

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixtures  
Product name : Bouin's Fixative  
Product code : LC11790

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : For laboratory and manufacturing use only.  
Recommended use : Laboratory chemicals  
Restrictions on use : Not for food, drug or household use

#### 1.3. Supplier

LabChem, Inc.  
1010 Jackson's Pointe Ct.  
Zelienople, PA 16063 - USA  
T 412-826-5230 - F 724-473-0647  
info@labchem.com - www.labchem.com

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or +1-703-741-5970

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Acute toxicity (oral) Category 4	H302 Harmful if swallowed
Skin corrosion/irritation Category 1	H314 Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318 Causes serious eye damage
Skin sensitization, Category 1	H317 May cause an allergic skin reaction
Germ cell mutagenicity Category 2	H341 Suspected of causing genetic defects
Carcinogenicity Category 1A	H350 May cause cancer (Inhalation)
Specific target organ toxicity (single exposure) Category 1	H370 Causes damage to organs (central nervous system, optic nerve) (oral)
Hazardous to the aquatic environment - Acute Hazard Category 2	H401 Toxic to aquatic life

Full text of H statements : see section 16

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

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H302 - Harmful if swallowed  
H314 - Causes severe skin burns and eye damage  
H317 - May cause an allergic skin reaction  
H341 - Suspected of causing genetic defects  
H350 - May cause cancer (Inhalation)  
H370 - Causes damage to organs (central nervous system, optic nerve) (oral)  
H401 - Toxic to aquatic life

Precautionary statements (GHS US) :

P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P260 - Do not breathe mist, spray, vapors.  
P264 - Wash exposed skin thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
Contaminated work clothing must not be allowed out of the workplace.  
P273 - Avoid release to the environment.  
P280 - Wear eye protection, face protection, protective clothing, protective gloves.  
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P313 - IF exposed or concerned: Get medical advice/attention.  
 P310 - Immediately call a poison center or doctor/physician.  
 P363 - Wash contaminated clothing before reuse.  
 P405 - Store locked up.  
 P501 - Dispose of contents/container to comply with local, state and federal regulations.

### 2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None.

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
Water	(CAS-No.) 7732-18-5	83.3	Not classified
Formaldehyde	(CAS-No.) 50-00-0	7	Acute Tox. 1 (Inhalation:gas), H330 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1A, H350
Acetic Acid	(CAS-No.) 64-19-7	4.8	Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation:vapour), H332 Skin Corr. 1B, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402
Methanol	(CAS-No.) 67-56-1	3.6	Flam. Liq. 2, H225 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 STOT SE 1, H370
Picric Acid, Wetted	(CAS-No.) 88-89-1	1.3	Flam. Sol. 1, H228 Acute Tox. 3 (Oral), H301 Acute Tox. 3 (Dermal), H311 Acute Tox. 3 (Inhalation), H331 Aquatic Acute 3, H402

Full text of hazard classes and H-statements : see section 16

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Call a POISON CENTER or doctor/physician.

First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a poison center or doctor/physician.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a poison center or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

### 4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : Harmful if swallowed.

Symptoms/effects : Causes severe skin burns and eye damage. May cause cancer (Inhalation). Causes damage to organs (optic nerve, central nervous system) (Ingestion). Suspected of causing genetic defects.

Symptoms/effects after inhalation : May cause an allergic skin reaction.

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Symptoms/effects after skin contact	: Caustic burns/corrosion of the skin. Red skin.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.
Symptoms/effects upon intravenous administration	: Not available.
Chronic symptoms	: Impairment of the nervous system. Visual disturbances.

### 4.3. Immediate medical attention and special treatment, if necessary

Obtain medical assistance.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Fire hazard	: Could burn but do not ignite readily.
Explosion hazard	: No direct explosion hazard.
Reactivity in case of fire	: Thermal decomposition generates : Corrosive vapors.
Hazardous decomposition products in case of fire	: Carbon dioxide. Carbon monoxide. Formaldehyde.

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection. Use self-contained breathing apparatus and chemically protective clothing. Do not attempt to take action without suitable protective equipment.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Evacuate area. Stop leak if safe to do so. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Notify authorities if product enters sewers or public waters.
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#### 6.1.1. For non-emergency personnel

Protective equipment	: Wear recommended personal protective equipment. Gloves. Protective goggles.
Emergency procedures	: Evacuate unnecessary personnel.

