

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/03/2022

Reviewed on 06/03/2022

## 1 Identification

- **Product identifier**
- **Trade name:** BOUIN'S FLUID
- **Article number:** 26386-01
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Electron Microscopy Sciences  
 1560 Industry Road  
 USA-Hatfield, PA 19440  
 Tel: 215-412-8400 Fax: 215-412-8450  
 email: info@emsdiasum.com  
 www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
 ChemTrec 1-800-424-9300 Contract CCN7661  
 1-703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS01 Exploding bomb

Unstable Explosives

H200 Unstable explosive.



GHS02 Flame

Flammable Liquids 3

H226 Flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Toxicity - Inhalation 3

H331 Toxic if inhaled.



GHS08 Health hazard

Germ Cell Mutagenicity 2

H341 Suspected of causing genetic defects.

Carcinogenicity 1B

H350 May cause cancer.

Specific Target Organ Toxicity - Single Exposure 2

H371 May cause damage to the central nervous system and the visual organs.



GHS05 Corrosion

Skin Corrosion 1A

H314 Causes severe skin burns and eye damage.

Eye Damage 1

H318 Causes serious eye damage.

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GHS07

*Acute Toxicity - Oral 4**Acute Toxicity - Dermal 4**Sensitization - Skin 1**H302 Harmful if swallowed.**H312 Harmful in contact with skin.**H317 May cause an allergic skin reaction.*

- **Label elements**

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

- **Hazard pictograms**



GHS01

GHS02

GHS05

GHS06

GHS07

GHS08

- **Signal word** *Danger*

- **Hazard-determining components of labeling:**

*formaldehyde**Methyl Alcohol**Acetic Acid Glacial**2,4,6-trinitrophenol*

- **Hazard statements**

*Unstable explosive.**Flammable liquid and vapor.**Harmful if swallowed or in contact with skin.**Toxic if inhaled.**Causes severe skin burns and eye damage.**May cause an allergic skin reaction.**Suspected of causing genetic defects.**May cause cancer.**May cause damage to the central nervous system and the visual organs.*

- **Precautionary statements**

*Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting/equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Do not breathe dusts or mists.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Use only outdoors or in a well-ventilated area.**Contaminated work clothing must not be allowed out of the workplace.**Wear protective gloves/protective clothing/eye protection/face protection.**Wear personal protective equipment/face protection.**If swallowed: Call a poison center/doctor if you feel unwell.**If swallowed: Rinse mouth. Do NOT induce vomiting.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.*

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

*Immediately call a poison center/doctor.*

*IF exposed or concerned: Get medical advice/attention.*

*Specific treatment (see on this label).*

*Take off contaminated clothing and wash it before reuse.*

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

*Wash contaminated clothing before reuse.*

*In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.*

*Explosion risk in case of fire.*

*DO NOT fight fire when fire reaches explosives.*

*Evacuate area.*

*Store in accordance with local/regional/national/international regulations.*

*Store in a well-ventilated place. Keep container tightly closed.*

*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 = 4

· **HMIS-ratings (scale 0 - 4)**



Health = \*3

Fire = 2

Reactivity = 4

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

|         |                      |           |
|---------|----------------------|-----------|
| 50-00-0 | formaldehyde         | >10-≤25%  |
| 64-19-7 | Acetic Acid Glacial  | >2.5-≤10% |
| 67-56-1 | Methyl Alcohol       | >2.5-≤10% |
| 88-89-1 | 2,4,6-trinitrophenol | >2.5-≤10% |

## 4 First-aid measures

· **Description of first aid measures**

· **General information:**

*Immediately remove any clothing soiled by the product.*

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

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Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:**

Supply fresh air or oxygen; call for 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. Then consult a doctor.

· **After swallowing:**

Immediately call a doctor.

Drink copious amounts of water and provide fresh air. 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 Fire-fighting 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:** Mouth respiratory protective device.

## 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).

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· **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 Glacial  | 5 ppm                 |
| 67-56-1 | Methyl Alcohol       | 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 Glacial | 35 ppm    |
| 67-56-1 | Methyl Alcohol      | 2,100 ppm |

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|                 |                      |                       |
|-----------------|----------------------|-----------------------|
| 88-89-1         | 2,4,6-trinitrophenol | 17 mg/m <sup>3</sup>  |
| <b>· PAC-3:</b> |                      |                       |
| 50-00-0         | formaldehyde         | 56 ppm                |
| 64-19-7         | Acetic Acid Glacial  | 250 ppm               |
| 67-56-1         | Methyl Alcohol       | 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.  
 Open and handle receptacle with care.  
 Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
 Keep ignition sources away - Do not smoke.  
 Protect from heat.  
 Protect against electrostatic charges.  
 Keep respiratory protective device available.
- **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.  
 Protect from heat and direct sunlight.
- **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:

|                                    |   |
|------------------------------------|---|
| <b>50-00-0 formaldehyde</b>        |   |
| PEL                                | Short-term value: 2 ppm<br>Long-term value: 0.75 ppm<br>see 29 CFR 1910.1048(c)                 |
| REL                                | Long-term value: 0.016 ppm<br>Ceiling limit value: 0.1* ppm<br>*15-min; See Pocket Guide App. A |
| TLV                                | Short-term value: 0.3 ppm<br>Long-term value: 0.1 ppm<br>DSEN; RSEN, A1                         |
| <b>64-19-7 Acetic Acid Glacial</b> |   |
| PEL                                | Long-term value: 25 mg/m <sup>3</sup> , 10 ppm  |

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|  |   |
|--|---|
| REL  | Short-term value: 37 mg/m <sup>3</sup> , 15 ppm<br>Long-term value: 25 mg/m <sup>3</sup> , 10 ppm             |
| TLV  | Short-term value: 15 ppm<br>Long-term value: 10 ppm   |
| <b>67-56-1 Methyl Alcohol</b>                    |   |
| PEL  | Long-term value: 260 mg/m <sup>3</sup> , 200 ppm  |
| REL  | Short-term value: 325 mg/m <sup>3</sup> , 250 ppm<br>Long-term value: 260 mg/m <sup>3</sup> , 200 ppm<br>Skin |
| TLV  | Short-term value: 250 ppm<br>Long-term value: 200 ppm<br>Skin; BEI  |
| <b>88-89-1 2,4,6-trinitrophenol</b>              |   |
| PEL  | Long-term value: 0.1 mg/m <sup>3</sup><br>Skin  |
| REL  | Short-term value: 0.3 mg/m <sup>3</sup><br>Long-term value: 0.1 mg/m <sup>3</sup><br>Skin                     |
| TLV  | Long-term value: 0.1 mg/m <sup>3</sup>  |
| <b>Ingredients with biological limit values:</b> |   |
| <b>67-56-1 Methyl Alcohol</b>                    |   |
| BEI  | 15 mg/L<br>Medium: urine<br>Time: end of shift<br>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.
- 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

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.

