



## SAFETY DATA SHEET

In Accordance with ISO/DIS 11014

Review Date 01/29/2018

Revision Date 01/29/2018

### 1 Identification of the Substance/Mixture and Company

**Product Name:** Bouin's Fluid

**SDS Code:** SSFXBOU

**Product Description:** Tissue Fixative

**Manufacturer/Supplier:**

American MasterTech  
1330 Thurman Street  
Lodi, CA 95240  
USA  
(800) 860-4073

**European Authorized Representative:**

Emergo Europe  
Prinsessegracht 20  
2514 AP The Hague,  
The Netherlands

**Emergency Telephone Number:** Infotrac (800) 535-5053 (24 hours) - International (011) 352-323-3500

### 2 Hazards Identification

**Classification of the substance or mixture**



GHS08 Health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1A H350 May cause cancer.

STOT SE 2 H371 May cause damage to organs.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

Skin Sens. 1 H317 May cause an allergic skin reaction.

Flam. Liq. 4 H227 Combustible liquid.

**Label elements**

**GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

**Hazard pictograms**



GHS07



GHS08

**Signal word** Danger

# SAFETY DATA SHEET

## In Accordance with ISO/DIS 11014

Review Date 01/29/2018

Revision Date 01/29/2018

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**Product Name: Bouin's Fluid**

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**Hazard-determining components of labeling:**

formaldehyde

methanol

2,4,6-trinitrophenol

**Hazard statements**

Combustible liquid.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

May cause damage to organs.

**Precautionary statements**

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from flames and hot surfaces. – No smoking.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Contaminated work clothing must not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Call a poison center/doctor if you feel unwell.

If on skin: Wash with plenty of water.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Rinse mouth.

If skin irritation or rash occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

Wash contaminated clothing before reuse.

In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

**Classification system:****NFPA ratings (scale 0 - 4)**

Health = 3

Fire = 2

Reactivity = 0

**HMIS-ratings (scale 0 - 4)**

Health = 3

Fire = 2

Reactivity = 0

**Other hazards****Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

# SAFETY DATA SHEET

## In Accordance with ISO/DIS 11014

Review Date 01/29/2018

Revision Date 01/29/2018

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### 3 Composition

**Chemical characterization: Mixtures**
**Description:** Mixture of the substances listed below with nonhazardous additions.

<b>Dangerous components:</b>		
50-00-0	formaldehyde	≥5-≤10%
64-19-7	acetic acid	2.5-10%
67-56-1	methanol	≥3-≤10%
88-89-1	2,4,6-trinitrophenol	≥0.1-≤2.5%

### 4 First Aid Measures

**Description of first aid measures**
**General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**After inhalation:**

Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

**After skin contact:** Immediately wash with water and soap and rinse thoroughly.

**After eye contact:** Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**After swallowing:** Immediately call a doctor.

**Information for doctor:**

**Most important symptoms and effects, both acute and delayed:** No further relevant information available.

**Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

### 5 Firefighting Measures

**Extinguishing media**
**Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

**Special hazards arising from the substance or mixture:** No further relevant information available.

**Advice for firefighters**

**Protective equipment:** No special measures required.

### 6 Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:**

Wear protective equipment. Keep unprotected persons away.

**Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

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

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

# SAFETY DATA SHEET

## In Accordance with ISO/DIS 11014

Review Date 01/29/2018

Revision Date 01/29/2018

**Product Name: Bouin's Fluid****Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**Protective Action Criteria for Chemicals****PAC-1:**

50-00-0	formaldehyde	0.90 ppm
64-19-7	acetic acid	5 ppm
67-56-1	methanol	530 ppm
88-89-1	2,4,6-trinitrophenol	0.3 mg/m <sup>3</sup>

**PAC-2:**

50-00-0	formaldehyde	14 ppm
64-19-7	acetic acid	35 ppm
67-56-1	methanol	2,100 ppm
88-89-1	2,4,6-trinitrophenol	17 mg/m <sup>3</sup>

**PAC-3:**

50-00-0	formaldehyde	56 ppm
64-19-7	acetic acid	250 ppm
67-56-1	methanol	7200* ppm
88-89-1	2,4,6-trinitrophenol	100 mg/m <sup>3</sup>

## 7 Handling and Storage

**Handling:****Precautions for safe handling:** Ensure good ventilation/exhaustion at the workplace.**Information about protection against explosions and fires:** Keep ignition sources away - Do not smoke.**Conditions for safe storage, including any incompatibilities****Storage:****Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:** Not required.**Further information about storage conditions:** Keep receptacle tightly sealed.**Specific end use(s):** No further relevant information available.

