



Health	2
Fire	0
Reactivity	0
Personal Protection	H

Material Safety Data Sheet Formaldehyde, 10% (v/v) MSDS

Section 1: Chemical Product and Company Identification

Product Name: Formaldehyde, 10% (v/v)

Catalog Codes: SLF1939

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Formaldehyde gas; Methyl alcohol; Water; Sodium phosphate monobasic, Anhydrous; Sodium phosphate, dibasic

CI#: Not applicable.

Synonym: Formaldehyde, 10% (v/v) Solution, Histological Grade

Chemical Name: Formaldehyde

Chemical Formula: Not applicable.

Contact Information:

Sciencelab.com, Inc.

14025 Smith Rd.

Houston, Texas 77396

US Sales: **1-800-901-7247**

International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call:

1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Formaldehyde gas	50-00-0	3.65-3.8
Methyl alcohol	67-56-1	1-1.5
Water	7732-18-5	93.2-93.8
Sodium phosphate monobasic, Anhydrous	7558-80-7	0.5
Sodium phosphate, dibasic	7558-79-4	1

Toxicological Data on Ingredients: Formaldehyde gas: ORAL (LD50): Acute: 100 mg/kg [Rat]. 42 mg/kg [Mouse]. VAPOR (LC50): Acute: 0.454 mg/m 4 hours [Mouse]. Methyl alcohol: 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

Potential Acute Health Effects:

Hazardous in case of eye contact (irritant), of ingestion, . Slightly hazardous in case of skin contact (irritant, sensitizer, permeator). Non-corrosive for skin. Non-corrosive to the eyes. Non-corrosive for lungs. Severe over-exposure can result in death.

Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Classified A2 (Suspected for human.) by ACGIH, 2A (Probable for human.) by IARC [Formaldehyde gas]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Formaldehyde gas]. Mutagenic for bacteria and/or yeast. [Formaldehyde gas]. Mutagenic for mammalian somatic cells. [Methyl alcohol]. Mutagenic for bacteria and/or yeast. [Methyl alcohol]. TERATOGENIC EFFECTS: Classified POSSIBLE for human [Methyl alcohol]. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [POSSIBLE] [Methyl alcohol]. The substance may be toxic to kidneys, liver, 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**Eye Contact:**

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.

Skin Contact:

Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

Serious Skin Contact: Not available.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation: Not available.

Ingestion:

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.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances: Non-explosive in presence of open flames and sparks, of shocks.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards:

Reaction with peroxide, nitrogen dioxide, and permformic acid can cause an explosion. (Formaldehyde gas)

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Poisonous liquid. 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. Neutralize the residue with a dilute solution of acetic acid. 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

Precautions:

Keep locked up.. 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.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Do not store above 25°C (77°F).

Section 8: Exposure Controls/Personal Protection

Engineering Controls:

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.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

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.

Exposure Limits:

Formaldehyde gas STEL: 0.3 (ppm) from ACGIH (TLV) [United States] STEL: 0.37 (mg/m³) 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/m³) [United Kingdom (UK)] Methyl alcohol 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

Physical state and appearance: Liquid.

Odor: Not available.

Taste: Not available.

Molecular Weight: Not applicable.

Color: Clear Colorless.

pH (1% soln/water): Basic.

Boiling Point: The lowest known value is 64.5°C (148.1°F) (Methyl alcohol). Weighted average: 99.53°C (211.2°F)

Melting Point: May start to solidify at -97.8°C (-144°F) based on data for: Methyl alcohol.

Critical Temperature: The lowest known value is 240°C (464°F) (Methyl alcohol).

Specific Gravity: Weighted average: 1 (Water = 1)

Vapor Pressure: The highest known value is 12.3 kPa (@ 20°C) (Methyl alcohol). Weighted average: 2.43 kPa (@ 20°C)

Vapor Density: The highest known value is 1.11 (Air = 1) (Methyl alcohol). Weighted average: 0.63 (Air = 1)

Volatility: Not available.