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- **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         |
| <b>Odor threshold:</b> | Not determined. |

- **pH-value at 20 °C (68 °F):** 1.2-1.6

- **Change in condition**

|                                     |                  |
|-------------------------------------|------------------|
| <b>Melting point/Melting range:</b> | Undetermined.    |
| <b>Boiling point/Boiling range:</b> | 98 °C (208.4 °F) |

- **Flash point:** 40 °C (104 °F)

- **Flammability (solid, gaseous):** Not flammable.

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

- **Decomposition temperature:** Not determined.

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

- **Danger of explosion:** Explosive with or without contact with air.

- **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):** 1.11 g/cm<sup>3</sup> (9.26295 lbs/gal)

- **Relative density** Not determined.

- **Vapor density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with**

**Water:** Fully miscible.

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

- **Viscosity:**

|                   |                 |
|-------------------|-----------------|
| <b>Dynamic:</b>   | Not determined. |
| <b>Kinematic:</b> | Not determined. |

- **Solvent content:**

**Organic solvents:** 27.7 %

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|                     |                                       |
|---------------------|---------------------------------------|
| <b>Water:</b>       | 69.4 %                                |
| <b>VOC content:</b> | 27.65 %<br>1,333.2 g/l / 11.13 lb/gal |

|                        |       |
|------------------------|-------|
| <b>Solids content:</b> | 1.0 % |
|------------------------|-------|

|                          |  |
|--------------------------|--|
| <b>Other information</b> | 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 Toxicological 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) |
|------|------|------------------|

### 67-56-1 Methyl Alcohol

|      |      |                   |
|------|------|-------------------|
| Oral | LD50 | 5,628 mg/kg (rat) |
|------|------|-------------------|

|        |      |                       |
|--------|------|-----------------------|
| Dermal | LD50 | 15,800 mg/kg (rabbit) |
|--------|------|-----------------------|

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Toxic  
Harmful  
Corrosive  
Irritant  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.  
Carcinogenic.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

|         |              |   |
|---------|--------------|---|
| 50-00-0 | formaldehyde | I |
|---------|--------------|---|

- **NTP (National Toxicology Program)**

|         |              |   |
|---------|--------------|---|
| 50-00-0 | formaldehyde | K |
|---------|--------------|---|

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- |  |
|--|
| · <b>OSHA-Ca (Occupational Safety Health Administration)</b> |
| 50-00-0 formaldehyde   |

## 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.
- **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.  
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
 Danger to drinking water if even small quantities leak into the ground.  
 Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **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, IMDG, IATA</b>    | UN3265   |
| · <b>UN proper shipping name</b> |  |
| · <b>DOT</b>                     | <i>Corrosive liquid, acidic, organic, n.o.s.</i>   |
| · <b>ADR</b>                     | <i>3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br/>(METHANOL, ACETIC ACID, GLACIAL)</i> |
| · <b>IMDG, IATA</b>              | <i>CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br/>(METHANOL, ACETIC ACID, GLACIAL)</i>      |

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· **Transport hazard class(es)**· **DOT**· **Class**

8 Corrosive substances

· **Label**

8

· **ADR, IMDG, IATA**· **Class**

8 Corrosive substances

· **Label**

8

· **Packing group**· **DOT, ADR, IMDG, IATA**

III

· **Environmental hazards:**

Not applicable.

· **Special precautions for user**

Warning: Corrosive substances

· **Hazard identification number (Kemler code):** 88· **EMS Number:**

F-A,S-B

· **Segregation groups**

Acids

· **Stowage Category**

B

· **Stowage Code**

SW2 Clear of living quarters.

· **Segregation Code**

SG36 Stow "separated from" SGG18-alkalis.

SG49 Stow "separated from" SGG6-cyanides

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**· **DOT**· **Quantity limitations**

On passenger aircraft/rail: 0.5 L

On cargo aircraft only: 2.5 L

· **ADR**· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **IMDG**· **Limited quantities (LQ)**

0

· **Excepted quantities (EQ)**

Code: E0

Not permitted as Excepted Quantity

· **UN "Model Regulation":**UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.  
(METHANOL, ACETIC ACID, GLACIAL), 8, III

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## 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 |
|---------|--------------|

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

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

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

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

|         |              |
|---------|--------------|
| 50-00-0 | formaldehyde |
|---------|--------------|

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

· **Proposition 65**

· **Chemicals known to cause cancer:**

|         |              |
|---------|--------------|
| 50-00-0 | formaldehyde |
|---------|--------------|

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

None of the ingredients is listed.

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

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

|         |              |    |
|---------|--------------|----|
| 50-00-0 | formaldehyde | B1 |
|---------|--------------|----|

· **TLV (Threshold Limit Value)**

|         |              |    |
|---------|--------------|----|
| 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**



GHS01

GHS02

GHS05

GHS06

GHS07

GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

formaldehyde

Methyl Alcohol

Acetic Acid Glacial

2,4,6-trinitrophenol

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· **Hazard statements**

Unstable explosive.  
 Flammable liquid and vapor.  
 Harmful if swallowed or in contact with skin.  
 Toxic if inhaled.  
 Causes severe skin burns and eye damage.  
 May cause an allergic skin reaction.  
 Suspected of causing genetic defects.  
 May cause cancer.  
 May cause damage to the central nervous system and the visual organs.

