

SDS

Safety Data Sheet – Formaldehyde 37% Solution

DATE: 05/2015

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Formaldehyde 37% Solution (Stabilized with Methanol)

SYNONYMS: Formaldehyde Solution, Formalin, Mordicid Acid

PRODUCT CODES: F-37-32OZ, F-37-1G, F-37-5G, F-37-55G

MANUFACTURER: Azer Scientific, Inc.

ADDRESS: 701 Hemlock Road, Morgantown, PA 19543

CHEMTREC PHONE: 800-424-9300

SUPPORT: 610-524-5810

FAX: 610-901-3046

PRODUCT USE: Tissue fixation

PREPARED BY: CB

SECTION 1 NOTES:

SECTION 2: HAZARDS IDENTIFICATION



Signal Word: DANGER!

GHS CLASSIFICATION:

Physical	Health	Environmental
Not Hazardous	Eye Damage Category 1 Skin Irritation Category 2 Skin Sensitization Category 1 Carcinogenicity Category 1A Specific Target Organ Toxicity – Single Exposure Category 1	Not Hazardous

Hazard Phrases	
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H350	May cause cancer.
H370	Causes damage to nervous system and eyes

Precautionary Phrases	
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breath fumes/mist/vapors/spray.
P264	Wash thoroughly after handling.
P270	Do not eat, drink, or smoke when using this product.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/physician.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

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P362	Take off contaminated clothing and wash before reuse.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local and national regulations.

SECTION 2 NOTES:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT:</u>	<u>CAS NO.</u>	<u>% WT</u>	<u>SARA 313 REPORTABLE</u>
Formaldehyde	50-00-0	25-52%	
Methanol	67-56-1	10-15%	
Water	7732-18-5	33-65%	

<u>INGREDIENT:</u>	<u>OSHA PEL-TWA</u>	<u>ACGIH TLV TWA</u>	<u>STEL</u>
Formaldehyde	.75 ppm, 0.5 action	0.3 ppm Ceil	2 ppm
Methanol	260 ppm	200 ppm	250 ppm

SECTION 3 NOTES:

SECTION 4: FIRST AID MEASURES

EYES: Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

SKIN: Remove contaminated clothing immediately. Wash the affected areas with soap or mild detergent and large amounts of water for at least 15 minutes.

INGESTION: Never give anything by mouth to an unconscious person. Get medical attention immediately.

INHALATION: Move individual to fresh air immediately. If breathing is difficult, give oxygen. If breathing has stopped, administer artificial respiration. Get medical attention.

SECTION 4 NOTES: Immediate medical treatment is required for eye contact and ingestion.

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, UPPER: 6.0% (methanol)
(% BY VOLUME) LOWER: 73% (formaldehyde)

FLASH POINT:

F: 130° F

C: 54° C

METHOD USED: closed cup

AUTOIGNITION TEMPERATURE:

F: 572° F

C: 300° C

NFPA HAZARD CLASSIFICATION

HEALTH: 3 FLAMMABILITY: 3

REACTIVITY: 2

OTHER:

HMIS HAZARD CLASSIFICATION

HEALTH: 3 FLAMMABILITY: 3

REACTIVITY: 2

PROTECTION:

EXTINGUISHING MEDIA: Small fire – use DRY chemical powder. Large fire – use alcohol foam, water spray or fog

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SPECIAL FIRE FIGHTING PROCEDURES: Cool exposed containers with water spray after extinguishing fire.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Flammable liquid. Above flash point, vapor-air mixtures may be explosive. Vapors can travel to a source of ignition and flash back.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS: Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

HAZARDOUS DECOMPOSITION PRODUCTS: Strong vapors and irritants, carbon monoxide, carbon dioxide

SECTION 5 NOTES:

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:

Small spill and leak: Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8). Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container.

Large spill and leak: Keep away from heat and ignition sources. Stop leak if without risk. Absorb with DRY earth, sand, or other non-combustible material. Avoid skin and eye contact. Prevent entry into sewers, basements or confined areas; dike if needed. Ensure airborne concentrations of formaldehyde do not exceed published exposure limits. Additional protective equipment such as full-face respirator, full body suit and boots may be required. **If airborne concentrations of formaldehyde exceed 7.5 ppm, only use SCBA or supplied air respirators.**

SECTION 6 NOTES:

SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Avoid contact with eyes and skin. Do not breathe vapor or mist. Avoid prolonged or repeated contact with skin. If potential for splashing exists, protect skin by using sleeve protectors, aprons and face-shield. Immediately remove contaminated clothing. Wash thoroughly after handling. Keep containers closed and out of reach of children. Ground all equipment containing material. Store at room temperature.