#### 6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection. Do not attempt to take action without suitable protective equipment. Do not breathe gas, fumes, vapor or spray. Full face respirator with formaldehyde cartridge.
Emergency procedures	: Ventilate area.

### 6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3. Methods and material for containment and cleaning up

For containment	: Cover spill with non combustible material, e.g.: sand, earth, vermiculite.
Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

### 6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe mist, vapors, spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required.
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Hygiene measures : Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

### 7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.  
Storage conditions : Keep only in the original container in a cool, well ventilated place away from : incompatible materials. Keep container closed when not in use.  
Incompatible products : Strong bases. Strong acids. Strong oxidizers.  
Incompatible materials : Sources of ignition. Direct sunlight.  
Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents.  
Storage area : Keep locked up. Keep container in a well-ventilated place.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Bouin's Fixative	
No additional information available	
Picric Acid, Wetted (88-89-1)	
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	0.1 mg/m <sup>3</sup>
USA - IDLH - Occupational Exposure Limits	
IDLH	75 mg/m <sup>3</sup>
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	0.1 mg/m <sup>3</sup>
NIOSH REL (STEL)	0.3 mg/m <sup>3</sup>
Acetic Acid (64-19-7)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Acetic acid
ACGIH OEL TWA	25 mg/m <sup>3</sup>
ACGIH OEL TWA [ppm]	10 ppm
ACGIH STEL (mg/m <sup>3</sup> )	37 mg/m <sup>3</sup>
ACGIH STEL (ppm)	15 ppm
Remark (ACGIH)	TLV® Basis: URT & eye irr; pulm func
Regulatory reference	ACGIH 2021
USA - OSHA - Occupational Exposure Limits	
Local name	Acetic acid
OSHA PEL (TWA) [1]	25 mg/m <sup>3</sup>
OSHA PEL (TWA) [2]	10 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	50 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	25 mg/m <sup>3</sup>
NIOSH REL TWA [ppm]	10 ppm
NIOSH REL (STEL)	37 mg/m <sup>3</sup>
NIOSH REL STEL [ppm]	15 ppm
Water (7732-18-5)	
No additional information available	
Methanol (67-56-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Methanol
ACGIH OEL TWA [ppm]	200 ppm
ACGIH STEL (ppm)	250 ppm
Remark (ACGIH)	TLV® Basis: Headache; eye dam; dizziness; nausea. Notations: Skin; BEI

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Regulatory reference	ACGIH 2021
<b>USA - ACGIH - Biological Exposure Indices</b>	
Local name	METHANOL
Biological Exposure Indices (BEI)	15 mg/l Parameter: Methanol - Medium: urine - Sampling time: End of shift - Notations: B, Ns
Regulatory reference	ACGIH 2021
<b>USA - OSHA - Occupational Exposure Limits</b>	
Local name	Methyl alcohol
OSHA PEL (TWA) [1]	260 mg/m <sup>3</sup>
OSHA PEL (TWA) [2]	200 ppm
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
<b>USA - IDLH - Occupational Exposure Limits</b>	
IDLH [ppm]	6000 ppm
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL (TWA)	250 mg/m <sup>3</sup>
NIOSH REL TWA [ppm]	200 ppm
NIOSH REL (STEL)	325 mg/m <sup>3</sup>
NIOSH REL STEL [ppm]	250 ppm
Remark (NIOSH)	Skin
<b>Formaldehyde (50-00-0)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH Ceiling (mg/m <sup>3</sup> )	0.37 mg/m <sup>3</sup>
ACGIH Ceiling (ppm)	0.3 ppm
<b>USA - OSHA - Occupational Exposure Limits</b>	
OSHA PEL (TWA) [2]	0.75 ppm
OSHA PEL (STEL) [2]	2 ppm
<b>USA - IDLH - Occupational Exposure Limits</b>	
IDLH [ppm]	20 ppm
<b>USA - NIOSH - Occupational Exposure Limits</b>	
NIOSH REL TWA [ppm]	0.016 ppm
NIOSH REL C [ppm]	0.1 ppm 15 min.

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Safety glasses. Gloves. Gas mask. Chemical resistant apron.

#### Hand protection:

Wear protective gloves.

