SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 10% Neutral Buffered Formalin Solution
SYNONYMS: 10% NBF
PRODUCT CODES: ES432075B, PFNBF-20, PFNBF-40, PFNBF-60, PFNBF-60W, PFNBF-90, PFNBF-90Y, 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-3840, 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: 701 Hemlock Rd, Morgantown, PA 19543

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

PRODUCT USE: Tissue Fixative
PREPARED BY: CB

SECTION 1 NOTES:

SECTION 2: HAZARDS IDENTIFICATION

GHS CLASSIFICATION: Skin Corrosion/Irritation Category 2; Serious eye damage/irritation Category 1; Skin Sensitization Category 1; Specific Target Organ Toxicity – single exposure Category 1; Carcinogenicity Category 1



Signal Word: Danger!

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

Precautionary Phrases	
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P264	Wash hands thoroughly after handling.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P307+P311	IF exposed: Call a POISON CENTER or doctor/ physician.

SECTION 2 NOTES:

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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

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: In case of contact, flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. If skin irritation occurs: Get medical attention/advice.

INGESTION: Call medical doctor or poison control center immediately. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if you feel unwell.

SECTION 4 NOTES:

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABILITY OF THE PRODUCT:
FLASH POINT: >200°F
AUTOIGNITION TEMPERATURE: 795°F

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 resistant foam, water spray or fog.
NOT SUITABLE: Do not use water jet.
SPECIAL FIRE FIGHTING PROCEDURES: None known.
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: 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.

SECTION 7 NOTES:

SECTION 8: EXPOSURE CONTROL/PERSONAL PROTECTION

ENGINEERING CONTROLS: General mechanical ventilation or laboratory fume hood. Ensure that eyewash stations and quick drench showers are close to the workstation.

PERSONAL PROTECTIVE MEASURES: Wear gloves, lab coat, eye protection and impervious footwear. Approved/certified respirator if airborne concentrations exceed exposure limits

ENVIRONMENTAL EXPOSURE CONTROLS: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

WORK HYGIENIC PRACTICES: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

EXPOSURE GUIDELINES:

OSHA Permissible Exposure Limits (PELs):

Reagent	CAS#	OSHA PEL TWA
Formaldehyde	50-00-0	0.75 ppm (Ceiling)
Methyl Alcohol	67-56-1	200ppm (260 mg/m^3)

ACGIH Threshold Limit values (TLVs):

Reagent	CAS#	ACGIH PEL TWA	ACGIH STEL
Formaldehyde	50-00-0	0.3 ppm (Ceiling)	2 ppm
Methyl Alcohol	67-56-1	200ppm (260 mg/m^3)	250ppm (328 mg/m^3)

SECTION 8 NOTES:

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear
ODOR: Pungent
PHYSICAL STATE: liquid
pH AS SUPPLIED: 6.9-7.1
BOILING POINT: 100°C (212°F)
MELTING POINT/FREEZING POINT: -92°C (-133°F)
VAPOR PRESSURE (mmHg): 2.7mmHg @ 20°C
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): Avoid heat, sparks, flames, and all other sources of ignition.
INCOMPATIBILITY (MATERIAL TO AVOID): Reactive with oxidizing materials, acids and alkalis.
HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: Thermal breakdown of this product during fire or very high heat conditions may evolve the following decomposition products: oxides of carbon.
HAZARDOUS POLYMERIZATION: No hazardous polymerization
CONDITIONS TO AVOID: Heat, open flame

SECTION 10 NOTES:

SECTION 11: TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

Oral: Methyl Alcohol: LD50 (oral, mouse) = 0.4 g/kg, LD50 (oral, rat) = 6.2-13 g/kg LD50 (oral, rabbit) = 14.4 g/kg
Formaldehyde: LD50 (Oral, mouse) = 42 mg/kg
Inhalation: Formaldehyde: LC50 (Inhalation, mouse) = 454 mg/m3/4H
Dermal LD50: Methyl Alcohol: Rabbit LD50 20 ml/kg
Skin corrosion/irritation: Formaldehyde: Draize test, rabbit, skin: 2 mg/24H Severe
Eyes: Formaldehyde: Draize test, rabbit, eye: 750 ug/24H Severe
Respiratory or skin sensitization: No data available
Germ cell mutagenicity: No data available
Carcinogenicity: (NTP, IARC, OSHA):
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.
Aspiration hazard: no data available

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.

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.

SIGNS AND SYMPTOMS OF EXPOSURE: Irritation eyes, skin, nose, mucous membrane; headache, dermatitis
ROUTES OF ENTRY: Skin/eye contact, inhalation

TARGET ORGANS: Respiratory system

SECTION 11 NOTES:
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 ACUTE DAMAGE TO EYES. KEEP CONTAINER CLOSED, USE WITH ADEQUATE VENTILLATION. TARGET ORGANS: SKIN, EYES, RESPIRATORY TRACT. FOR LABORATORY USE ONLY.

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL 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
PERSISTANCE AND DEGRADABILITY: Biodegradation is expected
BIOACCUMULATIVE POTENTIAL: Bioaccumulation is unlikely.
MOBILITY IN SOIL: No data available
PBT and vPvB ASSESSMENT: Not required.

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: Not Regulated
TDG: Not Regulated
IATA: Not Regulated
IMDG/IMP: Not Regulated

SECTION 15: REGULATORY INFORMATION

United States
HCS Classification: Toxic material, Irritating material, Target organ effects
U.S. Federal regulations:
TSCA 8(a) IUR: Listed on inventory.
United States inventory (TSCA 8b): Listed on inventory.
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: No products were found.
SARA 311/312 MSDS distribution - chemical inventory - hazard identification:
Acute Health Hazard; Chronic Health Hazard
SARA 313 Form R – Reporting: The following components are subject to reporting levels established by SARA Title III, Section 313: METHANOL (CAS# 67-56-1) FORMALDEHYDE (CAS# 50-00-0)

DEA List I & II Chemicals
(Precursor Chemicals): Not Listed
CERCLA: Methanol CAS-No. 67-56-1. RQ: 5,000 lbs; 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.

RTK STATES: Methyl Alcohol CAS 67-56-1 CT, MA, NJ, PA, RI Formaldehyde CAS 50-00-0 CA, NJ, PA, MN, MA

California Prop. 65

WARNING: This product can expose you to chemicals including Formaldehyde and Methanol, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

CANADA

WHMIS (Canada): Class D1: Materials causing immediate and serious toxic effects.
Class D2-A: Very toxic material
Class E: Corrosive material

Canadian lists: **CEPA Toxic substances:** The following components are listed: Formaldehyde
Canadian ARET: None of the components are listed.
Canadian NPRI: The following components are listed: Formaldehyde, Methanol
Volatile organic compounds

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 (NFPA)



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.

PREPARATION INFORMATION: Prepared 12/2012, Rev. 1.
Revision 2: Change address of manufacturer. Add GHS compliant pictograms. 1/2015
Reviewed: 03/24/2017
Revision 3: Updated Prop 65 warning 07/24/2018