· **Precautionary statements**

Obtain special instructions before use.  
 Do not handle until all safety precautions have been read and understood.  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 Ground/bond container and receiving equipment.  
 Use explosion-proof electrical/ventilating/lighting/equipment.  
 Use only non-sparking tools.  
 Take precautionary measures against static discharge.  
 Do not breathe dusts or mists.  
 Wash thoroughly after handling.  
 Do not eat, drink or smoke when using this product.  
 Use only outdoors or in a well-ventilated area.  
 Contaminated work clothing must not be allowed out of the workplace.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 Wear personal protective equipment/face protection.  
 If swallowed: Call a poison center/doctor if you feel unwell.  
 If swallowed: Rinse mouth. Do NOT induce vomiting.  
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing.  
 Immediately call a poison center/doctor.  
 IF exposed or concerned: Get medical advice/attention.  
 Specific treatment (see on this label).  
 Take off contaminated clothing and wash it before reuse.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 Wash contaminated clothing before reuse.  
 In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.  
 Explosion risk in case of fire.  
 DO NOT fight fire when fire reaches explosives.  
 Evacuate area.  
 Store in accordance with local/regional/national/international regulations.  
 Store in a well-ventilated place. Keep container tightly closed.  
 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:**

· **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.

US

(Contd. on page 13)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/03/2022

Reviewed on 06/03/2022

Trade name: **BOUIN'S FLUID**

(Contd. of page 12)

## 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Contact:**

· **Date of preparation / last revision** 06/03/2022 / -

· **Abbreviations and acronyms:**

*ADR: Accord relatif au transport international 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*

*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)*

*NFPA: National Fire Protection Association (USA)*

*HMIS: Hazardous Materials Identification System (USA)*

*VOC: Volatile Organic Compounds (USA, EU)*

*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**

**BEI: Biological Exposure Limit**

*Unstable Explosives: Explosives – Unstable explosive*

*Flammable Liquids 3: Flammable liquids – Category 3*

*Acute Toxicity - Oral 4: Acute toxicity – Category 4*

*Acute Toxicity - Inhalation 3: Acute toxicity – Category 3*

*Skin Corrosion 1A: Skin corrosion/irritation – Category 1A*

*Eye Damage 1: Serious eye damage/eye irritation – Category 1*

*Sensitization - Skin 1: Skin sensitisation – Category 1*

*Germ Cell Mutagenicity 2: Germ cell mutagenicity – Category 2*

*Carcinogenicity 1B: Carcinogenicity – Category 1B*

*Specific Target Organ Toxicity - Single Exposure 2: Specific target organ toxicity (single exposure) – Category 2*

# Safety Data Sheet

## according to WHS Regulations

Printing date 03.06.2022

Revision: 03.06.2022

### 1 Identification

- **Product identifier**
- **Trade name:** BOUIN'S FLUID
- **Article number:** 26386-01
- **Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- ProSciTech Pty Ltd  
11 Carlton Street, Kirwan QLD 4817 Australia  
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)  
Website: [ems.proscitech.com](http://ems.proscitech.com)
- Emgrid Australia Pty. Ltd.  
P.O. Box 118  
The Patch VIC 3792  
Australia  
Tel: 03 9752 1785  
Fax: 03 9752 1784  
Website: [www.emgrid.com.au](http://www.emgrid.com.au)
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 Hazard(s) Identification

- **Classification of the substance or mixture**



GHS01 exploding bomb

Unst. Expl. H200 Unstable explosives.



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.

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## Safety Data Sheet according to WHS Regulations

Printing date 03.06.2022

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**Trade name: BOUIN'S FLUID**

(Contd. of page 1)

**GHS08 health hazard**

*Muta. 2 H341 Suspected of causing genetic defects.*  
*Carc. 1B H350 May cause cancer.*  
*STOT SE 2 H371 May cause damage to the central nervous system and the visual organs.*

**GHS05 corrosion**

*Skin Corr. 1A H314 Causes severe skin burns and eye damage.*  
*Eye Dam. 1 H318 Causes serious eye damage.*

**GHS07**

*Acute Tox. 4 H302 Harmful if swallowed.*  
*Acute Tox. 4 H312 Harmful in contact with skin.*  
*Skin Sens. 1 H317 May cause an allergic skin reaction.*

- **Label elements**

- **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

- **Hazard pictograms**

**GHS01****GHS02****GHS05****GHS06****GHS07****GHS08**

- **Signal word** *Danger*

- **Hazard-determining components of labelling:**

*formaldehyde*  
*Methyl Alcohol*  
*Acetic Acid Glacial*  
*2,4,6-trinitrophenol*

- **Hazard statements**

*Unstable explosives.*  
*Flammable liquid and vapour.*  
*Harmful if swallowed.*  
*Harmful in contact with skin.*  
*Toxic if inhaled.*  
*Causes severe skin burns and eye damage.*  
*May cause an allergic skin reaction.*  
*Suspected of causing genetic defects.*  
*May cause cancer.*  
*May cause damage to the central nervous system and the visual organs.*

- **Precautionary statements**

*Obtain special instructions before use.*  
*Do not handle until all safety precautions have been read and understood.*  
*Keep away from heat/sparks/open flames/hot surfaces. No smoking.*  
*Ground/bond container and receiving equipment.*

(Contd. on page 3)

## Safety Data Sheet according to WHS Regulations

Printing date 03.06.2022

Revision: 03.06.2022

**Trade name: BOUIN'S FLUID**

(Contd. of page 2)

Use explosion-proof electrical/ventilating/lighting equipment.  
 Use only non-sparking tools.  
 Take precautionary measures against static discharge.  
 Do not breathe dusts or mists.  
 Wash thoroughly after handling.  
 Do not eat, drink or smoke when using this product.  
 Use only outdoors or in a well-ventilated area.  
 Contaminated work clothing should not be allowed out of the workplace.  
 Wear protective gloves/protective clothing/eye protection/face protection.  
 Wear personal protective equipment/face protection.  
 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.  
 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing.  
 Immediately call a POISON CENTER/doctor.  
 IF exposed or concerned: Get medical advice/attention.  
 Specific treatment (see on this label).  
 Take off contaminated clothing and wash it before reuse.  
 If skin irritation or rash occurs: Get medical advice/attention.  
 Wash contaminated clothing before reuse.  
 In case of fire: Use CO<sub>2</sub>, powder or water spray for extinction.  
 Explosion risk in case of fire.  
 DO NOT fight fire when fire reaches explosives.  
 Evacuate area.  
 Store in accordance with local/regional/national/international regulations.  
 Store in a well-ventilated place. Keep container tightly closed.  
 Store in a well-ventilated place. Keep cool.  
 Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