#### Eye protection:

Chemical goggles or face shield

#### Skin and body protection:

Wear suitable protective clothing

#### Respiratory protection:

Full face respirator with formaldehyde cartridge

#### Personal protective equipment symbol(s):

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### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

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

Physical state	: Liquid
Appearance	: Yellow liquid.
Color	: Yellow
Odor	: characteristic
Odor threshold	: No data available
pH	: ≤ 2
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Soluble in water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
No data available	Viscosity, kinematic : No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available.
Oxidizing properties	: None.

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Thermal decomposition generates : Corrosive vapors.

### 10.2. Chemical stability

Stable under normal conditions of use.

### 10.3. Possibility of hazardous reactions

Contact with strong bases or alkaline materials may cause violent reactions or explosions.

### 10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong oxidizers. Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Nitrogen oxides. fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapors.

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.  
Acute toxicity (dermal) : Not classified  
Acute toxicity (inhalation) : Not classified

ATE US (oral)	1725.621 mg/kg body weight
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#### Picric Acid, Wetted (88-89-1)

LD50 oral rat	200 mg/kg
ATE US (oral)	200 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

#### Acetic Acid (64-19-7)

LD50 oral rat	3310 mg/kg body weight (Rat, Male / female, Experimental value, Oral, 6 day(s))
LC50 Inhalation - Rat	11.4 mg/l (Equivalent or similar to OECD 403, 4 h, Rat, Female, Experimental value, Inhalation (vapours), 14 day(s))
ATE US (oral)	3310 mg/kg body weight
ATE US (vapors)	11.4 mg/l/4h
ATE US (dust, mist)	11.4 mg/l/4h

#### Water (7732-18-5)

LD50 oral rat	≥ 90000 mg/kg
ATE US (oral)	90000 mg/kg body weight

#### Methanol (67-56-1)

LD50 oral rat	1187 – 2769 mg/kg body weight (BASF test, Rat, Male / female, Experimental value, Aqueous solution, Oral, 7 day(s))
LC50 Inhalation - Rat	128 mg/l air (BASF test, 4 h, Rat, Male / female, Experimental value, Inhalation (vapours))
ATE US (oral)	100 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	700 ppmV/4h
ATE US (vapors)	3 mg/l/4h
ATE US (dust, mist)	0.5 mg/l/4h

#### Formaldehyde (50-00-0)

LD50 oral rat	500 mg/kg
LC50 Inhalation - Rat [ppm]	0.579 ppm/4h
ATE US (oral)	500 mg/kg body weight
ATE US (gases)	0.579 ppmV/4h

Skin corrosion/irritation : Causes severe skin burns.  
pH: ≤ 2  
Serious eye damage/irritation : Causes serious eye damage.  
pH: ≤ 2  
Respiratory or skin sensitization : May cause an allergic skin reaction.  
Germ cell mutagenicity : Suspected of causing genetic defects.  
Carcinogenicity : May cause cancer (Inhalation).

#### Formaldehyde (50-00-0)

IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	Known Human Carcinogens

Reproductive toxicity : Not classified

STOT-single exposure : Causes damage to organs (central nervous system, optic nerve) (oral).

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<b>Methanol (67-56-1)</b>	
STOT-single exposure	Causes damage to organs (liver, kidneys, central nervous system, optic nerve) (Dermal, oral).
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Likely routes of exposure	: Inhalation. Skin and eye contact.
Potential Adverse human health effects and symptoms	: Harmful if swallowed.
Symptoms/effects	: Causes severe skin burns and eye damage. May cause cancer (Inhalation). Causes damage to organs (optic nerve, central nervous system) (Ingestion). Suspected of causing genetic defects.
Symptoms/effects after inhalation	: May cause an allergic skin reaction.
Symptoms/effects after skin contact	: Caustic burns/corrosion of the skin. Red skin.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.
Symptoms/effects upon intravenous administration	: Not available.
Chronic symptoms	: Impairment of the nervous system. Visual disturbances.

