MATERIAL SAFETY DATA SHEET

10% NEUTRAL BUFFERED FORMALIN

AZER SCIENTIFIC

MSDS DATE: 01/2014

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Formalin, 10% Neutral Buffered
SYNONYMS: Formalin, Buffered Formaldehyde
PRODUCT CODES: PFNBF-20, PFNBF-40, PFNBF-60, PFNBF-60W, PFNBF-90, PFNBF-120, B-PFNBF-20, B-PFNBF-40, B-PFNBF-60, B-PFNBF-60W, B-PFNBF-90, B-PFNBF120, PFNBF-180, PFNBF-240, PFNBF-360, PFNBF-480, PFNBF-1000, PFNBF-0.6G, PFNBF-1.25G, NBF-4-G, CUNBF-2.5G, P-CUNBF-2.5G, CUNBF-5-G, NBF30G, NBF55G
MANUFACTURER: Azer Scientific, Inc.
ADDRESS: 189 Twin County Road, Morgantown, PA 19543

CHEMTREC PHONE: 800-424-9300
SUPPORT: 610-524-5810
FAX: 610-901-3046

PRODUCT USE: Tissue fixation
PREPARED BY: RF

SECTION 1 NOTES:

SECTION 2: HAZARDS IDENTIFICATION

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

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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.
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

INGREDIENT:	CAS NO.	% WT	SARA 313 REPORTABLE
Formaldehyde	50-00-0	<4%	
Methanol	67-56-1	<1%	
Monosodium Phosphate	7558-80-7	<1%	
Disodium Phosphate	7558-79-4	<1%	

INGREDIENT:	OSHA PEL-TWA	ACGIH TLV TWA	STEL
Formaldehyde	.75 ppm, 0.5 action	0.3 ppm Ceil	2 ppm
Methanol	260 ppm	200 ppm	250 ppm
Monosodium Phosphate	N/A	N/A	N/A
Disodium Phosphate	N/A	N/A	N/A

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

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

FLASH POINT:
F: >200° F
C: 93.3° C
METHOD USED: closed cup

AUTOIGNITION TEMPERATURE:
F: 795° F
C: 423° C

NFPA HAZARD CLASSIFICATION
HEALTH: 2 **FLAMMABILITY:** 1 **REACTIVITY:** 0
OTHER:

HMIS HAZARD CLASSIFICATION
HEALTH: **FLAMMABILITY:** **REACTIVITY:**
PROTECTION:

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

SPECIAL FIRE FIGHTING PROCEDURES: None known

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known

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

SECTION 5 NOTES:

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES:

Small spill and leak: Dilute with waterand 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 airport 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 skin ACGIH TLV	200 ppm TWA skin	200 ppm TWA 250 ppm STEL	200 ppm TWA 800 ppm STEL

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: Neutral
BOILING POINT:
F: 212° F
C: 100° C
MELTING POINT:
F: N/A
C: N/A
FREEZING POINT:
F: -133° F
C: -92° C

VAPOR PRESSURE (mmHg): 2.7mmHg @
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): N/A

INCOMPATIBILITY (MATERIAL TO AVOID): Reactive with oxidizing materials, acids and alkalis

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

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

SECTION 12 NOTES:

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: Unused product: dispose as a regulatd 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: NOT REGULATED FOR GROUND TRANSPORTATION
HAZARD CLASS:
ID NUMBER:
PACKING GROUP:
LABEL STATEMENT:
ENVIRONMENTAL HAZARDS: No

AIR TRANSPORTATION
PROPER SHIPPING NAME: Aviation Regulated Liquid, n.o.s. (<4% Formaldehyde)
HAZARD CLASS: 9
ID NUMBER: UN3334
PACKING GROUP: III
LABEL STATEMENTS:

OTHER AGENCIES:
Canadian TDG: Not regulated / **Environmental Hazards:** No
EU ADR/RID: Not regulated / **Environmental Hazards:** No
IATA/ICAO: 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 <4%

311/312 HAZARD CATEGORIES: Acute Health, Chronic Health

313 REPORTABLE INGREDIENTS: Listed (Methanol, Formaldehyde)

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: Class D1, D-2-A



SECTION 15 NOTES:

SECTION 16: OTHER INFORMATION

PREPARATION INFORMATION: Prepared 12/2012, 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.