



# Material Safety Data Sheet

<b>NFPA</b>	<b>HMIS</b>	<b>Personal Protective Equipment</b>						
	<table border="1"> <tr><td>Health Hazard</td><td style="text-align: center;">2</td></tr> <tr><td>Fire Hazard</td><td style="text-align: center;">0</td></tr> <tr><td>Reactivity</td><td style="text-align: center;">0</td></tr> </table>	Health Hazard	2	Fire Hazard	0	Reactivity	0	
Health Hazard	2							
Fire Hazard	0							
Reactivity	0							
		See Section 15.						

<b>Section 1. Chemical Product and Company Identification</b>		<i>Page Number: 1</i>
<b>Common Name/ Trade Name</b>	<b>Formaldehyde, 10% Neutralized and Buffered</b>	<b>Catalog Number(s).</b> F-190
<b>Manufacturer</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	<b>CAS#</b> Mixture.
<b>Commercial Name(s)</b>	Not available.	<b>RTECS</b> Not applicable.
<b>Synonym</b>	Formaldehyde 10% Neutralized and Buffered Solution	<b>TSCA</b> TSCA 8(b) inventory: Formaldehyde; Methyl alcohol; Water; Sodium phosphate monobasic, Anhydrous; Sodium phosphate, dibasic
<b>Chemical Name</b>	Formaldehyde	<b>CI#</b> Not applicable.
<b>Chemical Family</b>	Not available	<b><u>IN CASE OF EMERGENCY</u></b> <b><u>CHEMTREC (24hr) 800-424-9300</u></b>  CALL (310) 516-8000
<b>Chemical Formula</b>	Not applicable.	
<b>Supplier</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

<b>Section 2. Composition and Information on Ingredients</b>					
Name	CAS #	<i>Exposure Limits</i>			% by Weight
		TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	CEIL (mg/m <sup>3</sup> )	
1) Formaldehyde	50-00-0		0.37		3.65-3.8
2) Methyl alcohol	67-56-1	200	250		1-1.5
3) Water	7732-18-5				93.2-93.8
4) Sodium phosphate monobasic, Anhydrous	7558-80-7				0.5
5) Sodium phosphate, dibasic	7558-79-4				1
<b>Toxicological Data on Ingredients</b>					
<b>Formaldehyde :</b>					
ORAL (LD50): Acute: 100 mg/kg [Rat]. 42 mg/kg [Mouse]. 260 mg/kg [Guinea pig].					
MIST (LC50): Acute: 454000 mg/m <sup>3</sup> 4 hours [Mouse].					
<b>Methyl alcohol:</b>					
ORAL (LD50): Acute: 5628 mg/kg [Rat].					
DERMAL (LD50): Acute: 15800 mg/kg [Rabbit].					
VAPOR (LC50): Acute: 64000 ppm 4 hours [Rat].					

**Section 3. Hazards Identification**

<b>Potential Acute Health Effects</b>	Hazardous in case of skin contact (irritant), of eye contact (irritant). Slightly hazardous in case of skin contact (sensitizer, permeator), of ingestion, of inhalation (lung irritant).
<b>Potential Chronic Health Effects</b>	Slightly hazardous in case of skin contact (sensitizer). <b>CARCINOGENIC EFFECTS:</b> Classified A2 (Suspected for human.) by ACGIH, 2A (Probable for human.) by IARC [Formaldehyde]. <b>MUTAGENIC EFFECTS:</b> Mutagenic for mammalian somatic cells. [Formaldehyde]. Mutagenic for bacteria and/or yeast. [Formaldehyde]. Mutagenic for mammalian somatic cells. [Methyl alcohol]. Mutagenic for bacteria and/or yeast. [Methyl alcohol]. <b>TERATOGENIC EFFECTS:</b> Classified POSSIBLE for human [Methyl alcohol]. <b>DEVELOPMENTAL TOXICITY:</b> Not available. The substance may be toxic to kidneys, liver, skin, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

