

B. L. Mitchell Inc.

Formacide-B
(Aqueous solution of formaldehyde)
Material Safety Data Sheet

1. Chemical Product and Company Information

Description: Formacide-B
 Product Code:
 Product Type: Formalin for Aquaculture
 Application:

Manufacturer/Supplier Information

MSDS prepared by:
 B.L. Mitchell Inc.
 295 St. Christopher Rd.
 Leland, MS
 38756

For Emergency Spill & Containment
Call: CHEMTREC 1-800-424-9300 - CCN 215869

For additional health and safety or regulatory information, call: B.L. MITCHELL, INC. 1-800-817-5808

2. Composition, Information on Ingredients

The ingredients listed below have been associated with one or more immediate and/or delayed(*) health hazards. Risk of damage and effects depends upon duration and level of exposure. BEFORE USING, HANDLING, OR EXPOSURE READ AND UNDERSTAND THE MSDS.

		% by weight
30-00-0	*Formaldehyde	30.0 – 50.0
67-56-1	*Methanol	10.0 – 30.0

3. Hazards Identification**3.1 Emergency Overview**

Appearance-----Clear, colorless liquid
 Odor-----Pungent

WARNING:**COMBUSTIBLE**

May further react at high temperatures to form methanol, formic acid, or methylals. At low temperatures will self-polymerize to form paraformaldehyde.

Harmful if inhaled.

Can cause central nervous system depression.

Causes chemical burns to eyes.

May be harmful if swallowed.

Ingestion may cause blindness.

May be harmful if absorbed through skin.

Causes skin irritation.

May cause allergic skin reaction.

HMIS Rating

HEALTH	=	3 (serious)
FLAMMABILITY	=	2 (moderate)
REACTIVITY	=	1 (slight)
CHRONIC	=	*

3.2 Potential Health Effects**Immediate Hazards**

INGESTION: May be harmful if swallowed
 Ingestion may cause blindness.
 Can cause central nervous system depression.
 If accidentally swallowed, burns to mucous membranes, esophagus, or GI tract can result.

INHALATION: Harmful if inhaled.
 Can cause central nervous system depression.
 Can cause irritation of nose, throat, and lungs.

SKIN: May be harmful if absorbed through skin. Causes irritation.

EYES: Causes chemical burns.

67-56-1 Methanol

Can cause central nervous system depression. Signs and symptoms may include headache, dizziness, nausea, vomiting, unconsciousness and asphyxiation. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

Delayed Hazards

67-56-1 Methanol

Possible reproductive disorders from prolonged exposure.

May cause lung damage based on animal data. Pre-existing respiratory disorders may be aggravated by exposure.

May cause liver damage based on animal data.

May cause kidney damage based on animal data.

May cause blindness if swallowed.

--See Footnote

50-00-0 Formaldehyde

POTENTIAL CANCER HAZARD. Rats chronically exposed to 14 ppm formaldehyde contracted nasal cancers. Based on animal data and limited epidemiological evidence, NTP and LARC have listed formaldehyde as a probable human carcinogen. OSHA regulates formaldehyde as a potential carcinogen.

May cause allergic skin reaction. Some reports suggest that formaldehyde may cause respiratory sensitization, such as asthma, and that pre-existing respiratory and skin disorders may be aggravated by exposure. OSHA has identified 0.5 ppm as the "Action Level", 29 CFR 1910.1048. Please refer to the OSHA Standard for guidance applicable to your specific operation.

Footnote: As of the date of issuance of this document, this material has not been listed by NTP, classified by LARC nor regulated by OSHA as a carcinogen.

4. First Aid Measures

INGESTION:

If accidentally swallowed, dilute by drinking large quantities of water. Immediately contact poison control center or hospital emergency room for any other additional treatment directions.

INHALATION:

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

SKIN:

Immediately remove all contaminated clothing, including shoes. Wash the affected area of the body with soap or mild detergent and large quantities of water for at least 20 minutes. Contact a physician if irritation persists. If there are chemical burns, cover the area with sterile, dry dressings and get medical attention immediately.

EYES:

Immediately flush with plenty of water for at least 15 minutes. Eyelids should be held apart during irrigation to insure water contact with entire surface of eyes and lids. Get medical attention immediately.

5. Fire Fighting Measures

Flash Point

61.1°C (142.0°F)

Lower explosion limit

Approx. 7% (V)

Upper explosion limit

Approx. 70% (V)

Autoignition temperature

Approx. 420.0°C (788°F)

COMBUSTIBLE. Keep away from heat and flame.

In case of fire, use water spray, dry chemical, "alcohol" foam or CO₂. Use water to keep fire exposed containers cool.