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>Bouin's Fixative</b>	
EC50 Daphnia 1	8.35 mg/l
<b>Picric Acid, Wetted (88-89-1)</b>	
LC50 fish 1	170 mg/l (96 h, <i>Lepomis macrochirus</i> , Pure substance)
LC50 other aquatic organisms 1	109.6 mg/l (96 h, <i>Oncorhynchus mykiss</i> )
EC50 Daphnia 1	112 mg/l ( <i>Daphnia magna</i> , Pure substance)
EC50 other aquatic organisms 1	55 mg/l (48 h, <i>Daphnia</i> )
<b>Acetic Acid (64-19-7)</b>	
LC50 fish 1	> 1000 mg/l (Equivalent or similar to OECD 203, 96 h, <i>Oncorhynchus mykiss</i> , Semi-static system, Fresh water, Experimental value, GLP)
EC50 Daphnia 1	> 1000 mg/l (OECD 202: <i>Daphnia</i> sp. Acute Immobilisation Test, 48 h, <i>Daphnia magna</i> , Static system, Fresh water, Experimental value, GLP)
<b>Methanol (67-56-1)</b>	
LC50 fish 1	15400 mg/l (EPA 660/3 - 75/009, 96 h, <i>Lepomis macrochirus</i> , Flow-through system, Fresh water, Experimental value, Lethal)
EC50 Daphnia 1	18260 mg/l (OECD 202: <i>Daphnia</i> sp. Acute Immobilisation Test, 96 h, <i>Daphnia magna</i> , Semi-static system, Fresh water, Experimental value, Locomotor effect)

### 12.2. Persistence and degradability

<b>Bouin's Fixative</b>	
Persistence and degradability	Not established.
<b>Picric Acid, Wetted (88-89-1)</b>	
Persistence and degradability	Non degradable in the soil. Not readily biodegradable in water.
Chemical oxygen demand (COD)	0.92 g O <sub>2</sub> /g substance
ThOD	0.98 g O <sub>2</sub> /g substance
<b>Acetic Acid (64-19-7)</b>	
Persistence and degradability	Readily biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.6 – 0.74 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.03 g O <sub>2</sub> /g substance
ThOD	1.07 g O <sub>2</sub> /g substance



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<b>Water (7732-18-5)</b>	
Persistence and degradability	Not established.
<b>Methanol (67-56-1)</b>	
Persistence and degradability	Readily biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.6 – 1.12 g O <sub>2</sub> /g substance
Chemical oxygen demand (COD)	1.42 g O <sub>2</sub> /g substance
ThOD	1.5 g O <sub>2</sub> /g substance

### 12.3. Bioaccumulative potential

<b>Bouin's Fixative</b>	
Bioaccumulative potential	Not established.
<b>Picric Acid, Wetted (88-89-1)</b>	
Log Pow	2.03
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).
<b>Acetic Acid (64-19-7)</b>	
BCF fish 1	3.16 (Pisces, Fresh water, QSAR)
Log Pow	-0.17 (Experimental value, 25 °C)
Bioaccumulative potential	Not bioaccumulative.
<b>Water (7732-18-5)</b>	
Bioaccumulative potential	Not established.
<b>Methanol (67-56-1)</b>	
BCF fish 1	1 – 4.5 (72 h, Cyprinus carpio, Static system, Fresh water, Experimental value)
Log Pow	-0.77 (Experimental value)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
<b>Formaldehyde (50-00-0)</b>	
Log Pow	0.35

### 12.4. Mobility in soil

<b>Acetic Acid (64-19-7)</b>	
Surface tension	26.3 mN/m (30 °C)
Ecology - soil	Highly mobile in soil. May be harmful to plant growth, blooming and fruit formation.
<b>Methanol (67-56-1)</b>	
Surface tension	No data available in the literature
Log Koc	-0.89 – -0.21 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN3265 Corrosive liquid, acidic, organic, n.o.s. (Formaldehyde, acetic acid), 8, II

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UN-No.(DOT) : UN3265  
Proper Shipping Name (DOT) : Corrosive liquid, acidic, organic, n.o.s.  
Formaldehyde, acetic acid  
Transport hazard class(es) (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136  
Packing group (DOT) : II - Medium Danger  
Hazard labels (DOT) : 8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx) : 202  
DOT Packaging Bulk (49 CFR 173.xxx) : 242  
DOT Special Provisions (49 CFR 172.102) : 148 - For domestic transportation, this entry directs to § 173.66 for: a. The standards for transporting a single bulk hazardous material for blasting by cargo tank motor vehicles (CTMV); and b. The standards for CTMVs capable of transporting multiple hazardous materials for blasting in bulk and non-bulk packagings (i.e. a multipurpose bulk truck (MBT)).  
B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.  
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.  
T11 - 6 178.274(d)(2) Normal..... 178.275(d)(3)  
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where:  $t_r$  is the maximum mean bulk temperature during transport,  $t_f$  is the temperature in degrees celsius of the liquid during filling, and  $a$  is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling ( $t_f$ ) and the maximum mean bulk temperature during transportation ( $t_r$ ) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where:  $d_{15}$  and  $d_{50}$  are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.  
TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.  
DOT Packaging Exceptions (49 CFR 173.xxx) : 154  
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L  
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L  
DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.  
DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"  
Emergency Response Guide (ERG) Number : 153  
Other information : No supplementary information available.