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

### 3 Composition and Information on Ingredients

- **Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

|         |                      |           |
|---------|----------------------|-----------|
| 50-00-0 | formaldehyde         | >10-≤25%  |
| 64-19-7 | Acetic Acid Glacial  | >2.5-≤10% |
| 67-56-1 | Methyl Alcohol       | >2.5-≤10% |
| 88-89-1 | 2,4,6-trinitrophenol | >2.5-≤10% |

- **SVHC**

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

AU

(Contd. on page 4)



## Safety Data Sheet according to WHS Regulations

Printing date 03.06.2022

Revision: 03.06.2022

Trade name: **BOUIN'S FLUID**

(Contd. of page 3)

### 4 First Aid Measures

- **Description of first aid measures**
- **General information:**  
Immediately remove any clothing soiled by the product.  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.  
Remove breathing equipment only after contaminated clothing have been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**  
Supply fresh air or oxygen; call for 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. Then consult a doctor.
- **After swallowing:**  
Call for a doctor immediately.  
Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **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 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, 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:** Mouth respiratory protective device.

### 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).  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **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.

-AU-

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# Safety Data Sheet

## according to WHS Regulations

Printing date 03.06.2022

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Trade name: **BOUIN'S FLUID**

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### 7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**  
 Ensure good ventilation/exhaustion at the workplace.  
 Open and handle receptacle with care.  
 Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
 Keep ignition sources away - Do not smoke.  
 Protect from heat.  
 Protect against electrostatic charges.  
 Keep respiratory protective device available.
- **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 container tightly sealed.  
 Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls and personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

#### 50-00-0 formaldehyde

|     |   |
|-----|---|
| WES | Short-term value: 2.5 mg/m <sup>3</sup> , 2 ppm |
|     | Long-term value: 1.2 mg/m <sup>3</sup> , 1 ppm  |
|     | Sen   |

#### 64-19-7 Acetic Acid Glacial

|     |   |
|-----|---|
| WES | Short-term value: 37 mg/m <sup>3</sup> , 15 ppm |
|     | Long-term value: 25 mg/m <sup>3</sup> , 10 ppm  |

#### 67-56-1 Methyl Alcohol

|     |   |
|-----|---|
| WES | Short-term value: 328 mg/m <sup>3</sup> , 250 ppm |
|     | Long-term value: 262 mg/m <sup>3</sup> , 200 ppm  |
|     | Sk  |

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

|     |  |
|-----|--|
| WES | Long-term value: 0.1 mg/m <sup>3</sup> |
|-----|--|

- **Additional information:** The lists valid during the making 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.  
 Avoid contact with the eyes and skin.

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# Safety Data Sheet

## according to WHS Regulations

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Trade name: **BOUIN'S FLUID**

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- **Respiratory protection:**

*In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.*

- **Protection of hands:**



Protective gloves

*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:**

**Form:** Liquid

**Colour:** Yellow

- **Odour:** Pungent

- **Odour threshold:** Not determined.

- **pH-value at 20 °C:** 1.2-1.6

- **Change in condition**

**Melting point/freezing point:** Undetermined.

**Initial boiling point and boiling range:** 98 °C

- **Flash point:** 40 °C

- **Flammability (solid, gas):** Not applicable.

- **Ignition temperature:** 300 °C

- **Decomposition temperature:** Not determined.

- **Auto-ignition temperature:** Product is not selfigniting.

- **Explosive properties:** Explosive with or without contact with air.

- **Explosion limits:**

**Lower:** Not determined.

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# Safety Data Sheet

## according to WHS Regulations

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Trade name: **BOUIN'S FLUID**

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|  |  |
|--|--|
| <b>Upper:</b>                                    | Not determined.                            |
| · <b>Vapour pressure at 20 °C:</b>               | 23 hPa                                     |
| · <b>Density at 20 °C:</b>                       | 1.11 g/cm <sup>3</sup>                     |
| · <b>Relative density</b>                        | Not determined.                            |
| · <b>Vapour density</b>                          | Not determined.                            |
| · <b>Evaporation rate</b>                        | Not determined.                            |
| · <b>Solubility in / Miscibility with water:</b> | Fully miscible.                            |
| · <b>Partition coefficient: n-octanol/water:</b> | Not determined.                            |
| · <b>Viscosity:</b>                              |  |
| <b>Dynamic:</b>                                  | Not determined.                            |
| <b>Kinematic:</b>                                | Not determined.                            |
| · <b>Solvent content:</b>                        |  |
| <b>Organic solvents:</b>                         | 27.7 %                                     |
| <b>Water:</b>                                    | 69.4 %                                     |
| <b>VOC (EC)</b>                                  | 27.65 %                                    |
| <b>Solids content:</b>                           | 1.0 %                                      |
| · <b>Other information</b>                       | 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 Toxicological Information

- **Information on toxicological effects**
- **Acute toxicity**

|  |      |                       |
|--|------|-----------------------|
| · <b>LD/LC50 values relevant for classification:</b> |      |                       |
| <b>50-00-0 formaldehyde</b>                          |      |                       |
| Oral   | LD50 | >200 mg/kg (rat)      |
| <b>67-56-1 Methyl Alcohol</b>                        |      |                       |
| Oral   | LD50 | 5,628 mg/kg (rat)     |
| Dermal   | LD50 | 15,800 mg/kg (rabbit) |

- **Primary irritant effect:**
- **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
- **Serious eye damage/irritation**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.

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**Trade name: BOUIN'S FLUID**

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· **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Toxic

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic.

· **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**

Muta. 2, Carc. 1B

### 12 Ecological Information

· **Toxicity**

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

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

· **Behaviour in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

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

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

Must not reach sewage water or drainage ditch undiluted or unneutralised.

