

Material Safety Data Sheet

Formalin 20%

ACC# 89220

Section 1 - Chemical Product and Company Identification

MSDS Name: Formalin 20%**Catalog Numbers:** 58063A**Synonyms:** 20% dilution of formalin, which is 37% formaldehyde and 15% methanol.**Company Identification:**

Fisher Diagnostics
 Fisher Scientific Company, LLC
 8365 Valley Pike
 Middletown, VA 22645-0307

For information, call: 800-524-0294**Emergency Number:** 800-524-0294**For CHEMTREC assistance, call:** 800-424-9300**For International CHEMTREC assistance, call:** 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7732-18-5	Deionized Water	89.6	231-791-2
50-00-0	Formaldehyde	7.4	200-001-8
67-56-1	Methyl alcohol	3	200-659-6

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: colorless liquid. **Warning!** Contains formaldehyde which can cause cancer. Causes eye, skin, and respiratory tract irritation. Harmful if swallowed, inhaled, or absorbed through the skin. May cause allergic respiratory and skin reaction.

Target Organs: Lungs, respiratory system, skin.

Potential Health Effects

Eye: May cause eye irritation. Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. Vapors may cause eye irritation. Lachrymator (substance which increases the flow of tears).

Skin: Causes severe skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. Exposure may cause irritation characterized by redness, dryness, and inflammation. May be absorbed through the skin. Causes irritation with burning pain, itching, and redness. Causes blistering of the skin.

Ingestion: Harmful if swallowed. May cause severe gastrointestinal tract irritation with nausea, vomiting and possible burns.

Inhalation: Harmful if inhaled. Effects may be delayed. May cause severe allergic respiratory reaction. May cause asthmatic attacks due to allergic sensitization of the respiratory tract. May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema.

Chronic: Contains formaldehyde which can cause cancer in humans. There is sufficient evidence that formaldehyde causes nasopharyngeal cancer in humans, a rare cancer in developed countries. There is limited evidence that formaldehyde causes cancer of the nasal cavity and paranasal sinuses and strong but not sufficient evidence for leukemia.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use water spray, dry chemical, carbon dioxide, or chemical foam.

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 2; Flammability: 1; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Use only in a well-ventilated area. Avoid prolonged or repeated contact with skin. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Do not ingest or inhale.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. See 29CFR 1910.1048 for regulatory requirements pertaining to all occupational exposures to formaldehyde, i.e., from formaldehyde gas, its solutions, and materials that release formaldehyde.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Deionized Water	none listed	none listed	none listed
Formaldehyde	0.3 ppm Ceiling	0.016 ppm TWA 20 ppm IDLH	0.75 ppm TWA; 2 ppm STEL; 0.5 ppm Action Level (Irritant and potential cancer ha zard - see 29 CFR 1910.1048)
Methyl alcohol	200 ppm TWA; 250 ppm STEL; skin - potential for cutaneous absorption	200 ppm TWA; 260 mg/m ³ TWA 6000 ppm IDLH	200 ppm TWA; 260 mg/m ³ TWA

OSHA Vacated PELs: Deionized Water: No OSHA Vacated PELs are listed for this chemical.

Formaldehyde: 3 ppm TWA (unless specified in 1910.1048) Methyl alcohol: 200 ppm TWA; 260 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear chemical goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: colorless

Odor: Not available.

pH: Not available.

Vapor Pressure: Not available.

Vapor Density: Not available.

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: Not available.

Decomposition Temperature:Not available.

Solubility: Soluble in water.

Specific Gravity/Density:Not available.

Molecular Formula:Not available.

Molecular Weight:Not available.

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Excess heat, confined spaces.

Incompatibilities with Other Materials: Strong oxidizing agents.

Hazardous Decomposition Products: Irritating and toxic gases, oxides of carbon.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 7732-18-5: ZC0110000

CAS# 50-00-0: LP8925000

CAS# 67-56-1: PC1400000

LD50/LC50:

CAS# 7732-18-5:

Oral, rat: LD50 = >90 mL/kg;

CAS# 50-00-0:

Draize test, rabbit, eye: 750 ug/24H Severe;

Draize test, rabbit, eye: 750 ug Severe;

Draize test, rabbit, eye: 10 mg Severe;

Draize test, rabbit, eye: 37% Severe;

Draize test, rabbit, skin: 2 mg/24H Severe;

Draize test, rabbit, skin: 50 mg/24H Moderate;

