



Revision date: 09/02/2015

Version: 2

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

Trade name/designation:	Formalin, 10% Neutral Buffered
Product No.: 16004-112, 16004-115, 16004-117, 16004-119, 16004-121, 16004-122, 16008-000, 16004-124, 16004-130, 89370-094, 16004-126, 16004-128	
Other means of identification: Formalin, Buffered Formaldehyde	

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Tissue fixation

### 1.3. Details of the supplier of the safety data sheet

Company VWR International, LLC  
 Radnor Corporate Center  
 100 Matsonford Road  
 Radnor, PA 19087-8660  
 Telephone 610.386.1700

### 1.4. Emergency Telephone number

CHEMTREC 800.424.9300  
 CANUTEC 613.996.6666

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

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

**2.2. GHS Label elements, including precautionary statements**



Signal Word: DANGER!

Hazard statements	
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 statements	
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe 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.

**2.3. WHIMS Classification:** Class D1, D-2-A

**2.4. Hazards not otherwise classified (HNOC) or not covered by GHS or WHIMS**

**SECTION 3: Composition / information on ingredients**

**3.1. Hazard components**



Chemical Name	Formula	Molecular weight	CAS#	Weight%
Formaldehyde	CH <sub>2</sub> O	30.031 g/mol	50-00-0	<4%
Methanol	CH <sub>4</sub> O	32.04 g/mol	67-56-1	<1%
Monosodium Phosphate	NaH <sub>2</sub> PO <sub>4</sub>	119.98 g/mol	7558-80-7	<1%
Disodium Phosphate	Na <sub>2</sub> HPO <sub>4</sub>	141.96 g/mol	7558-79-4	<1%

## SECTION 4: First aid measures

### 4.1. General information

**In case of inhalation:** Move individual to fresh air immediately. If breathing is difficult, give oxygen. If breathing has stopped, administer artificial respiration. Get medical attention.

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

**In case of eye contact:** Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

**In case of ingestion:** Never give anything by mouth to an unconscious person. Get medical attention immediately.

### 4.2. Most important symptoms and effects, both acute and delayed

### 4.3. Indication of any immediate medical attention and special treatment needed

Immediate medical treatment is required for eye contact and ingestion.

## SECTION 5: Firefighting measures

**5.1. Extinguishing media:** Small fire – use DRY chemical powder. Large fire – use alcohol foam, water spray or fog.

**5.2. Special hazards arising from the substance or mixture:** None known

**5.3. Special protective equipment for firefighters**

**5.4. Hazardous combustion products:** Strong vapors and irritants, carbon monoxide, carbon dioxide

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**5.5. Advice for firefighters:** None known

**5.6. Additional information**

## SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures:** Avoid skin and eye contact. Additional protective equipment such as full-face respirator, full body suit and boots may be required.

**6.2. Environmental precautions:**

Prevent entry into sewers, basements or confined areas; dike if needed. Ensure airborne concentrations or formaldehyde do not exceed published exposure limits.

**6.3. Methods and material for containment and cleaning up:**

**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 without risk. Absorb with DRY earth sand, or other non-combustible material. Avoid skin and eye contact. Ensure airborne concentrations or formaldehyde do not exceed published exposure limits.

**6.4. Additional information: If airborne concentrations of formaldehyde exceed 7.5 ppm, only use SCBA or supplied air respirators**

## SECTION 7: Handling and storage

**7.1. Precautions for safe 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.

**7.2. Conditions for safe storage, including any incompatibilities:** Keep containers closed and out of reach of children. Ground all equipment containing material. Store at room temperature.

**7.3. Specific end use(s)**

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

## SECTION 8 Exposure controls/personal protection

**8.1. Control parameters**



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

## 8.2. Exposure controls

**Appropriate engineering controls:** Use exhaust ventilation or laboratory hood. Ensure that eyewash stations and quick drench showers are proximal to the workstation or tissue processor.