### Transport by sea (IMDG)

UN-No. (IMDG) : 3265  
Proper Shipping Name (IMDG) : CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.  
Class (IMDG) : 8 - Corrosive substances  
Packing group (IMDG) : II - substances presenting medium danger  
Limited quantities (IMDG) : 1 L

### Air transport (IATA/ICAO)

UN-No. (IATA) : 3265  
Proper Shipping Name (IATA) : Corrosive liquid, acidic, organic, n.o.s.  
Class (IATA) : 8 - Corrosives

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Packing group (IATA)

: II - Medium Danger

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

Bouin's Fixative	
SARA Section 311/312 Hazard Classes	Health hazard - Acute toxicity (any route of exposure) Health hazard - Skin corrosion or Irritation Health hazard - Serious eye damage or eye irritation Health hazard - Respiratory or skin sensitization Health hazard - Germ cell mutagenicity Health hazard - Carcinogenicity Health hazard - Specific target organ toxicity (single or repeated exposure)

All components of this product are listed as Active, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Picric Acid, Wetted	CAS-No. 88-89-1	1.3%
Acetic Acid	CAS-No. 64-19-7	4.8%
Water	CAS-No. 7732-18-5	83.3%
Methanol	CAS-No. 67-56-1	3.6%
Formaldehyde	CAS-No. 50-00-0	7%

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Picric Acid, Wetted	CAS-No. 88-89-1	1.3%
Methanol	CAS-No. 67-56-1	3.6%
Formaldehyde	CAS-No. 50-00-0	7%

Picric Acid, Wetted (88-89-1)	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Reactive hazard Fire hazard

Acetic Acid (64-19-7)	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
SARA Section 311/312 Hazard Classes	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Health hazard - Skin corrosion or Irritation Health hazard - Serious eye damage or eye irritation Health hazard - Acute toxicity (any route of exposure)

Methanol (67-56-1)	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
SARA Section 311/312 Hazard Classes	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Health hazard - Acute toxicity (any route of exposure) Health hazard - Specific target organ toxicity (single or repeated exposure)

Formaldehyde (50-00-0)	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

#### 15.2. International regulations

##### CANADA

Acetic Acid (64-19-7)	
Listed on the Canadian DSL (Domestic Substances List)	
Water (7732-18-5)	
Listed on the Canadian DSL (Domestic Substances List)	
Methanol (67-56-1)	
Listed on the Canadian DSL (Domestic Substances List)	

##### EU-Regulations

No additional information available

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### National regulations

#### Formaldehyde (50-00-0)

Listed on IARC (International Agency for Research on Cancer)  
Listed as carcinogen on NTP (National Toxicology Program)

### 15.3. US State regulations

#### Bouin's Fixative

U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	Yes
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No

**⚠ WARNING:** This product can expose you to Formaldehyde, which is known to the State of California to cause cancer, and Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### SECTION 16: Other information

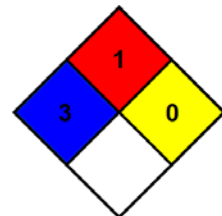
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Revision date : 09/08/2021  
Other information : None.

Full text of H- and EUH-statements: see section 16:

H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor
H228	Flammable solid
H301	Toxic if swallowed
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H330	Fatal if inhaled
H331	Toxic if inhaled
H332	Harmful if inhaled
H341	Suspected of causing genetic defects
H350	May cause cancer
H370	Causes damage to organs
H401	Toxic to aquatic life
H402	Harmful to aquatic life

NFPA health hazard : 3 - Materials that, under emergency conditions, can cause serious or permanent injury.  
NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur.  
NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



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### Hazard Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

\* - Chronic (long-term) health effects may result from repeated overexposure

### Flammability

: 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 F. (Class IIIB)

### Physical

: 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

### Personal protection

: G

G - Safety glasses, Gloves, Vapor respirator

### SDS US LabChem

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