Inhalation, mouse: LC50 = 454 mg/m³/4H;

Inhalation, mouse: LC50 = 505 mg/m³/2H;

Inhalation, rat: LC50 = 203 mg/m³;

Inhalation, rat: LC50 = 578 mg/m³/2H;

Inhalation, rat: LC50 = 250 ppm/2H;

Oral, mouse: LD50 = 42 mg/kg;

Oral, mouse: LD50 = 385 mg/kg;

Oral, mouse: LD50 = 500 mg/kg;

Oral, rat: LD50 = 100 mg/kg;

Oral, rat: LD50 = 500 mg/kg;

Skin, rabbit: LD50 = 270 uL/kg;

Skin, rabbit: LD50 = 270 mg/kg;

CAS# 67-56-1:

Draize test, rabbit, eye: 40 mg Moderate;

Draize test, rabbit, eye: 100 mg/24H Moderate;

Draize test, rabbit, skin: 20 mg/24H Moderate;

Inhalation, rabbit: LC50 = 81000 mg/m³/14H;

Inhalation, rat: LC50 = 64000 ppm/4H;

Oral, mouse: LD50 = 7300 mg/kg;
 Oral, rabbit: LD50 = 14200 mg/kg;
 Oral, rat: LD50 = 5600 mg/kg;
 Skin, rabbit: LD50 = 15800 mg/kg;

Carcinogenicity:

CAS# 7732-18-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 50-00-0:

ACGIH: A2 - Suspected Human Carcinogen

California: carcinogen, initial date 1/1/88 (gas)

NTP: Suspect carcinogen

IARC: Group 2A carcinogen CAS# 67-56-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: In June 2004 an expert IARC group determined that there is now sufficient evidence that formaldehyde causes nasopharyngeal cancer in humans, a rare cancer in developed countries.

Teratogenicity: Formaldehyde has been shown to produce newborn effects in laboratory animals. Specific developmental abnormalities included craniofacial and musculoskeletal.

Reproductive Effects: Formaldehyde has been shown to produce reproductive effects in laboratory animals.

Neurotoxicity: No information available.

Mutagenicity: Formaldehyde has been shown to produce DNA damage in laboratory animals.

Other Studies: No data available.

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: CAS# 50-00-0: waste number U122. CAS# 67-56-1: waste number U154 (Ignitable waste).

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Aviation Regulated Liquid	No information available.
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 7732-18-5 is listed on the TSCA inventory.

CAS# 50-00-0 is listed on the TSCA inventory.

CAS# 67-56-1 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

CERCLA Hazardous Substances and corresponding RQs

CAS# 50-00-0: 100 lb final RQ; 45.4 kg final RQ CAS# 67-56-1: 5000 lb final RQ; 2270 kg final RQ

SARA Section 302 Extremely Hazardous Substances

CAS# 50-00-0: 500 lb TPQ

SARA Codes

CAS # 50-00-0: acute, chronic. CAS # 67-56-1: acute, flammable.

Section 313

This material contains Formaldehyde (CAS# 50-00-0, 7.4%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373. This material contains Methyl alcohol (CAS# 67-56-1, 3%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 50-00-0 is listed as a hazardous air pollutant (HAP). CAS# 67-56-1 is listed as a hazardous air pollutant (HAP). This material does not contain any Class 1 Ozone depleters. This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

CAS# 50-00-0 is listed as a Hazardous Substance under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

CAS# 50-00-0 is considered highly hazardous by OSHA.

STATE

CAS# 7732-18-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

CAS# 50-00-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

CAS# 67-56-1 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

WARNING: This product contains Formaldehyde, a chemical known to the state of California to cause cancer.

California No Significant Risk Level: CAS# 50-00-0: 40 µg/day NSRL

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

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Risk Phrases:

R 43 May cause sensitization by skin contact.

R 45 May cause cancer.

Safety Phrases:**WGK (Water Danger/Protection)**

CAS# 7732-18-5: No information available.

CAS# 50-00-0: 2

CAS# 67-56-1: 1

Canada - DSL/NDSL

CAS# 7732-18-5 is listed on Canada's DSL List.

CAS# 50-00-0 is listed on Canada's DSL List.

CAS# 67-56-1 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1B, D2A.

Canadian Ingredient Disclosure List

CAS# 50-00-0 is listed on the Canadian Ingredient Disclosure List.

CAS# 67-56-1 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information
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MSDS Creation Date: 7/12/1999

Revision #4 Date: 12/16/2004

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.