell count).

**Sensitization:** May cause sensitization by skin contact.

**Mutagenic Effects:** May affect genetic material  
 Mutagenic effects in mammalian somatic cells  
 Experiments with animal lymphocytes have shown mutagenic effects  
 Experiments with human lymphocytes have shown mutagenic effects  
 Mutations in microorganisms  
 Experiments with bacteria and/or yeast have shown mutagenic effects

**Carcinogenic effects:** Carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed
Formaldehyde	50-00-0	Group 1 -Carcinogenic to humans - Monograph 100F [2012] Monograph 88 [2006] Monograph 62 [1995] Supplement 7 [1987]	A1 Confirmed Human Carcinogen	Known Human Carcinogen	Present see 29 CFR 1910.1048	Not listed	Not listed
Methyl Alcohol	67-56-1	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*IARC (International Agency for Research on Cancer)*

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available  
**Developmental Effects:** No information available  
**Teratogenic Effects:** May cause birth defects (teratogenic effects) based on animal test data

**Specific Target Organ Toxicity**

**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Target Organs:** Skin. Respiratory system. Lungs. Eyes/vision. Optic nerve. Nervous system. Liver.

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ecotoxicity effects:** Aquatic environment.

*Formaldehyde - 50-00-0*

**Freshwater Fish Species Data:** 22.6 - 25.7 mg/L LC50 Pimephales promelas 96 h flow-through 1 1510 µg/L LC50 Lepomis macrochirus 96 h static 1 41 mg/L LC50 Brachydanio rerio 96 h static 1 0.032 - 0.226 mL/L LC50 Oncorhynchus mykiss 96 h flow-through 1 100 - 136 mg/L LC50 Oncorhynchus mykiss 96 h static 1 23.2 - 29.7 mg/L LC50 Pimephales promelas 96 h static 1

**Water Flea Data:**

*Methyl Alcohol - 67-56-1*

**Freshwater Fish Species Data:** 2 mg/L LC50 Daphnia magna 48 h 11.3 - 18 mg/L EC50 Daphnia magna 48 h  
 28200 mg/L LC50 Pimephales promelas 96 h flow-through 1 100 mg/L LC50 Pimephales promelas 96 h static 1 19500 - 20700 mg/L LC50 Oncorhynchus mykiss 96 h flow-through 1 18 - 20 mL/L LC50 Oncorhynchus mykiss 96 h static 1 13500 - 17600 mg/L LC50 Lepomis macrochirus 96 h flow-through 1

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility:** No information available.

**13. DISPOSAL CONSIDERATIONS**

**Disposal Methods**

**Waste from residues / unused products:**  
 Waste must be disposed of in accordance with Federal, State and Local regulation.

**Contaminated packaging:**  
 Empty containers should be taken for local recycling, recovery or waste disposal

Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Water	7732-18-5	None	None	None	None
Formaldehyde	50-00-0	None	None	None	U122
Methyl Alcohol	67-56-1	None	None	None	U154 ignitable waste

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** UN1198  
**Proper Shipping Name:** Formaldehyde solutions, flammable  
**Hazard Class:** 3  
**Subsidiary Class:** 8  
**Packing group:** III  
**Emergency Response Guide Number:** 132  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** No information available  
**Special Provisions:** 176, B1, IB3, T4, TP1  
**Symbol(s):** No information available  
**Description:** UN1198, FORMALDEHYDE SOLUTIONS, FLAMMABLE, 3 (8), III

### TDG (Canada)

**UN-No:** UN1198  
**Proper Shipping Name:** Formaldehyde solution, flammable  
**Hazard Class:** 3  
**Subsidiary Risk:** 8  
**Packing Group:** III  
**Marine Pollutant:** No Information available  
**Description:** UN1198, FORMALDEHYDE SOLUTION, FLAMMABLE, 3 (8), III

### ADR

**UN-No:** UN1198  
**Proper Shipping Name:** Formaldehyde solution, flammable  
**Hazard Class:** 3  
**Packing Group:** III  
**Subsidiary Risk:** 8  
**Description:** UN1198, FORMALDEHYDE SOLUTION, FLAMMABLE, 3 (8), III

### IMO / IMDG

**UN-No:** UN1198  
**Proper Shipping Name:** Formaldehyde solutions, flammable  
**Hazard Class:** 3  
**Subsidiary Risk:** 8  
**Packing Group:** III  
**Marine Pollutant:** No information available  
**EMS:** F-E  
**Description:** UN1198, FORMALDEHYDE SOLUTION, FLAMMABLE, 3 (8), III