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

Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

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

### 13 Disposal considerations

· **Waste treatment methods**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packaging:**

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

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### 14 Transport information

· **UN-Number**

· **ADG, IMDG, IATA**

UN3265

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## Safety Data Sheet


according to WHS Regulations

Printing date 03.06.2022

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Trade name: **BOUIN'S FLUID**

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|   |   |
|---|---|
| · <b>UN proper shipping name</b><br>· <b>ADG</b><br>· <b>IMDG, IATA</b>   | 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br>(METHANOL, ACETIC ACID, GLACIAL)<br>CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br>(METHANOL, ACETIC ACID, GLACIAL)                     |
| · <b>Transport hazard class(es)</b><br>· <b>ADG, IMDG, IATA</b>   |   |
|    |   |
| · <b>Class</b><br>· <b>Label</b>  | 8 Corrosive substances.<br>8  |
| · <b>Packing group</b><br>· <b>ADG, IMDG, IATA</b>  | III   |
| · <b>Environmental hazards:</b>   | Not applicable.   |
| · <b>Special precautions for user</b><br>· <b>Hazard identification number (Kemler code):</b><br>· <b>EMS Number:</b><br>· <b>Segregation groups</b><br>· <b>Stowage Category</b><br>· <b>Stowage Code</b><br>· <b>Segregation Code</b> | Warning: Corrosive substances.<br>88<br>F-A,S-B<br>Acids<br>B<br>SW2 Clear of living quarters.<br>SG36 Stow "separated from" SGG18-alkalis.<br>SG49 Stow "separated from" SGG6-cyanides |
| · <b>Transport in bulk according to Annex II of Marpol and the IBC Code</b>   | Not applicable.   |
| · <b>Transport/Additional information:</b>  |   |
| · <b>ADG</b><br>· <b>Limited quantities (LQ)</b><br>· <b>Excepted quantities (EQ)</b>   | 0<br>Code: E0<br>Not permitted as Excepted Quantity   |
| · <b>Transport category</b><br>· <b>Tunnel restriction code</b>   | 1<br>E  |
| · <b>IMDG</b><br>· <b>Limited quantities (LQ)</b><br>· <b>Excepted quantities (EQ)</b>  | 0<br>Code: E0<br>Not permitted as Excepted Quantity   |
| · <b>UN "Model Regulation":</b>   | UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANOL, ACETIC ACID, GLACIAL), 8, III  |

### 15 Regulatory information

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

· **Australian Inventory of Industrial Chemicals**

All ingredients are listed.

(Contd. on page 10)

# Safety Data Sheet

according to WHS Regulations

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**Trade name: BOUIN'S FLUID**

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| · <b>Standard for the Uniform Scheduling of Medicines and Poisons</b> |                      |             |
|---|----------------------|-------------|
| 50-00-0   | formaldehyde         | S2, S6, S10 |
| 64-19-7   | Acetic Acid Glacial  | S2, S5, S6  |
| 67-56-1   | Methyl Alcohol       | S5, S6      |
| 88-89-1   | 2,4,6-trinitrophenol | S4, S6      |

| · <b>Australia: Priority Existing Chemicals</b> |              |  |
|---|--------------|--|
| 50-00-0   | formaldehyde |  |

· **GHS label elements** The product is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS01   GHS02   GHS05   GHS06   GHS07   GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labelling:**

*formaldehyde*

*Methyl Alcohol*

*Acetic Acid Glacial*

*2,4,6-trinitrophenol*

· **Hazard statements**

*Unstable explosives.*

*Flammable liquid and vapour.*

*Harmful if swallowed.*

*Harmful in contact with skin.*

*Toxic if inhaled.*

*Causes severe skin burns and eye damage.*

*May cause an allergic skin reaction.*

*Suspected of causing genetic defects.*

*May cause cancer.*

*May cause damage to the central nervous system and the visual organs.*

· **Precautionary statements**

*Obtain special instructions before use.*

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

*Keep away from heat/sparks/open flames/hot surfaces. No smoking.*

*Ground/bond container and receiving equipment.*

*Use explosion-proof electrical/ventilating/lighting equipment.*

*Use only non-sparking tools.*

*Take precautionary measures against static discharge.*

*Do not breathe dusts or mists.*

*Wash thoroughly after handling.*

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

*Use only outdoors or in a well-ventilated area.*

*Contaminated work clothing should not be allowed out of the workplace.*

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

*Wear personal protective equipment/face protection.*

*IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.*

*IF SWALLOWED: rinse mouth. Do NOT induce vomiting.*

*IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*

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## Safety Data Sheet according to WHS Regulations

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**Trade name: BOUIN'S FLUID**

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*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

*Immediately call a POISON CENTER/doctor.*

*IF exposed or concerned: Get medical advice/attention.*

*Specific treatment (see on this label).*

*Take off contaminated clothing and wash it before reuse.*

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

*Wash contaminated clothing before reuse.*

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

*Explosion risk in case of fire.*

*DO NOT fight fire when fire reaches explosives.*

*Evacuate area.*

*Store in accordance with local/regional/national/international regulations.*

*Store in a well-ventilated place. Keep container tightly closed.*

*Store in a well-ventilated place. Keep cool.*

*Store locked up.*

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

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category**

*P1a EXPLOSIVES*

*H2 ACUTE TOXIC*

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 10 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50 t

· **National regulations:**

· **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.*

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

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

### 16 Other information

*This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.*

· **Contact:**

· **Abbreviations and acronyms:**

*ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)*

*IMDG: International Maritime Code for Dangerous Goods*

*IATA: International Air Transport Association*

*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)*

*VOC: Volatile Organic Compounds (USA, EU)*

*LC50: Lethal concentration, 50 percent*

*LD50: Lethal dose, 50 percent*

*PBT: Persistent, Bioaccumulative and Toxic*

*SVHC: Substances of Very High Concern*

*vPvB: very Persistent and very Bioaccumulative*

*Unst. Expl.: Explosives – Unstable explosive*

*Flam. Liq. 3: Flammable liquids – Category 3*

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**Safety Data Sheet**  
according to WHS Regulations