6. Accidental Release Measures

Always wear appropriate protective equipment. Eliminate all ignition sources and ventilate the area to reduce the potential for exposure, fire and explosion. Recover and reuse as much liquid as possible. Large quantities: Enclose with diking material to prevent seepage into sewer systems, surface/ground water or natural bodies of water. If possible neutralize with dilute (<5%) solutions of ammonium hydroxide, sodium hydroxide, sodium bisulfite or sodium sulfite. Small quantities: Soak up with absorbent material (vermiculite, dry sand, earth) and remove to a chemical disposal area. Follow all emergency reporting regulations.

7. Handling and Storage**7.1 Handling**

Handle in accordance with good industrial hygiene and safety practices. These procedures include avoiding unnecessary exposure and removal of the material from eyes, skin, and clothing. Wash thoroughly after handling. Always use appropriate Personal Protective Equipment (PPE).

INHALATION:

Do not breathe Vapor. Use with adequate ventilation.

SKIN:

Avoid contact with skin or clothing.

EYES:

Do not get in eyes.

7.2 Storage

Storage temperature depends on methanol content and should be controlled to avoid precipitation or vaporization. See technical bulletin for recommended storage temperatures. Remove plug slowly to relieve pressure.

Formaldehyde solutions will start to precipitate paraformaldehyde if stored below their recommended storage temperatures making the freezing point difficult to determine.

8. Exposure Controls/Personal Protection

8.1 Exposure Controls

ENGINEERING CONTROLS: The following exposure control techniques may be used to effectively minimize employee exposure: local exhaust ventilation, enclosed system design, process isolation and remote control in combination with appropriate use of personal protective equipment and prudent work practices. These techniques may not necessarily address all issues pertaining to your operations. We therefore, recommend that you consult with experts of your choice to determine whether or not your programs are adequate.

If airborne contaminants are generated when the material is heated or handled, sufficient ventilation in volume and air flow patterns should be provided to keep air contamination concentration levels below acceptable criteria.

8.2 Personal Protection

Where formaldehyde gas concentrations can exceed acceptable criteria, use NIOSH (42CFR Part 84) approved full-facepiece respiratory protection equipment. Respirators should be selected based on the concentration of formaldehyde in air in accordance with the OSHA Formaldehyde Standard Respiratory Protection Requirements at 29CFR 1910.1048(g), and the OSHA Respiratory Standard at 29CFR 1910.134 or other applicable standard or guidelines, including ANSI standards regarding respiratory protection. A full-facepiece respirator with cartridges or canisters specifically approved for formaldehyde may be used for exposure levels up to 7.5 ppm (10 times the PEL). Chemical safety goggles must be worn if there is a possibility of contact with liquid formaldehyde or excessive gas phase exposures. A full-facepiece respirator complies with this requirement. Wear protective gloves as required to prevent skin contact. Protective gloves must be worn when handling formaldehyde solutions of 1% or higher. Consult your glove manufacturer for the specific information on permeation, degradation, and breakthrough data to ensure proper selection. Based on available information butyl, nitrile, and Viton appear to be quite impervious to various strengths of formaldehyde solutions. Other glove materials may be equally suitable depending on composition, thickness and use conditions. Where high concentrations of formaldehyde may be present, such as in an emergency, full body protection should be worn. Other protective equipment that must be available when handling formaldehyde solutions of 1% or higher include eye wash fountains and safety showers. Reusable protective clothing should be cleaned and ventilated after any formaldehyde contamination. See the OSHA Formaldehyde Standard requirements at 29CFR 1910.1048(h) Protective Equipment and Clothing and OSHA 29CFR 1910.1048(i) Hygiene Protection for other specific protective measures based on the form of formaldehyde, the conditions of use and the hazards to be prevented.

8.3 Exposure Guidelines

50-00-0 Formaldehyde				
ACGIH-TLV	Ceiling	0.3ppm	0.37 mg/m ³	A2 – Suspected Human Carcinogen; SEN
OSHA PEL 67-56-1	8-hr TWA STEL (15 min) Methanol	0.75 ppm 2ppm	0.9 mg/m ³ 2.5 mg/m ³	
AOGIH TLV OSHA PEL	8-hr TWA STEL (15min) 8-hr TWA Remanded TWA Remanded STEL	200ppm 250ppm 200ppm 200ppm 250ppm	262 mg/m ³ 328 mg/m ³ 260 mg/m ³ 260 mg/m ³ 310 mg/m ³	Skin Skin; 1989 PEL remanded, but in effect in some states

9. Physical and Chemical Properties

Appearance	Clear, colorless liquid
Odor	Pungent
Odor Threshold	Not Available
Specific Gravity	1.0775 – 1.0865
pH	2.5 – 3.6
Freezing Point	See storage section
Solubility in water	Infinite
Octanol/water partition coefficient	Pow 0.35
Vapor pressure	Approx. 40 mm Hg @39°C (102°F)
Vapor Density	Approx. 1
Evaporation Rate	Less than 1 (Butyl Acetate =1)
Boiling Point, 760 mm Hg	Approx. 100°C (212°F)

10. Stability and Reactivity

Normally stable, but may further react at high temperatures to form methanol, formic acid or methylads. At low temperatures will self-polymerize to form paraformaldehyde.