### RID

**UN-No:** UN1198  
**Proper Shipping Name:** Formaldehyde solution, flammable  
**Hazard Class:** 3  
**Subsidiary Risk:** 3 + 8  
**Packing Group:** III  
**Description:** UN1198, FORMALDEHYDE SOLUTION, FLAMMABLE, 3 (8), III

### ICAO

**UN-No:** UN1198  
**Proper Shipping Name:** Formaldehyde solution, flammable  
**Hazard Class:** 3  
**Subsidiary Risk:** 8  
**Packing Group:** III  
**Description:** UN1198, FORMALDEHYDE SOLUTION, FLAMMABLE, 3 (8), III

**Special Provisions** A180

**IATA**

**UN-No:** UN1198  
**Proper Shipping Name:** Formaldehyde solution, flammable  
**Hazard Class:** 3  
**Subsidiary Risk:** 8  
**Packing Group:** III  
**ERG Code:** 3Ci  
**Special Provisions** No information available  
**Description:** UN1198, FORMALDEHYDE SOLUTION, FLAMMABLE, 3 (8), III

**15. REGULATORY INFORMATION**

**International Inventories**

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Water	7732-18-5	PresentACTIVE	Present KE-35400	Present	Not present	Present	Present	Present 231-791-2
Formaldehyde	50-00-0	Present(ACTIVE)	Present KE-17074	Present	Present (2)-482	Present	Present	Present 200-001-8
Methyl Alcohol	67-56-1	PresentACTIVE	Present KE-23193	Present	Present (2)-201	Present	Present	Present 200-659-6

**U.S. Regulations**

*Formaldehyde*

**Massachusetts RTK:** Present  
**Massachusetts EHS:** carcinogen; extraordinarily hazardous  
**New Jersey RTK Hazardous Substance List:** 0946  
**New Jersey (EHS) List:** 0946 500 lb TPQ  
**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present  
**New Jersey TCPA - EHS:** 175lbTQ  
15000lbTQ  
**Pennsylvania RTK:** Environmental hazard  
Special hazardous substance  
**Pennsylvania RTK - Environmental Hazard List** Present  
**Pennsylvania RTK - Special Hazardous Substances** Present  
**Michigan PSM HHC:** = 1000 lb TQ  
**Minnesota - Hazardous Substance List:** Present  
**New York Release Reporting - List of Hazardous Substances:**  
100 lb RQ  
1 lb RQ  
**Louisiana Reportable Quantity List for Pollutants:** 100lbfinal RQ  
45.4kgfinal RQ  
**California Directors List of Hazardous Substances:** Present  
**FDA - Direct Food Additives** 21 CFR 173.340  
**FDA - 21 CFR - Total Food Additives** 173.340, 175.105, 175.210, 175.300, 176.170, 176.180, 176.200, 177.1200, 177.2410,  
**- List Sourced from EAFUS** 178.3120, 573.460

*Methyl Alcohol*

**Massachusetts RTK:** Present  
**New Jersey RTK Hazardous Substance List:** 1222  
**New Jersey (EHS) List:** 1222 500 lb TPQ  
**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present  
**Pennsylvania RTK:** Environmental hazard  
**Pennsylvania RTK - Environmental Hazard List** Present  
**Minnesota - Hazardous Substance List:** Present  
**New York Release Reporting - List of Hazardous Substances:**  
5000 lb RQ  
1 lb RQ  
**Louisiana Reportable Quantity List for Pollutants:** 5000lbfinal RQ  
2270kgfinal RQ  
**California Directors List of Hazardous Substances:** Present

**FDA - Direct Food Additives** 21 CFR 173.250 (residues); 21 CFR 172.869 (residual)  
**FDA - 21 CFR - Total Food Additives** 172.560, 172.859, 172.867, 173.250, 173.385, 175.105, 175.300, 176.180, 176.200,  
**- List Sourced from EAFUS** 176.210, 177.1200, 177.2420, 177.2460, 177.2800, 73.345, 73.615

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

**⚠️ WARNING:** This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause cancer. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

**⚠️ WARNING:** This product can expose you to chemicals including (see table below) which is (are) known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.p65warnings.ca.gov](http://www.p65warnings.ca.gov).