Printing date 03.06.2022

Revision: 03.06.2022

**Trade name: BOUIN'S FLUID**

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*Acute Tox. 4: Acute toxicity – Category 4*  
*Acute Tox. 3: Acute toxicity – Category 3*  
*Skin Corr. 1A: Skin corrosion/irritation – Category 1A*  
*Eye Dam. 1: Serious eye damage/eye irritation – Category 1*  
*Skin Sens. 1: Skin sensitisation – Category 1*  
*Muta. 2: Germ cell mutagenicity – Category 2*  
*Carc. 1B: Carcinogenicity – Category 1B*  
*STOT SE 2: Specific target organ toxicity (single exposure) – Category 2*

AU

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 06/03/2022

Reviewed on 06/03/2022

### 1 Identification

- **Product identifier**
- **Trade name:** BOUIN'S FLUID
- **Article number:** 26386-01
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
 Electron Microscopy Sciences  
 1560 Industry Road  
 USA-Hatfield, PA 19440  
 Tel: 215-412-8400 Fax: 215-412-8450  
 email: info@emsdiasum.com  
 www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**  
 ChemTrec 1-800-424-9300 Contract CCN7661  
 1-703-527-3887

### 2 Hazard identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 3

H226 Flammable liquid and vapour.



GHS06 Skull and crossbones

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS08 Health hazard

Germ Cell Mutagenicity - Category 2

H341 Suspected of causing genetic defects.

Carcinogenicity - Category 1B

H350 May cause cancer.

Specific Target Organ Toxicity - Single Exposure -  
Category 2H371 May cause damage to the central nervous system  
and the visual organs.

GHS05 Corrosion

Skin Corrosion - Category 1A

H314 Causes severe skin burns and eye damage.

Serious Eye Damage - Category 1

H318 Causes serious eye damage.



GHS07

Acute Toxicity (Oral) - Category 4

H302 Harmful if swallowed.

Acute Toxicity (Dermal) - Category 4

H312 Harmful in contact with skin.

(Contd. on page 2)

CA

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 06/03/2022

Reviewed on 06/03/2022

Trade name: **BOUIN'S FLUID**

(Contd. of page 1)

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

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

GHS02 GHS05 GHS06 GHS07 GHS08

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

formaldehyde

Methyl Alcohol

Acetic Acid Glacial

2,4,6-trinitrophenol

· **Hazard statements**

Flammable liquid and vapour.

Harmful if swallowed or in contact with skin.

Toxic if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

May cause damage to the central nervous system and the visual organs.

· **Precautionary statements**

Obtain special instructions before use.

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

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Ground and bond container and receiving equipment.

Use explosion-proof [electrical/ventilating/lighting] equipment.

Use non-sparking tools.

Take actions to prevent static discharges.

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

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should 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 SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

Immediately call a poison center/doctor.

IF exposed or concerned: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

Specific measures (see on this label).

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

Wash contaminated clothing before reuse.

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

Store in a well-ventilated place. Keep container tightly closed.

(Contd. on page 3)

# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 06/03/2022

Reviewed on 06/03/2022

**Trade name: BOUIN'S FLUID**

(Contd. of page 2)

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)**



· **HMIS-ratings (scale 0 - 4)**



### 3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

|         |                      |              |
|---------|----------------------|--------------|
| 50-00-0 | formaldehyde         | 10-30% w/w * |
| 64-19-7 | Acetic Acid Glacial  | 3-7% w/w *   |
| 67-56-1 | Methyl Alcohol       | 1-5% w/w *   |
| 88-89-1 | 2,4,6-trinitrophenol | 1-5% w/w *   |

\* Actual concentration ranges are withheld as a trade secret.

### 4 First-aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

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

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:**

Supply fresh air or oxygen; call for 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. Then consult a doctor.

· **After swallowing:**

Immediately call a doctor.

Drink copious amounts of water and provide fresh air. 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.

CA

(Contd. on page 4)

## Safety Data Sheet according to HPR, Schedule 1

Printing date 06/03/2022

Reviewed on 06/03/2022

Trade name: **BOUIN'S FLUID**

(Contd. of page 3)

### 5 Fire-fighting 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:** Mouth respiratory protective device.

### 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).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **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.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect from heat.  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **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.  
Protect from heat and direct sunlight.
- **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.

(Contd. on page 5)

CA

## Safety Data Sheet

according to HPR, Schedule 1

Printing date 06/03/2022

Reviewed on 06/03/2022

Trade name: **BOUIN'S FLUID**

(Contd. of page 4)

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

**50-00-0 formaldehyde**

|         |   |
|---------|---|
| EL      | STEL: 0.3 ppm<br>TWA: 0.1 ppm<br>ACGIH A1; IARC 1; S(D), S(R) |
| EV      | STEL: 1.0 ppm   |
| Ceiling | 1.5 ppm   |

**64-19-7 Acetic Acid Glacial**

|    |   |
|----|---|
| EL | STEL: 15 ppm<br>TWA: 10 ppm   |
| EV | STEL: 37 mg/m <sup>3</sup> , 15 ppm<br>TWA: 25 mg/m <sup>3</sup> , 10 ppm |

**67-56-1 Methyl Alcohol**

|    |   |
|----|---|
| EL | STEL: 250 ppm<br>TWA: 200 ppm<br>Skin   |
| EV | STEL: 325 mg/m <sup>3</sup> , 250 ppm<br>TWA: 260 mg/m <sup>3</sup> , 200 ppm<br>Skin |

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

|    |   |
|----|---|
| EL | TWA: 0.1 mg/m <sup>3</sup><br>S(D)                                |
| EV | STEL: 0.3 mg/m <sup>3</sup><br>TWA: 0.1 mg/m <sup>3</sup><br>Skin |

- **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.  
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

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

(Contd. on page 6)

## Safety Data Sheet according to HPR, Schedule 1

Printing date 06/03/2022

Reviewed on 06/03/2022

Trade name: **BOUIN'S FLUID**

(Contd. of page 5)

- **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         |
| <b>Odor threshold:</b> | Not determined. |

- **pH-value at 20 °C:** 1.2-1.6

- **Change in condition**

|                                     |               |
|-------------------------------------|---------------|
| <b>Melting point/Melting range:</b> | Undetermined. |
| <b>Boiling point/Boiling range:</b> | 98 °C         |

- **Flash point:** 40 °C

- **Flammability (solid, gaseous):** Not flammable.