## 8 Exposure Controls/Personal Protection

**Additional information about design of technical systems:** No further data; see item 7.**Control parameters****Components with limit values that require monitoring at the workplace:****50-00-0 formaldehyde**

PEL	Short-term value: 2 ppm Long-term value: 0.75 ppm see 29 CFR 1910.1048(c)
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# SAFETY DATA SHEET

## In Accordance with ISO/DIS 11014

Review Date 01/29/2018

Revision Date 01/29/2018

**Product Name: Bouin's Fluid**

REL	Long-term value: 0.016 ppm Ceiling limit value: 0.1* ppm *15-min; See Pocket Guide App. A
TLV	Short-term value: 0.37 mg/m <sup>3</sup> , 0.3 ppm Long-term value: 0.12 mg/m <sup>3</sup> , 0.1 ppm DSEN; RSEN
<b>64-19-7 acetic acid</b>	
REL	Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
REL	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
TLV	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
<b>67-56-1 methanol</b>	
REL	Long-term value: 260 mg/m <sup>3</sup> , 200 ppm
REL	Short-term value: 325 mg/m <sup>3</sup> , 250 ppm Long-term value: 260 mg/m <sup>3</sup> , 200 ppm Skin
TLV	Short-term value: 328 mg/m <sup>3</sup> , 250 ppm Long-term value: 262 mg/m <sup>3</sup> , 200 ppm Skin; BEI
<b>88-89-1 2,4,6-trinitrophenol</b>	
REL	Long-term value: 0.1 mg/m <sup>3</sup> Skin
REL	Short-term value: 0.3 mg/m <sup>3</sup> Long-term value: 0.1 mg/m <sup>3</sup> Skin
TLV	Long-term value: 0.1 mg/m <sup>3</sup>
<b>Ingredients with biological limit values:</b>	
<b>67-56-1 methanol</b>	
BEI	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)

**Additional information:** The lists that were valid during the creation were used as basis.

**Exposure controls:****Personal protective equipment:****General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Avoid contact with the eyes and skin.

**Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

**Protection of hands:**

Protective gloves

# SAFETY DATA SHEET

## In Accordance with ISO/DIS 11014

Review Date 01/29/2018

Revision Date 01/29/2018

**Product Name: Bouin's Fluid**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**Penetration time of glove material:**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

**Eye protection:** Tightly sealed goggles

## 9 Physical and Chemical Properties

**Information on basic physical and chemical properties****General Information****Appearance**

<b>Form:</b>	Liquid
<b>Color:</b>	Yellow
<b>Odor:</b>	Pungent, makes eyes water
<b>Odor threshold:</b>	Not determined.

**pH-value:** Not determined.

**Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.

**Flash point:** 66 °C (150.8 °F)

**Flammability (solid, gaseous):** Not applicable.

**Ignition temperature:** ~300 °C (~572 °F)

**Decomposition temperature:** Not determined.

**Auto igniting:** Product is not selfigniting.

**Danger of explosion:** Forms very sensitive explosive metallic compounds.

**Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

**Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

**Density at 20 °C (68 °F):** 0.98489 g/cm<sup>3</sup> (8.21891 lbs/gal)

**Relative density:** Not determined.

**Vapour density:** Not determined.

**Evaporation rate:** Not determined.

**Solubility in / Miscibility with**

**Water:** Fully miscible.

**Partition coefficient (n-octanol/water):** Not determined.

**Dynamic:** Not determined.

**Kinematic:** Not determined.

# SAFETY DATA SHEET

## In Accordance with ISO/DIS 11014

Review Date 01/29/2018

Revision Date 01/29/2018

**Product Name: Bouin's Fluid**
**Other information:**

No further relevant information available.

## 10 Stability and Reactivity

**Reactivity:** No further relevant information available.

**Chemical stability:**
**Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

**Possibility of hazardous reactions:** No dangerous reactions known.

**Conditions to avoid:** No further relevant information available.

**Incompatible materials:** No further relevant information available.

**Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicology Information

**Information on toxicological effects**
**Acute toxicity:**
**LD/LC50 values that are relevant for classification:**
**50-00-0 formaldehyde**

Oral	LD50	>200 mg/kg (rat)
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**67-56-1 methanol**

Oral	LD50	5,628 mg/kg (rat)
Dermal	LD50	15,800 mg/kg (rabbit)

**Primary irritant effect:**
**On the skin:** Irritant to skin and mucous membranes.

**On the eye:** Irritating effect.

**Sensitization:** Sensitization possible through skin contact.

**Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

**Carcinogenic categories**
**IARC (International Agency for Research on Cancer)**

50-00-0	formaldehyde	1
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**NTP (National Toxicology Program)**