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Water	7732-18-5	Not Listed	Not Listed	Not Listed	Not Listed
Formaldehyde	50-00-0	carcinogen	Not Listed	Not Listed	Not Listed
Methyl Alcohol	67-56-1	Not Listed	developmental	Not Listed	Not Listed

**CERCLA/SARA**

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Water	7732-18-5	None	None	None	None	None
Formaldehyde	50-00-0	100 lb final RQ 45.4 kg final RQ	100 lb EPCRA RQ	None	None	0.1 % de minimis concentration
Methyl Alcohol	67-56-1	5000 lb final RQ 2270 kg final RQ	None	None	None	1.0 % de minimis concentration

**U.S. TSCA**

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Water	7732-18-5	Not Applicable	Not Applicable
Formaldehyde	50-00-0	Not Applicable	Not Applicable
Methyl Alcohol	67-56-1	Not Applicable	Not Applicable

**Canada**

**WHMIS 2015 - GHS Classifications**

WHMIS 2015 Hazard Classification Information:

Component  
 Water  
 7732-18-5 ( 47-53.5 )  
 Formaldehyde  
 50-00-0 ( 36.5-38 )

WHMIS 2015 Hazard Classification  
 Not a dangerous product according to HPR classification criteria  
 Flammable gases - Category 1: H220 Extremely flammable gas.;  
 Flammable liquids - Category 3: H226 Flammable liquid and vapour. (solution, 37%); Corrosive to Metals - Category 1: H290 May be corrosive to metals. (solution, 37%); Acute toxicity - Oral - Category 4: H302 Harmful if swallowed. (solution, 37%); Acute toxicity - Dermal - Category 3: H311 Toxic in contact with skin. (solution, 37%); Acute toxicity - Inhalation - Category 2: H330 Fatal if inhaled.; Skin corrosion/irritation - Category 2: H315 Causes skin irritation. (solution, 37%); Serious Eye Damage/Eye Irritation - Category 1: H318 Causes serious eye damage. (solution, 37%); Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.; Skin sensitizers - Category 1A: H317 May cause allergic skin reaction. (solution, 37%); Germ

Methyl Alcohol  
67-56-1 ( 10-15 )

cell mutagenicity - Category 2: H341 Suspected of causing genetic defects.; Carcinogenicity - Category 1A: H350 May cause cancer.; Reproductive Toxicity - Category 1: H360 May damage fertility or the unborn child. (solution, 37%; contains 16% of a substance that is toxic to reproduction (Methyl alcohol)); Specific target organ toxicity - Single exposure - Category 2: H371 May cause damage to organs. (solution, 37%); Specific target organ toxicity - Single exposure - Category 3: H335 May cause respiratory irritation.; Specific target organ toxicity - Single exposure - Category 3: H336 May cause drowsiness or dizziness. (solution, 37%)  
Flammable liquids - Category 2: H225 Highly flammable liquid and vapour.; Acute toxicity - Oral - Category 3: H301 Toxic if swallowed.; Serious Eye Damage/Eye Irritation - Category 2: H319 Causes serious eye irritation.; Reproductive Toxicity - Category 1: H360 May damage fertility or the unborn child.; Specific target organ toxicity - Single exposure - Category 2: H371 May cause damage to organs.; Specific target organ toxicity - Single exposure - Category 3: H336 May cause drowsiness or dizziness.

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

Components	WHMIS Ingredient Disclosure List -
Formaldehyde	0.1 %
Methyl Alcohol	1 %

#### Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
Water	7732-18-5	Present	Not Listed
Formaldehyde	50-00-0	Present	Not Listed
Methyl Alcohol	67-56-1	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
Water	7732-18-5	Not listed
Formaldehyde	50-00-0	Present
Methyl Alcohol	67-56-1	Not listed
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Water	7732-18-5	Not listed
Formaldehyde	50-00-0	Not listed
Methyl Alcohol	67-56-1	Not listed

#### EU Classification

##### EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
Water	7732-18-5	
Formaldehyde	50-00-0	Acute toxicity - Oral - Acute Tox. 3: H301 Toxic if swallowed. (Minimum classification); Acute toxicity - Dermal - Acute Tox. 3: H311 Toxic in contact with skin. (Minimum classification); Acute toxicity - Inhalation - Acute Tox. 3: H331 Toxic if inhaled. (Minimum classification); Skin corrosion/irritation - Skin Corr. 1B: H314 Causes severe skin burns and eye damage. (C >= 25 %; Concentration limits for acute toxicity cannot be translated into GHS from the DSD especially when