**Section 4. First Aid Measures**

<b>Eye Contact</b>	Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention.
<b>Skin Contact</b>	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.
<b>Serious Skin Contact</b>	Not available.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
<b>Serious Inhalation</b>	Not available.
<b>Ingestion</b>	If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
<b>Serious Ingestion</b>	This product contains Methanol. Notes to Physician for Methanol Poisoning: 1. Support vital functions, correct for dehydration and shock, and manage fluid balance. 2. The currently recommended medical management of Methanol 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. Administer ethanol (orally or by IV (intravenously)) or Fomepizole (4-methylpyrazole or Antizol)) therapy by IV as an antidote to inhibit the formation of toxic metabolites. Adjunct therapy with Leucovorin followed by Folate can also be initialized. Please note that if Ethanol therapy is used, monitor blood glucose, especially in children. Ethanol can cause hypoglycemia. d. If 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 has corrected the metabolic acidosis, and no renal failure is present. However, once severe acidosis and renal failure occurred, however, hemodialysis is necessary. Hemodialysis is effective in removing Methyl alcohol and toxic metabolites, and correcting metabolic acidosis.

**Section 5. Fire and Explosion Data**

<b>Flammability of the Product</b>	Non-flammable.
<b>Auto-Ignition Temperature</b>	Not applicable.
<b>Flash Points</b>	Not applicable.
<b>Flammable Limits</b>	Not applicable.
<b>Products of Combustion</b>	Not available.

<b>Fire Hazards in Presence of Various Substances</b>	Not applicable.
<b>Explosion Hazards in Presence of Various Substances</b>	Non-explosive in presence of open flames and sparks, of shocks.
<b>Fire Fighting Media and Instructions</b>	Not applicable.
<b>Special Remarks on Fire Hazards</b>	Not available.
<b>Special Remarks on Explosion Hazards</b>	Reaction with peroxide, nitrogen dioxide, and permformic acid can cause an explosion. (Formaldehyde gas)

**Section 6. Accidental Release Measures**

<b>Small Spill</b>	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: <b>Neutralize the residue with a dilute solution of acetic acid.</b> Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
<b>Large Spill</b>	Stop leak if without risk. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. <b>Neutralize the residue with a dilute solution of acetic acid.</b> Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

**Section 7. Handling and Storage**

<b>Precautions</b>	Do not ingest. Do not breathe gas/fumes/ vapor/spray. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label.
<b>Storage</b>	Keep container tightly closed. Keep container in a cool, well-ventilated area.

**Section 8. Exposure Controls/Personal Protection**

<b>Engineering Controls</b>	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
<b>Personal Protection</b>	Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.
<b>Personal Protection in Case of a Large Spill</b>	Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.
<b>Exposure Limits</b>	<b>Formaldehyde gas</b> STEL: 0.3 (ppm) from ACGIH (TLV) [United States] STEL: 0.37 (mg/m <sup>3</sup> ) from ACGIH (TLV) [United States] TWA: 0.75 STEL: 2 (ppm) from OSHA (PEL) [United States] TWA: 2 STEL: 2 (ppm) [United Kingdom (UK)] TWA: 2.5 STEL: 2.5 (mg/m <sup>3</sup> ) [United Kingdom (UK)] <b>Methyl alcohol</b> TWA: 200 from OSHA (PEL) [United States] TWA: 200 STEL: 250 (ppm) from ACGIH (TLV) [United States] [1999] STEL: 250 from NIOSH [United States] TWA: 200 STEL: 250 (ppm) from NIOSH SKIN TWA: 200 STEL: 250 (ppm) [Canada]  Consult local authorities for acceptable exposure limits.