OTHER PRECAUTIONS: In the United States, refer to OSHA 1910.1048 for requirements for handling/use of formaldehyde solutions.

SECTION 7 NOTES:

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Use exhaust ventilation or laboratory hood. Ensure that eyewash stations and quick drench showers are proximal to the workstation or tissue processor.

VENTILATION : Use exhaust ventilation or laboratory hood

RESPIRATORY PROTECTION: Approved/certified respirator if airborne concentrations exceed exposure limits

EYE PROTECTION: Goggles

SKIN PROTECTION: Latex or nitrile gloves

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Laboratory coat

WORK HYGIENIC PRACTICES: Wash thoroughly after handling

EXPOSURE GUIDELINES:

Chemical Name	US OEL	EU IOEL	UK OEL	Germany OEL
Formaldehyde	0.75 ppm TWA, 2 ppm STEL OSHA PEL 0.3 ppm Ceiling ACGIH TLV	None Established	2 ppm TWA 2 ppm Ceiling	0.3 ppm TWA 0.6 ppm Ceiling
Methyl Alcohol	200 ppm TWA OSHA PEL 200 ppm TWA, 250 ppm STEL	200 ppm TWA skin	200 ppm TWA 250 ppm STEL	200 ppm TWA 800 ppm STEL

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	skin ACGIH TLV			
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Chemical Name	Biological Limit Value
Formaldehyde	None established.
Methyl Alcohol	Methanol in urine 15 mg/L, end of shift (ACGIH)

SECTION 8 NOTES:

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless

ODOR: Pungent odor

PHYSICAL STATE: Liquid

pH AS SUPPLIED: 2.8 (31% solution)

BOILING POINT:

F: 205° F

C: 96° C

MELTING POINT:

F: N/A

C: N/A

FREEZING POINT:

F: N/A

C: N/A

VAPOR PRESSURE (mmHg): 1.3 mmHg @

F: 68° F

C: 20° C

VAPOR DENSITY (AIR = 1): 1.04

SPECIFIC GRAVITY (H₂O = 1): 1.022

EVAPORATION RATE: >1

SOLUBILITY IN WATER: Soluble in water

MOLECULAR WEIGHT: Mixture

VISCOSITY: Not established

SECTION 9 NOTES:

SECTION 10: STABILITY AND REACTIVITY

STABILITY: Product is stable under normal conditions of use.

CONDITIONS TO AVOID (STABILITY): Trioxymethylene precipitate can be formed on long standing at very low temperatures. Keep away from heat, sparks and flame. Avoid any source of ignition.

INCOMPATIBILITY (MATERIAL TO AVOID): Reactive with oxidizing materials, acids, alkalis, phenols and urea. Reacts explosively with nitrogen dioxide at approximately 356°F. Reacts violently with perchloric acid, perchloric aniline mixtures, and nitromethane. Reaction with hydrochloric acid may form bis-chloromethyl ether, an OSHA carcinogen.

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Strong vapors and irritants, carbon monoxide, carbon dioxide

HAZARDOUS POLYMERIZATION: Nonhazardous polymerization may occur at low temperatures, forming paraformaldehyde, a white solid.

CONDITIONS TO AVOID (POLYMERIZATION): Low temperatures

SECTION 10 NOTES:

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SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION:

Acute Oral LD50: Formaldehyde 100 mg/kg Rat
Methanol 2628 mg/kg Rat

Acute Dermal LD50: Formaldehyde 270 mg/kg Rabbit
Methanol 15800 mg/kg Rabbit

Acute Inhalation LC50: Formaldehyde 203 mg/kg Rat
Methanol 64000 mg/kg Rat

Reproductive Toxicity: Animal embryotoxin

Teratogenic and Mutagenic Effects: N/A

EMERGENCY OVERVIEW: DANGER! CONTAINS FORMALDEHYDE – POTENTIAL CANCER HAZARD. REPEATED OR PROLONGED EXPOSURE INCREASES RISK. HIGHLY TOXIC BY INHALATION AND IF SWALLOWED. IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN. MAY CAUSE SENSITIZATION BY INHALATION OR SKIN CONTACT. RISK OF SERIOUS DAMAGE TO EYES. CORROSIVE; MAY CAUSE BURNS. KEEP CONTAINER CLOSED, USE WITH ADEQUATE VENTILLATION. TARGET ORGANS: SKIN, EYES, RESPIRATORY TRACT. FOR LABORATORY USE ONLY.

ROUTES OF ENTRY: Skin/eye contact, inhalation, and ingestion.

POTENTIAL HEALTH EFFECTS

EYES: Hazardous in case of eye contact (irritant). May cause burns. May cause chemical conjunctivitis or corneal damage.