		<p>minimum classifications are given); Skin sensitizers - Skin Sens. 1: H317 May cause allergic skin reaction. (C &gt;= 0.2 %; Concentration limits for acute toxicity cannot be translated into GHS from the DSD especially when minimum classifications are given); Germ cell mutagenicity - Muta. 2: H341 Suspected of causing genetic defects.; Carcinogenicity - Carc. 1B: H350 May cause cancer.605-001-00-5 Skin corrosion/irritation - Skin Corr. 1B: H314 Causes severe skin burns and eye damage. (C &gt;= 25 %; Concentration limits for acute toxicity cannot be translated into GHS from the DSD especially when minimum classifications are given); Skin corrosion/irritation - Skin Irrit. 2: H315 Causes skin irritation. (5 % &lt;= C &lt;25 %; Concentration limits for acute toxicity cannot be translated into GHS from the DSD especially when minimum classifications are given); Serious Eye Damage/Eye Irritation - Eye Irrit. 2: H319 Causes serious eye irritation. (5 % &lt;= C &lt;25 %; Concentration limits for acute toxicity cannot be translated into GHS from the DSD especially when minimum classifications are given); Skin sensitizers - Skin Sens. 1: H317 May cause allergic skin reaction. (C &gt;= 0.2 %; Concentration limits for acute toxicity cannot be translated into GHS from the DSD especially when minimum classifications are given); Specific target organ toxicity - Single exposure - STOT SE 3: H335 May cause respiratory irritation. (C &gt;= 5 %; Concentration limits for acute toxicity cannot be translated into GHS from the DSD especially when minimum classifications are given)605-001-00-5</p>
Methyl Alcohol	67-56-1	<p>Flammable liquids - Flam. Liq. 2: H225 Highly flammable liquid and vapour.; Acute toxicity - Oral - Acute Tox. 3: H301 Toxic if swallowed. (Minimum classification); Acute toxicity - Dermal - Acute Tox. 3: H311 Toxic in contact with skin. (Minimum classification); Acute toxicity - Inhalation - Acute Tox. 3: H331 Toxic if inhaled. (Minimum classification); Specific target organ toxicity - Single exposure - STOT SE 1: H370 Causes damage to organs. (C &gt;= 10 %; No information to prove exclusion of certain routes of exposure)603-001-00-X Specific target organ toxicity - Single exposure - STOT SE 1: H370 Causes damage to organs. (C &gt;= 10 %; No information to prove exclusion of certain routes of exposure); Specific</p>

		target organ toxicity - Single exposure - STOT SE 2: H371 May cause damage to organs. (3 % ≤ C < 10 %; Concentration limits for acute toxicity cannot be translated into GHS from the DSD especially when minimum classifications are given)603-001-00-X
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EU - CLP (1272/2008)

**R-phrase(s)**

R34 - Causes burns.  
R43 - May cause sensitization by skin contact.  
R40 - Limited evidence of a carcinogenic effect  
R23/24/25 - Toxic by inhalation, in contact with skin and if swallowed.

**S -phrase(s)**

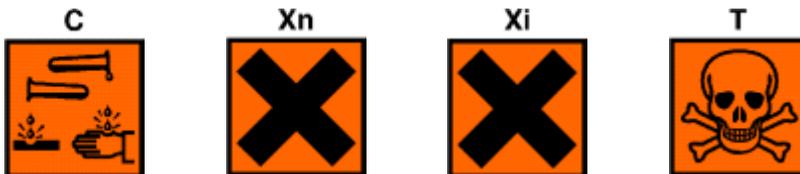
S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S51 - Use only in well ventilated areas.  
S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
Water	7732-18-5		No information	
Formaldehyde	50-00-0	T; R23/24/25 C; R34 Carc.Cat.2; R45 R43 Muta.Cat.3; R68	0.2%≤C<1% Xi;R43 1%≤C<5% Xn;R40-43 25%≤C T;R23/24/25-34-40-43 5%≤C<25% Xn;R20/21/22-36/37/38-40-43	S(1/2)-S26-S36/37/39-S45-S51
Methyl Alcohol	67-56-1	F; R11 T; R23/24/25-39/23/24/25	20%≤C: T; R:23/24/25 3%≤C<20%: Xn; R:20/21/22 10%≤C: T; R:39/23/24/25 3%≤C<10%: Xn; R:68/20/21/22	S1/2 S7 S16 S36/37 S45

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**

C - Corrosive.  
Xn - Harmful.  
Xi - Irritant.  
T - Toxic



**16. OTHER INFORMATION**

Product code: FO110

Product name: FORMALDEHYDE, 37 PERCENT, SOLUTION, USP

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**Preparation Date:** 3/16/2015  
**Revision Date:** 10/8/2018  
**Prepared by:** Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**