**Section 9. Physical and Chemical Properties**

<b>Physical state and appearance</b>	Liquid.	<b>Odor</b>	Not available.
<b>Molecular Weight</b>	Not applicable.	<b>Taste</b>	Not available.
<b>pH (1% soln/water)</b>	Not available	<b>Color</b>	Clear Colorless.
<b>Boiling Point</b>	The lowest known value is 64.5°C (148.1°F) (Methyl alcohol). Weighted average: 99.53°C (211.2°F)		
<b>Melting Point</b>	May start to solidify at -97.8°C (-144°F) based on data for: Methyl alcohol.		
<b>Critical Temperature</b>	The lowest known value is 240°C (464°F) (Methyl alcohol).		
<b>Specific Gravity</b>	Weighted average: 1 (Water = 1)		
<b>Vapor Pressure</b>	The highest known value is 12.3 kPa (@ 20°C) (Methyl alcohol). Weighted average: 2.43 kPa (@ 20°C)		
<b>Vapor Density</b>	The highest known value is 1.11 (Air = 1) (Methyl alcohol). Weighted average: 0.63 (Air = 1)		
<b>Volatility</b>	Not available.		
<b>Odor Threshold</b>	The highest known value is 100 ppm (Methyl alcohol)		
<b>Water/Oil Dist. Coeff.</b>	The product is much more soluble in water.		
<b>Ionicity (in Water)</b>	Non-ionic.		
<b>Dispersion Properties</b>	See solubility in water, diethyl ether, acetone.		
<b>Solubility</b>	Easily soluble in cold water, hot water. Soluble in diethyl ether, acetone. Insoluble in methanol, n-octanol.		

**Section 10. Stability and Reactivity Data**

<b>Stability</b>	The product is stable.
<b>Instability Temperature</b>	Not available.
<b>Conditions of Instability</b>	Incompatible materials
<b>Incompatibility with various substances</b>	Slightly reactive to reactive with oxidizing agents, reducing agents, acids, alkalis.
<b>Corrosivity</b>	Non-corrosive in presence of glass.
<b>Special Remarks on Reactivity</b>	Also incompatible with urea, phenol, isocyanates, anhydrides, amines, AZO compounds, carbonyl compounds, oxides(e.g. nitrogen dioxide), performic acid, dithiocarbmates, or peroxides. Polymerization can be inhibited by the addition of methanol or stabilizers such as hydroxypropyl methyl cellulose, methyl ethyl celluloses, or isophthalobisguanamine.
<b>Special Remarks on Corrosivity</b>	Not available.
<b>Polymerization</b>	Will not occur.

**Section 11. Toxicological Information**

<b>Routes of Entry</b>	Absorbed through skin. Eye contact. Inhalation.
<b>Toxicity to Animals</b>	Acute oral toxicity (LD50): 42 mg/kg [Mouse]. (Formaldehyde gas). Acute dermal toxicity (LD50): 15800 mg/kg [Rabbit.]. (Methyl alcohol).
<b>Chronic Effects on Humans</b>	

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**CARCINOGENIC EFFECTS:** Classified A2 (Suspected for human.) by ACGIH, 2A (Probable for human.) by IARC [Formaldehyde].  
**MUTAGENIC EFFECTS:** Mutagenic for mammalian somatic cells. [Formaldehyde]. Mutagenic for bacteria and/or yeast. [Formaldehyde]. Mutagenic for mammalian somatic cells. [Methyl alcohol]. Mutagenic for bacteria and/or yeast. [Methyl alcohol].  
**TERATOGENIC EFFECTS:** Classified POSSIBLE for human [Methyl alcohol].  
 Contains material which may cause damage to the following organs: kidneys, liver, skin, central nervous system (CNS).

**Other Toxic Effects on Humans**

Hazardous in case of skin contact (irritant).  
 Slightly hazardous in case of skin contact (sensitizer, permeator), of ingestion, of inhalation (lung irritant).

**Special Remarks on Toxicity to Animals**

LD50 [Rabbit] - Route: Skin; Dose 270 ul/kg (Formaldehyde gas)

**Special Remarks on Chronic Effects on Humans**

Exposure to Formaldehyde and Methanol may affect genetic material (mutagenic).  
 Exposure to Formaldehyde and Methanol may cause adverse reproductive effects and birth defects(teratogenic). Adverse reproductive effects of Formaldehyde as well as Methanol are primarily based on animal studies. Very few human studies have been done on the adverse reproductive effects from exposure to Formaldehyde. Studies produced a weak association (limited evidence) between adverse human female reproductive effects and occupational exposure. Furthermore, no human data could be found on adverse reproductive effects from occupational exposure to Methanol.  
 Exposure to Formaldehyde may cause cancer.