Odor Threshold: The highest known value is 100 ppm (Methyl alcohol)

Water/Oil Dist. Coeff.: The product is much more soluble in water.

Ionicity (in Water): Non-ionic.

Dispersion Properties: See solubility in water, diethyl ether, acetone.

Solubility:

Easily soluble in cold water, hot water. Soluble in diethyl ether, acetone. Insoluble in methanol, n-octanol.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances: Slightly reactive to reactive with oxidizing agents, reducing agents, acids, alkalis.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

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.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Eye contact. Inhalation.

Toxicity to Animals:

Acute oral toxicity (LD50): 42 mg/kg [Mouse]. (Formaldehyde gas). Acute dermal toxicity (LD50): 15800 mg/kg [Rabbit.]. (Methyl alcohol).

Chronic Effects on Humans:

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

Other Toxic Effects on Humans:

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

Special Remarks on Toxicity to Animals: LD50 [Rabbit] - Route: Skin; Dose 270 ul/kg (Formaldehyde gas)

Special Remarks on Chronic Effects on Humans:

May affect genetic material May cause adverse reproductive effects (paternal and maternal effects and fetotoxicity) and birth defects. May cause cancer.

Special Remarks on other Toxic Effects on Humans:

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.

Section 15: Other Regulatory Information

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 Solution, Reagent, ACS California prop. 65 (no significant risk level): Formaldehyde Solution, Reagent, ACS: 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 Solution, Reagent, ACS Connecticut hazardous material survey.: Formaldehyde Solution, Reagent, ACS Illinois toxic substances disclosure to employee act: Formaldehyde Solution, Reagent, ACS Illinois chemical safety act: Formaldehyde Solution, Reagent, ACS New York release reporting list: Formaldehyde Solution, Reagent, ACS; Sodium phosphate, dibasic New York acutely hazardous substances: Formaldehyde Solution, Reagent, ACS Rhode Island RTK hazardous substances: Formaldehyde Solution, Reagent, ACS Pennsylvania RTK: Formaldehyde Solution, Reagent, ACS; Sodium phosphate, dibasic Minnesota: Formaldehyde Solution, Reagent, ACS Massachusetts RTK: Formaldehyde Solution, Reagent, ACS; Sodium phosphate, dibasic Massachusetts spill list: Formaldehyde Solution, Reagent, ACS New Jersey: Formaldehyde Solution, Reagent, ACS; Sodium phosphate, dibasic New Jersey spill list: Formaldehyde Solution, Reagent, ACS Louisiana RTK reporting list: Formaldehyde Solution, Reagent, ACS Louisiana spill reporting: Formaldehyde Solution, Reagent, ACS TSCA 8(b) inventory: Formaldehyde gas; Methyl alcohol; Water; Sodium phosphate monobasic, Anhydrous; Sodium phosphate, dibasic TSCA 4(f) priority risk review: Formaldehyde Solution, Reagent, ACS SARA 302/304/311/312 extremely hazardous substances: Formaldehyde Solution, Reagent, ACS SARA 313 toxic chemical notification and release reporting: Formaldehyde Solution, Reagent, ACS 10% CERCLA: Hazardous substances.: Formaldehyde Solution, Reagent, ACS: 100 lbs. (45.36 kg); Sodium phosphate, dibasic: 5000 lbs. (2268 kg);

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):

CLASS D-2A: Material causing other toxic effects (VERY TOXIC). Class B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F).

DSCL (EEC):

R22- Harmful if swallowed. R23- Toxic by inhalation. R45- May cause cancer. S1/2- Keep locked up and out of the reach of children. S45- In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S46- If swallowed, seek medical advice immediately and show this container or label. S53- Avoid exposure - obtain special instructions before use.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: h

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

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

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

References: Not available.

Other Special Considerations: Not available.

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