50-00-0	formaldehyde	K
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**OSHA-Ca (Occupational Safety & Health Administration)**

50-00-0	formaldehyde
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## 12 Ecological Information

**Toxicity:**
**Aquatic toxicity:** No further relevant information available.

**Persistence and degradability:** No further relevant information available.

**Behavior in environmental systems:**
**Bioaccumulative potential:** No further relevant information available.

# SAFETY DATA SHEET

## In Accordance with ISO/DIS 11014

Review Date 01/29/2018

Revision Date 01/29/2018

**Product Name: Bouin's Fluid**
**Mobility in soil:** No further relevant information available.

**Additional ecological information:**
**General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

**Results of PBT and vPvB assessment**
**PBT:** Not applicable.

**vPvB:** Not applicable.

**Other adverse effects:** No further relevant information available.

### 13 Disposal Considerations

**Uncleaned packagings:**
**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport Information

<b>UN-Number</b>	
<b>DOT, ADR, ADN, IMDG, IATA</b>	Not applicable
<b>UN proper shipping name</b>	
<b>DOT, ADR, ADN, IMDG, IATA</b>	Not applicable
<b>Transport hazard class(es)</b>	
<b>DOT, ADR, ADN, IMDG, IATA</b>	
<b>Class</b>	Not applicable
<b>Packing group</b>	
<b>DOT, ADR, IMDG, IATA</b>	Not applicable
<b>Environmental hazards</b>	
<b>Marine pollutant:</b>	No
<b>Special precautions for user:</b>	Not applicable.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:</b>	Not applicable.
<b>UN "Model Regulation":</b>	Not applicable

### 15 Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA

**Section 355 (extremely hazardous substances):**

50-00-0 formaldehyde

**Section 313 (Specific toxic chemical listings):**

50-00-0 formaldehyde



# SAFETY DATA SHEET

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Review Date 01/29/2018

Revision Date 01/29/2018

**Product Name: Bouin's Fluid**

67-56-1	methanol
88-89-1	2,4,6-trinitrophenol

**TSCA (Toxic Substances Control Act):**

All ingredients are listed.

**TSCA new (21st Century Act) (Substances not listed)**

88-89-1 | 2,4,6-trinitrophenol

**Proposition 65****Chemicals known to cause cancer:**

50-00-0 | formaldehyde

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

67-56-1 | methanol

**Carcinogenic categories****EPA (Environmental Protection Agency)**

50-00-0 | formaldehyde

B1

**TLV (Threshold Limit Value established by ACGIH)**

50-00-0 | formaldehyde

A2

**NIOSH-Ca (National Institute for Occupational Safety and Health)**

50-00-0 | formaldehyde

**GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).**Hazard pictograms**

GHS07    GHS08

**Signal word** Danger**Hazard-determining components of labeling:**

formaldehyde

methanol

2,4,6-trinitrophenol

**Hazard statements**

Combustible liquid.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

May cause damage to organs.

**Precautionary statements**

Obtain special instructions before use.

# SAFETY DATA SHEET

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Review Date 01/29/2018

Revision Date 01/29/2018

---

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Do not handle until all safety precautions have been read and understood.  
Keep away from flames and hot surfaces. – No smoking.  
Do not breathe dust/fume/gas/mist/vapors/spray.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Contaminated work clothing must not be allowed out of the workplace.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If swallowed: Call a poison center/doctor if you feel unwell.  
If on skin: Wash with plenty of water.  
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
If exposed or concerned: Get medical advice/attention.  
Specific treatment (see on this label).  
Rinse mouth.  
If skin irritation or rash occurs: Get medical advice/attention.  
If eye irritation persists: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
Wash contaminated clothing before reuse.  
In case of fire: Use for extinction: CO<sub>2</sub>, powder or water spray.  
Store in a well-ventilated place. Keep cool.  
Store locked up.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

**National regulations:****Additional classification according to Decree on Hazardous Materials:**

Carcinogenic hazardous material group III (dangerous).

**Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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## 16 Other Information

This information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of the material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.

**Department issuing SDS:** Regulatory Department

**Contact:** Phone (800) 860-4073

**Date of preparation / last revision** 01/29/2018 / -

**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

# SAFETY DATA SHEET

## In Accordance with ISO/DIS 11014

Review Date 01/29/2018

Revision Date 01/29/2018

---

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NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
BEL: Biological Exposure Limit  
Flam. Liq. 4: Flammable liquids – Category 4  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
Skin Sens. 1: Skin sensitisation – Category 1  
Muta. 2: Germ cell mutagenicity – Category 2  
Carc. 1A: Carcinogenicity – Category 1A  
STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

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