**Special Remarks on other Toxic Effects on Humans**

Acute Potential Health Effects:  
 Skin: Causes skin irritation. May be absorbed through skin with symptoms paralleling those of ingestion.  
 Eyes: Causes eye irritation  
 Inhalation: Inhalation of mist or vapor causes irritation of the respiratory tract (nose, throat, airways). Symptoms may include dry and sore mouth and throat, thirst, and sleep disturbances, difficulty breathing, shortness of breath, coughing, sneezing, wheezing rhinitis, chest tightness, pulmonary edema, bronchitis, tracheitis, laryngospasm, pneumonia, palpitations. It may also affect metabolism weight loss, metabolic acidosis), behavior/central nervous system (excitement, central nervous system depression, somnolence, convulsions, stupor, aggression, headache, weakness, dizziness, drowsiness, coma), peripheral nervous system, and blood.  
 Ingestion: May cause gastrointestinal irritation with nausea, vomiting, diarrhea, pain in mouth, throat and stomach. May also affect the liver(jaundice), urinary system/kidneys (difficulty urinating, albuminuria, hematuria, anuria), blood, endocrine system, respiration (respiratory obstruction, pulmonary edema, bronchiolar obstruction), cardiovascular system (hypotension), metabolism (metabolic acidosis), eyes (retinal changes, visual field changes), and behavior/central nervous system (symptoms similar to those for inhalation). Contains Methanol which may cause blindness if swallowed.  
 Chronic Potential Health Effects:  
 Skin: Prolonged or repeated exposure may cause contact dermatitis both irritant and allergic. It may also cause skin discoloration.  
 Inhalation: Although there is no clear evidence, prolonged or repeated exposure may induce allergic asthma. Other effects are similar to that of acute exposure.  
 Ingestion: Prolonged or repeated ingestion may cause gastrointestinal tract irritation. Other effects may be similar to that of acute ingestion.

**Section 12. Ecological Information**

**Ecotoxicity**

Not available.

**BOD5 and COD**

Not available.

**Products of Biodegradation**

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

**Toxicity of the Products of Biodegradation**

The products of degradation are less toxic than the product itself.

**Special Remarks on the Products of Biodegradation**

Methanol in water is rapidly biodegraded and volatilized. Aquatic hydrolysis, oxidation, photolysis, adsorption to sediment, and bioconcentration are not significant fate processes. The half-life of methanol in surfact water ranges from 24 hrs. to 168 hrs.  
 Based on its vapor pressure, methanol exists almost entirely in the vapor phase in the ambient atmosphere. It is degraded by reaction with photochemically produced hydroxyl radicals and has an estimated half-life of 17.8 days. Methanol is physically removed from air by rain due to its solubility. Methanol can react with NO2 in polluted to form methyl nitrate.  
 The half-life of methanol in air ranges from 71 hrs. (3 days) to 713 hrs. (29.7 days) based on photooxidation half-life in air. (Methyl alcohol)

**Section 13. Disposal Considerations**

**Waste Disposal** Waste must be disposed of in accordance with federal, state and local environmental control regulations.