SKIN: Hazardous in case of skin contact (irritant, corrosive, sensitizer). Skin contact may produce burns. May cause skin sensitization which becomes evident upon re-exposure. Skin inflammation is characterized by itching, scaling, reddening or occasionally blistering.

INGESTION: May be fatal if swallowed. May cause burns to mouth, throat and stomach.

INHALATION: Hazardous in case of inhalation (lung irritant and sensitizer). Inhalation of spray mist may produce severe irritation of respiratory tract characterized by coughing, choking or shortness of breath. May cause asthmatic attacks due to allergic sensitization.

ACUTE HEALTH HAZARDS: See above, potential health effects.

CHRONIC HEALTH HAZARDS: Effects may be delayed. Formaldehyde has been associated with nasopharyngeal cancers. Repeated exposure may cause skin discoloration and nail decay. Inhalation may worsen conditions such as emphysema or bronchitis. Repeated skin exposure may cause defatting of the skin.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Dermatitis, emphysema, bronchitis and conjunctivitis.

CARCINOGENICITY

Formaldehyde	NIOSH: Classified proven	ACGIH: Classified A2(suspected for human)	NTP: Classified 2(Reasonably anticipated)
	IARC: Classified A2(Probable for human)		
Methanol	Not classified as a human carcinogen.		

SECTION 11 NOTES:

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:**TOXICITY:**

Formaldehyde: LC50 Pimephales promelas (Fathead minnow) 24.1 mg/L/96 hr

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Methanol: LC50 fathead minnows 29,400 mg/L/96hr; EC50 daphnia magna >10,000 mg/L/24 hr

PERSISTENCE: When released into the air, formaldehyde is estimated to have a half life of less than one day. When released into the air methanol is estimated to have a half-life of 10-30 days. When released into the water, methanol is estimated to have a half life of 1-10 days.

BIOACCUMULATIVE POTENTIAL: Not expected to bioaccumulate.

MOBILITY IN SOIL: No data available

SECTION 12 NOTES:

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Unused product: dispose as a regulated hazardous waste. Spent product or spill clean up-follow all provincial, local, state, and federal regulations.

RCRA HAZARD CLASS: U122

SECTION 13 NOTES:

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

PROPER SHIPPING NAME: FORMALDEHYDE SOLUTIONS

HAZARD CLASS: 3

ID NUMBER: UN1198

PACKING GROUP: III

LABEL STATEMENT: FLAMMABLE

ENVIRONMENTAL HAZARDS: No

IATA/ICAO

PROPER SHIPPING NAME: FORMALDEHYDE SOLUTION

HAZARD CLASS: 3 (8)

ID NUMBER: UN1198

PACKING GROUP: III

LABEL STATEMENTS:

IMDG:

PROPER SHIPPING NAME: FORMALDEHYDE SOLUTION

HAZARD CLASS: 3

ID NUMBER: UN1198

PACKING GROUP: III

EmS Schedules: F-E, S-C

OTHER AGENCIES:

Canadian TDG: Not regulated / **Environmental Hazards:** No

EU ADR/RID: Not regulated / **Environmental Hazards:** No

SECTION 14 NOTES:

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): All of the components are listed on the TSCA inventory.

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): The RQ for the product (based on the RQ for Formaldehyde (6% maximum)) of 100 lbs, is 1,666 lbs. Report spills required under federal, state, and local regulations.

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): This product contains the following chemicals regulated under SARA Section 302: Formaldehyde

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311/312 HAZARD CATEGORIES: Acute Health, Chronic Health

313 REPORTABLE INGREDIENTS: Listed (Methanol, Formaldehyde)

STATES RTK: PA, NJ, RI, MN, MA, FL, IL Formaldehyde (CAS #50-00-0) Methanol (CAS #67-56-1)

CALIFORNIA PROPOSITION 65: This product contains the following chemicals which are known to the State of California to cause cancer, reproductive toxicity or birth defects (developmental toxicity): Formaldehyde <4% (cancer)

INTERNATIONAL REGULATIONS:

WHMIS CLASSIFICATION:

B3 Combustible liquid
D1B Toxic materials
D2A Very toxic materials
D2B Toxic materials
E Corrosive material



SECTION 15 NOTES:

SECTION 16: OTHER INFORMATION

PREPARATION INFORMATION: Prepared 5/20/2015 Rev. 1

DISCLAIMER: This Safety Data Sheet has been prepared in accordance with the Globally Harmonized System for the Classification and Labelling of Chemicals (GHS). To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries makes any warranty of merchantability or any other warranty, expressed or implied, which respect to such information, and we assume no liability resulting from its use. In no event shall Azer Scientific 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 resulting from use of or reliance upon this information.