### Personal protection equipment

**Eye/face protection:** Goggles

**Skin protection:** Latex or nitrile gloves, Laboratory coat

**Respiratory protection:** Approved/certified respirator if airborne concentrations exceed exposure limits.

**Hygiene measures:** Wash thoroughly after handling.

## SECTION 9: Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

- a) Appearance:  
Physical state: Liquid  
Color: Colorless
- b) Odor: Pungent
- c) Odor Threshold: 0.8-1 ppm
- d) pH: Neutral
- e) Melting point/freezing point: not applicable / -92°C
- f) Initial boiling point: 100°C
- g) Flash point: 93.3°C (closed cup)
- h) Evaporation rate: >1
- i) Flammability: gas
- j) Upper/lower flammability limits in AIR (% by volume)  
Upper: 6.0% (methanol)  
Lower: 73% (formaldehyde)
- k) Vapor pressure: 2.7 mmHg @20°C
- l) Vapor density: (AIR = 1) 1.04
- m) Specific Gravity: (H<sub>2</sub>O=1) 1.022

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- n) Solubility: Soluble in water
- o) Partition coefficient (n-Octanol/Water)
- p) Auto-ignition temperature: 423°C
- q) Decomposition temperature
- r) Oxidizing properties: carbon monoxide, carbon dioxide

## 9.2. Other information

### SECTION 10: Stability and reactivity

**10.1. Reactivity:** Reactive with oxidizing materials, acids, and alkalis.

**10.2. Chemical stability:** Product is stable under normal conditions of use.

**10.3. Possibility of hazardous reactions:** No hazardous polymerization.

**10.4. Conditions to avoid:** N/A

**10.5. Incompatible materials:** Reactive with oxidizing materials, acids, and alkalis.

**10.6. Hazardous decomposition products:** Strong vapors and irritants, carbon monoxide, carbon dioxide

### SECTION 11: Toxicology

#### 11.1. Information on toxicological effects

**Skin corrosion/irritation:** 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

**Serious eye damage/eye irritation:** Hazardous in case of eye contact (irritant). May cause burns. May cause chemical conjunctivitis or corneal damage.

**Respiratory or skin sensitization:** 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.

**Aspiration hazard:** 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.

**Germ cell mutagenicity:** N/A

**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.

**Reproductive toxicity:** Animal embryotoxin

**Specific target organ toxicity-single exposure**

**Specific target organ toxicity-repeated exposure**

**Additional information**

## SECTION 12: Ecological information

### 12.1. Ecotoxicity

Formaldehyde LC50 Pimephales promelas (Fathead minnow) 24. 1 mg/L /96 hr

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

**12.2. Persistence and degradability:** No data available

**12.3. Bioaccumulative potential:** No data available

**12.4. Mobility in soil:** No data available

**12.5. Results of PBT and vPvB assessment:** No data available

**12.6. Other adverse effects**

## SECTION 13: Disposal considerations

**13.1. Waste treatment methods:** Unused product: dispose as a regulated hazardous waste. Spent product or spill cleanup – follow all provincial, local, state, and federal regulations.

## SECTION 14: Transport information

### Land Transport DOT (U.S.)

UN Number

Proper Shipping name

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Transport Hazard Classes: NOT REGULATED FOR GROUND TRANSPORTATION

Class

Hazard Label(s)

Packing Group

Environmental hazard(s) No

Special precautions for user

### Sea Transport IMDG

UN Number

Proper Shipping name

Transport Hazard Classes: NOT REGULATED FOR SEA TRANSPORT

Class

Hazard Label(s)

EMS- No.

Packing Group

Environmental hazard(s)

Segregation Group

Special precautions for user

### Air Transport IATA

UN Number UN3334

Proper Shipping name Aviation Regulated Liquid, n.o.s (<4% Formaldehyde)

Transport Hazard Classes

Class 9

Hazard Label(s)

Packing Group III

Environmental hazard(s)

Special precautions for user

## SECTION 15: Regulatory information

### OSHA Hazards

### SARA 302 Extremely Hazardous Substances

**SARA 313 (TRI reporting)** Listed (Methanol, Formaldehyde)

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**SARA 311/312 Hazardous Categories:** Acute Health, Chronic Health

**Massachusetts Right-To-Know Substance List**

**Pennsylvania Right-To-Know Hazardous substances**

**New Jersey Worker and Community Right-To-Know Components**

**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)

Inventory status:  
Canada DSL/NDSL Inventory List  
US TSCA Inventory List  
EINECS, ELINCS or NLP

## SECTION 16: Other information

**Canadian Carcinogenicity hazard class**  
**PHNOC hazard class**  
**HHNOC hazard class**  
**Biohazardous Infectious Materials hazard class**

**NFPA Rating:**  
**Health: 2**  
**Flammability: 1**  
**Reactivity: 0**  
**Special Hazard:**

### DISCLAIMER

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. VWR International and its Affiliates shall not be held liable for any damage resulting from handling.

REVISED 9-2-2015: Edited Catalog #s based on recent UOM changes.