- **Ignition temperature:** 300 °C

- **Decomposition temperature:** Not determined.

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

- **Danger of explosion:** Explosive with or without contact with air.

- **Explosion limits:**

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

- **Vapor pressure at 20 °C:** 23 hPa

|                          |                        |
|--------------------------|------------------------|
| <b>Density at 20 °C:</b> | 1.11 g/cm <sup>3</sup> |
| <b>Relative density</b>  | Not determined.        |
| <b>Vapor density</b>     | Not determined.        |
| <b>Evaporation rate</b>  | Not determined.        |

- **Solubility in / Miscibility with**

**Water:** Fully miscible.

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

- **Viscosity:**

**Dynamic:** Not determined.

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## Safety Data Sheet

according to HPR, Schedule 1

Printing date 06/03/2022

Reviewed on 06/03/2022

Trade name: **BOUIN'S FLUID**

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|                            |  |
|----------------------------|--|
| <b>Kinematic:</b>          | Not determined.                            |
| <b>· Solvent content:</b>  |  |
| <b>Organic solvents:</b>   | 27.7 %                                     |
| <b>Water:</b>              | 69.4 %                                     |
| <b>Solids content:</b>     | 1.0 %                                      |
| <b>· Other information</b> | 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 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

|   |      |                       |
|---|------|-----------------------|
| <b>· LD/LC50 values that are relevant for classification:</b> |      |                       |
| <b>50-00-0 formaldehyde</b>                                   |      |                       |
| Oral  | LD50 | >200 mg/kg (rat)      |
| <b>67-56-1 Methyl Alcohol</b>                                 |      |                       |
| Oral  | LD50 | 5,628 mg/kg (rat)     |
| Dermal  | LD50 | 15,800 mg/kg (rabbit) |

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Sensitization:** Sensitization possible through skin contact.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Toxic  
Harmful  
Corrosive  
Irritant  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.  
Carcinogenic.
- **Carcinogenic categories**

|   |              |   |
|---|--------------|---|
| <b>· IARC (International Agency for Research on Cancer)</b> |              |   |
| 50-00-0   | formaldehyde | I |

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CA



# Safety Data Sheet

## according to HPR, Schedule 1

Printing date 06/03/2022

Reviewed on 06/03/2022

Trade name: **BOUIN'S FLUID**

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· **NTP (National Toxicology Program)**

50-00-0 formaldehyde

K

### 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.
- **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.  
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
 Danger to drinking water if even small quantities leak into the ground.  
 Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
*Must not be disposed of together with household garbage. Do not allow product to reach sewage system.*
- **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/TDG, ADR, IMDG, IATA</b> | UN3265   |
| · <b>UN proper shipping name</b>  |  |
| · <b>DOT/TDG</b>                  | Corrosive liquid, acidic, organic, n.o.s.  |
| · <b>ADR</b>                      | 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br>(METHANOL, ACETIC ACID, GLACIAL) |
| · <b>IMDG, IATA</b>               | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br>(METHANOL, ACETIC ACID, GLACIAL)      |

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CA

# Safety Data Sheet

according to HPR, Schedule 1

Printing date 06/03/2022

Reviewed on 06/03/2022

Trade name: **BOUIN'S FLUID**

(Contd. of page 8)

· **Transport hazard class(es)**· **DOT/TDG (Transport dangerous goods):**

· **Class** 8 Corrosive substances  
 · **Label** 8

· **ADR, IMDG, IATA**

· **Class** 8 Corrosive substances  
 · **Label** 8

· **Packing group**· **DOT/TDG, ADR, IMDG, IATA** III· **Environmental hazards:** Not applicable.· **Special precautions for user** Warning: Corrosive substances· **Hazard identification number (Kemler code):** 88· **EMS Number:** F-A,S-B· **Segregation groups** Acids· **Stowage Category** B· **Stowage Code** SW2 Clear of living quarters.· **Segregation Code** SG36 Stow "separated from" SGG18-alkalis.

SG49 Stow "separated from" SGG6-cyanides

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.· **Transport/Additional information:**· **DOT/TDG**

· **Quantity limitations** On passenger aircraft/rail: 0.5 L  
 On cargo aircraft only: 2.5 L

· **ADR**

· **Excepted quantities (EQ)** Code: E0  
 Not permitted as Excepted Quantity

· **IMDG**

· **Limited quantities (LQ)** 0  
 · **Excepted quantities (EQ)** Code: E0  
 Not permitted as Excepted Quantity

· **UN "Model Regulation":**

UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.  
 (METHANOL, ACETIC ACID, GLACIAL), 8, III

CA

(Contd. on page 10)

# Safety Data Sheet

according to HPR, Schedule 1

Printing date 06/03/2022

Reviewed on 06/03/2022

Trade name: **BOUIN'S FLUID**

(Contd. of page 9)

## 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 |
|---------|--------------|

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

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

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

All components have the value ACTIVE.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)**

All ingredients are listed.

· **Canadian Non-Domestic Substances List (NDSL)**

None of the ingredients is listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)**

|         |              |
|---------|--------------|
| 50-00-0 | formaldehyde |
|---------|--------------|

· **Canadian Ingredient Disclosure list (limit 1%)**

|         |                     |
|---------|---------------------|
| 64-19-7 | Acetic Acid Glacial |
|---------|---------------------|

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

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

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

· **Hazard pictograms**



GHS02    GHS05    GHS06    GHS07    GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

formaldehyde

Methyl Alcohol

Acetic Acid Glacial

2,4,6-trinitrophenol

· **Hazard statements**

Flammable liquid and vapour.

Harmful if swallowed or in contact with skin.

Toxic if inhaled.

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Suspected of causing genetic defects.

May cause cancer.

May cause damage to the central nervous system and the visual organs.

· **Precautionary statements**

Obtain special instructions before use.

