

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Zinc Formalin

SYNONYMS: None

PRODUCT CODES: CUNZF-5-G, CUNZF-2.5G, ZN-4-G, PFZF-020, PFZF-040, PFZF-060, PFZF-090, PFZF-120

MANUFACTURER: Azer Scientific, Inc.

ADDRESS: 701 Hemlock Rd, 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

GHS CLASSIFICATION: Skin Corrosion/Irritation Category 2; Serious Eye Damage/Eye Irritation Category 2; Skin Sensitization Category 1; Carcinogenicity Category 1A; Specific Target Organ Toxicity – Single Exposure Category 2; Specific target organ toxicity - (repeated exposure) Category 2



Signal Word: Danger!

Hazard Phrases	
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation
H350	May cause cancer.
H370	Causes damage to organs
H373	May cause damage to organs through prolonged or repeated exposure

Precautionary Phrases	
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P281	Use personal protective equipment as required
P261	Avoid breathing 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.

P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P332+P313	If skin irritation or rash occurs: Get medical advice/attention
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

SECTION 2 NOTES:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

<u>INGREDIENT:</u>	<u>CAS NO.</u>	<u>% WT</u>
Formaldehyde	50-00-0	<4
Methanol	67-56-1	<1
Zinc Sulfate, heptahydrate	7446-20-0	<1
Buffer	mixture	<1
Water	7732-18-5	90-95

SECTION 3 NOTES:

SECTION 4: FIRST AID MEASURES

EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

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

FLAMMABILITY OF THE PRODUCT: Not considered flammable but will burn at high temperatures.

FLASH POINT: >200°F (93.3°C)

AUTOIGNITION TEMPERATURE: 795°F (423°C)

NFPA HAZARD CLASSIFICATION

HEALTH:2 FLAMMABILITY: 1 REACTIVITY:0
OTHER:

HMIS HAZARD CLASSIFICATION

HEALTH:2 FLAMMABILITY: 1 REACTIVITY: 0
PROTECTION:

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

NOT SUITABLE: Do not use water jet.

SPECIAL FIRE FIGHTING PROCEDURES: None known

HAZARDOUS COMBUSTION PRODUCTS: Oxides of carbon; irritating, corrosive, toxic gases

SECTION 5 NOTES:

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:

Small spill and leak: Dilute with water and mop, or absorb with an inert dry material and place in 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: 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.

STORAGE: 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 CONTROL/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.

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

EYE PROTECTION: Goggles or chemical safety glasses.

SKIN PROTECTION: Latex or nitrile gloves.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Laboratory coat or apron.

WORK HYGIENIC PRACTICES: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

EXPOSURE GUIDELINES:

Component	Source	Type	Value	Note
Formaldehyde	OSHA PEL	TWA	0.75 ppm Ceiling	
	ACGIH TLV	TWA	0.3 ppm	
	ACGIH TLV	STEL	2 ppm	

Methyl Alcohol	OSHA PEL	TWA	200 ppm	Absorbed through skin
	ACGIH TLV	TWA	200 ppm	Absorbed through skin
	ACGIH TLV	STEL	250 ppm	Absorbed through skin
Zinc Sulfate	OSHA PEL	TWA	10 ppm	
	ACGIH TLV	TWA	10 ppm	
	ACGIH TLV	STEL	10 ppm	

SECTION 8 NOTES:

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear, colorless
ODOR: pungent odor
ODOR THRESHOLD: 0.1 ppm formaldehyde
PHYSICAL STATE: liquid
pH AS SUPPLIED: 5.5-5.8
BOILING POINT: 212°F (100°C)
MELTING POINT: Not available
FREEZING POINT: -133°F (-92°C)
VAPOR PRESSURE (mmHg): 2.7 mmHg (MeOH)
VAPOR DENSITY (AIR = 1): 1.04
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): Excessive heat.
INCOMPATIBILITY (MATERIAL TO AVOID): Oxidizing materials, Acids and alkalais
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Strong vapors and irritants, carbon monoxide, carbon dioxide.
HAZARDOUS POLYMERIZATION: No hazardous polymerization
CONDITIONS TO AVOID (POLYMERIZATION): N/A

SECTION 10 NOTES:

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY

Oral LD50 Formaldehyde:
 Rat- 100 mg/kg
 Mouse- 42 mg/kg
Oral LD50 Methyl Alcohol:
 Rat- 5600 mg/kg

Mouse- 7300 mg/kg

Inhalation LC50 Formaldehyde:

Rat- 203 mg/m³

Mouse- 505 mg/m³/2 hr

Inhalation LC50 Methyl Alcohol

Rat- 64,000 mg/m³/4 hr

Rabbit- 81,000 mg/m³/14 hr

Dermal LD50

no data available

Other information on acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

Eyes: no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: Classified A2(probable for human)

NTP: Classified 2(Reasonably anticipated)

OSHA: OSHA specifically regulated carcinogen (Formaldehyde)

ACGIH: Classified A2(suspected for human)

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation Toxic if inhaled. Causes respiratory tract irritation.

Ingestion Toxic if swallowed.

Skin Toxic if absorbed through skin. Causes skin irritation.

Eyes Causes eye irritation.

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.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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

ACUTE HEALTH HAZARDS: See above, potential health effects.

TARGET ORGANS: Skin, Eyes, Respiratory tract

SECTION 11 NOTES:

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Dermatitis, emphysema, bronchitis and conjunctivitis.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION:

TOXICITY:

Formaldehyde: LC50 Pimephales promelas (Fathead minnow) 24.1 mg/L/96 hr
EC50 Daphnia 14.7 mg/L (24 h)
Methanol: EC50 Daphnia >10000 mg/L (48 h)

PERSISTANCE AND DEGRADABILITY: Formaldehyde has a half-life of less than one day. Products expected to be readily biodegradable.

MOBILITY IN SOIL: No data available

BIOACCUMULATIVE POTENTIAL: No data available

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: NOT REGULATED

PROPER SHIPPING NAME:

HAZARD CLASS:

ID NUMBER:

PACKING GROUP:

LABEL STATEMENT:

ENVIRONMENTAL HAZARDS:

AIR TRANSPORTATION

PROPER SHIPPING NAME: Aviation regulated liquid N.O.S. (formaldehyde)

HAZARD CLASS: 9

ID NUMBER: UN3334

PACKING GROUP:

LABEL STATEMENTS:

OTHER AGENCIES:

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

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

IATA/CAO: Not regulated / **Environmental Hazards:** No

SECTION 14 NOTES:

SECTION 15: REGULATORY INFORMATION

United States

HCS Classification: Highly toxic substance

U.S. Federal regulations:

TSCA (Toxic Substance Control Act): All ingredients are listed..

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals:

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Acute Health, Chronic Health

SARA 313: Listed (Methanol, Formaldehyde)

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): Listed

DEA List I & II Chemicals (Precursor Chemicals): Not listed

RTK STATES: Formalin CAS 50-00-0, Methanol CAS 67-56-1 CA, FL, MA, NJ, PA, RI

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm: Formaldehyde 50-00-0 (carcinogen) Methanol 67-56-1 (reproductive)

CANADA

WHMIS (Canada): D1A, D2A, D2B, E

CEPA DSL / CEPA NDSL:

All components are listed or exempted.

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

International regulations

International lists:

Australia inventory (AICS): All components are listed or exempted.

China inventory (IECSC): All components are listed or exempted.

Japan inventory: All components are listed or exempted.

Korea inventory: All components are listed or exempted.

New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.

Philippines inventory (PICCS): All components are listed or exempted.

SECTION 16: OTHER INFORMATION

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



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.

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