Incompatibilities

Reacts with many compounds. Reaction with phenol, strong acids or alkalis may be violent. Reaction with Hydrochloric acid may form bis-chloromethyl ether, an OSHA regulated carcinogen.

Decomposition products may include:

CO, CO₂

Hazardous polymerization:

Will not occur.

11. Toxicological Information

See Section 3 Hazards Identification information.

50-00-0 Formaldehyde

LC50: rat=0.59 mg/l (Sax)

LD50: Oral-rat=800 mg/kg (Merck); Skin-rabbit = 270 mg/kg (Sax)

67-56-1 Methanol

LC50: rat=64,000 mg/l/4 h (Sax)

LD50: Oral-rat= 5,628 mg/kg (Sax); Skin-rabbit= 20,000 mg/kg (Sax)

12. Ecological Information

Formaldehyde is highly toxic to algae, protozoa and other unicellular organisms and slightly toxic to fish.

In the atmosphere the material is rapidly degraded by photolysis and photooxidation. Formaldehyde is mobile in the soil. In water or soil, formaldehyde is biodegraded in a few days. Experiments performed on a variety of fish and shrimp show no bioconcentration of formaldehyde. Ecotoxicity: Algae (scenedesmus): toxic:0.3-0.5 mg/l; Arthropods (daphnia): toxic: 2 mg/l; Fish (guppies): ILm = 50-200 mg/l; Environmental Rate: BODS = 60% of ThOD = 0.6-1.07 standard dilution at <260 mg/l; Octanol/Water Coefficient = 0.35 (LKOW)

13. Disposal Considerations

Recover free liquid. Absorb residue and dispose of according to local, state/provincial, and federal requirements.

Empty container: may contain explosive vapors. DO NOT cut, puncture, or weld on or near containers.

14. Transportation

14.1 U.S. Department of Transportation (DOT)

The data provided in this section is for information only and may not be specific to your package size.

You will need to apply to the appropriate regulations to properly classify your shipment for transportation.

Proper shipping name	FORMALDEHYDE SOLUTION
UN/NA number	2209
Class	8
Packing group	III
Label	8
RQ Ingredients	

14.2 Canadian Transportation of Dangerous Goods (TDG)

Proper shipping name	FORMALDEHYDE SOLUTION
UN/NA number	2209
Class	8
Packing group	III
Label	8

15. Regulatory Information (Selected Regulations)

15.1 U.S. Federal Regulations

OSHA Hazards Communication Standard 29CFR1910.1200

This material is a "health hazard" and/or a "physical hazard" as determined when reviewed according to the requirements of the Occupational Safety and Health Administration 29 CFR Part 1910.1200 "Hazard Communication" Standard.

SARA Title III: Section 311/312

Immediate health hazard
Delayed health hazard
Fire hazard

SARA Title III: Section 313 and 40 CFR Part 372

This product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and Subpart C- Supplier Notification Requirement of 40 CFR Part 372

Methanol	67-56-1	13.97%
Formaldehyde	50-00-0	37.00%

TSCA Section 8(b) Inventory

All reportable chemical substances are listed on the TSCA Inventory. We rely on certifications of compliance from our suppliers for chemical substances not manufactured by us.

15.2 Canadian Regulations

Workplace Hazardous Materials Information System (WHMIS)

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulation (CPR) and the MSDS contains all the information required by the CPR.

Class B3
 Class D1A
 Class D1B
 Class D2A
 Class D2B
 Class E

Canadian Environmental Protection Act (CEPA)

All reportable chemical substances are listed on the Domestic Substances List (DSL) or otherwise comply with CEPA new substance notification requirements.

National Pollutant Release Inventory (NPRI)

This product contains the following chemical(s) subject to the reporting requirements of the Canadian Environmental Protection Act (CEPA) subsection 16(1), National Pollutant Release Inventory.

Methanol	67-56-1	13.97%
Formaldehyde	50-00-0	37.00%

16. Other Information

Users Responsibility

The OSHA Hazard Communication Standard 29CFR 1910.1200 and the Workplace Hazardous Materials Information System (WHMIS) require that the information contained on these sheets be made available to your workers. Educate and train your workers regarding OSHA and WHMIS precautions. Instruct your workers to handle this product properly. Consult with appropriate experts to guard against hazards associated with use of this product and its ingredients.

Disclaimer

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