**Section 14. Transport Information**

**DOT Classification** Not a DOT controlled material (United States).

**Identification** Not applicable.

**Special Provisions for Transport** Not applicable.

**DOT (Pictograms)**



**Section 15. Other Regulatory Information and Pictograms**

**Federal and State Regulations**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Formaldehyde  
California prop. 65 (no significant risk level): Formaldehyde Solution: 0.04 mg/day (inhalation)  
California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Formaldehyde  
Connecticut hazardous material survey.: Formaldehyde; Methyl alcohol; Sodium phosphate, dibasic  
Illinois toxic substances disclosure to employee act: Formaldehyde; Methyl alcohol  
Illinois chemical safety act: Formaldehyde; Methyl alcohol; Sodium phosphate, dibasic  
New York release reporting list: Formaldehyde; Methyl alcohol; Sodium phosphate, dibasic  
Rhode Island RTK hazardous substances: Formaldehyde; Methyl alcohol  
Pennsylvania RTK: Formaldehyde gas; Methyl alcohol; Sodium phosphate, dibasic  
Minnesota: Formaldehyde; Methyl alcohol  
Massachusetts RTK: Formaldehyde; Methyl alcohol; Sodium phosphate, dibasic  
Massachusetts spill list: Formaldehyde; Methyl alcohol  
New Jersey: Formaldehyde gas; Methyl alcohol; Sodium phosphate, dibasic  
New Jersey spill list: Formaldehyde; Methyl alcohol; Sodium phosphate, dibasic  
Louisiana RTK reporting list: Formaldehyde  
Louisiana spill reporting: Formaldehyde; Methyl alcohol; Sodium phosphate, dibasic  
California Director's List of Hazardous Substances: Formaldehyde; Methyl alcohol  
TSCA 8(b) inventory: Formaldehyde; Methyl alcohol; Water; Sodium phosphate monobasic, Anhydrous; Sodium phosphate, dibasic  
TSCA 4(f) priority risk review: Formaldehyde  
SARA 302/304/311/312 extremely hazardous substances: Formaldehyde  
SARA 313 toxic chemical notification and release reporting: Formaldehyde 3.725%; Methyl alcohol 1.25%  
CERCLA: Hazardous substances.: Formaldehyde: 100 lbs. (45.36 kg); Methyl alcohol: 5000 lbs. (2268 kg); Sodium phosphate, dibasic: 5000 lbs. (2268 kg);

**California Proposition 65 Warnings**

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Formaldehyde

**Other Regulations**

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).  
For Formaldehyde (CAS no. 50-00-0):  
EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances. (EINECS No. 200-001-8).  
Canada: Listed on Canadian Domestic Substance List (DSL).  
China: Listed on National Inventory.  
Japan: Listed on National Inventory (ENCS).  
Korea: Listed on National Inventory (KECI).  
Philippines: Listed on National Inventory (PICCS).  
Australia: Listed on AICS.

For Methyl Alcohol (CAS no. 67-56-1):  
 EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances. (EINECS No. 200-659-6).  
 Canada: Listed on Canadian Domestic Substance List (DSL).  
 China: Listed on National Inventory.  
 Japan: Listed on National Inventory (ENCS).  
 Korea: Listed on National Inventory (KECI).  
 Philippines: Listed on National Inventory (PICCS).  
 Australia: Listed on AICS.  
 For Water (CAS no. 7732-18-5):  
 EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances. (EINECS No. 231-791-2).  
 Canada: Listed on Canadian Domestic Substance List (DSL).  
 China: Not listed on National Inventory.  
 Japan: Not listed on National Inventory (ENCS).  
 Korea: Not listed on National Inventory (KECI).  
 Philippines: Not listed on National Inventory (PICCS).  
 Australia: Listed on AICS.


**Other Classifications**

<b>WHMIS (Canada)</b>	CLASS D-2B: Material causing other toxic effects (TOXIC).	
<b>DSCL (EEC)</b>	R36/37/38- Irritating to eyes, respiratory system and skin.	S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S36/37- Wear suitable protective clothing and gloves.

**HMIS (U.S.A.)**

Health Hazard	2
Fire Hazard	0
Reactivity	0
Personal Protection	h

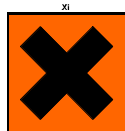
**National Fire Protection Association (U.S.A.)**

Health  Flammability  
 Reactivity  
 Specific hazard

**WHMIS (Canada) (Pictograms)**



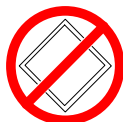
**DSCL (Europe) (Pictograms)**



**TDG (Canada) (Pictograms)**



**ADR (Europe) (Pictograms)**



**Protective Equipment**



Gloves.



Lab coat.





Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.



Splash goggles.

**Section 16. Other Information**

**MSDS Code** F190S

**References** Not available.

**Other Special Considerations** Not available.

Validated by Sonia Owen on 8/11/2006.

Verified by Sonia Owen.

Printed 9/12/2006.

CALL (310) 516-8000

**Notice to Reader**

*All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) 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 MSDS. 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 MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.*