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## Safety Data Sheet according to HPR, Schedule 1

Printing date 06/03/2022

Reviewed on 06/03/2022

**Trade name: BOUIN'S FLUID**

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Do not handle until all safety precautions have been read and understood.  
 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 Ground and bond container and receiving equipment.  
 Use explosion-proof [electrical/ventilating/lighting] equipment.  
 Use non-sparking tools.  
 Take actions to prevent static discharges.  
 Do not breathe dust/fume/gas/mist/vapours/spray.  
 Wash thoroughly after handling.  
 Do not eat, drink or smoke when using this product.  
 Use only outdoors or in a well-ventilated area.  
 Contaminated work clothing should 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 SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
 Continue rinsing.  
 Immediately call a poison center/doctor.  
 IF exposed or concerned: Get medical advice/attention.  
 Take off contaminated clothing and wash it before reuse.  
 Specific measures (see on this label).  
 If skin irritation or rash occurs: Get medical advice/attention.  
 Wash contaminated clothing before reuse.  
 In case of fire: Use CO<sub>2</sub>, powder or water spray to extinguish.  
 Store in a well-ventilated place. Keep container tightly closed.  
 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:**
- **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.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Contact:**
- **Date of the latest revision of the safety data sheet** 06/03/2022 / -
- **Abbreviations and acronyms:**  
 IMDG: International Maritime Code for Dangerous Goods  
 DOT: US Department of Transportation  
 IATA: International Air Transport Association  
 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)  
 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

**Safety data sheet**  
according to 1907/2006/EC, Article 31

Printing date 03.06.2022

Revision: 03.06.2022

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

- **1.1 Product identifier**
- **Trade name:** BOUIN'S FLUID
- **Article number:** 26386-01
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**  
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- **Further information obtainable from:** Product safety department
- **1.4 Emergency telephone number:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



exploding bomb

Unst. Expl. H200 Unstable explosives.



skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Carc. 1B H350 May cause cancer.

STOT SE 2 H371 May cause damage to the central nervous system and the visual organs.



corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H302 Harmful if swallowed.

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# Safety data sheet

according to 1907/2006/EC, Article 31

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**Trade name: BOUIN'S FLUID**

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*Acute Tox. 4 H312 Harmful in contact with skin.**Skin Sens. 1 H317 May cause an allergic skin reaction.**STOT SE 3 H335 May cause respiratory irritation.**Flam. Liq. 3 H226 Flammable liquid and vapour.***· 2.2 Label elements****· Labelling according to Regulation (EC) No 1272/2008***The product is classified and labelled according to the CLP regulation.***· Hazard pictograms**

GHS01 GHS05 GHS06 GHS08

**· Signal word** *Danger***· Hazard-determining components of labelling:***formaldehyde**Methyl Alcohol**Acetic Acid Glacial**2,4,6-trinitrophenol***· Hazard statements***H200 Unstable explosives.**H226 Flammable liquid and vapour.**H302+H312 Harmful if swallowed or in contact with skin.**H331 Toxic if inhaled.**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.**H371 May cause damage to the central nervous system and the visual organs.**H335 May cause respiratory irritation.***· Precautionary statements***P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].**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/doctor.**P321 Specific treatment (see on this label).**P362+P364 Take off contaminated clothing and wash it before reuse.**P373 DO NOT fight fire when fire reaches explosives.**P380 Evacuate area.**P401 Store in accordance with local/regional/national/international regulations.**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.***· 2.3 Other hazards****· Results of PBT and vPvB assessment****· PBT:** *Not applicable.***· vPvB:** *Not applicable.*

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## SECTION 3: Composition/information on ingredients

### · 3.2 Chemical characterisation: Mixtures

· **Description:** Mixture of substances listed below with nonhazardous additions.

#### · **Dangerous components:**

|                                   |  |           |
|-----------------------------------|--|-----------|
| CAS: 50-00-0<br>EINECS: 200-001-8 | formaldehyde<br>⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317 | >10-≤25%  |
| CAS: 64-19-7<br>EINECS: 200-580-7 | Acetic Acid Glacial<br>⚠ Flam. Liq. 3, H226; ⚠ Skin Corr. 1A, H314; ⚠ Acute Tox. 4, H312   | >2.5-≤10% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | Methyl Alcohol<br>⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332                                    | >2.5-≤10% |
| CAS: 88-89-1<br>EINECS: 201-865-9 | 2,4,6-trinitrophenol<br>⚠ Expl. 1.1, H201; ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331  | >2.5-≤10% |

#### · **SVHC**

|         |                |
|---------|----------------|
| 67-56-1 | Methyl Alcohol |
|---------|----------------|

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

## SECTION 4: First aid measures

### · 4.1 Description of first aid measures

#### · **General information:**

Immediately remove any clothing soiled by the product.

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

Remove breathing equipment only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

#### · **After inhalation:**

Supply fresh air or oxygen; call for 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. Then consult a doctor.

#### · **After swallowing:**

Call for a doctor immediately.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

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

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

No further relevant information available.

## SECTION 5: Firefighting measures

### · 5.1 Extinguishing media

#### · **Suitable extinguishing agents:**

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

#### · 5.2 Special hazards arising from the substance or mixture

No further relevant information available.

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## according to 1907/2006/EC, Article 31

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- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralising agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **6.4 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.

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**  
Keep ignition sources away - Do not smoke.  
Protect from heat.  
Protect against electrostatic charges.  
Keep respiratory protective device available.
- **7.2 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 container tightly sealed.  
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

### SECTION 8: Exposure controls/personal protection

- **8.1 Control parameters**
- **Additional information about design of technical facilities:** No further data; see item 7.

· **Ingredients with limit values that require monitoring at the workplace:**

**50-00-0 formaldehyde**

|     |   |
|-----|---|
| WEL | Short-term value: 2.5 mg/m <sup>3</sup> , 2 ppm |
|     | Long-term value: 2.5 mg/m <sup>3</sup> , 2 ppm  |
|     | Carc  |

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|                                     |   |
|-------------------------------------|---|
| <b>64-19-7 Acetic Acid Glacial</b>  |   |
| WEL                                 | Short-term value: 50 mg/m <sup>3</sup> , 20 ppm<br>Long-term value: 25 mg/m <sup>3</sup> , 10 ppm           |
| <b>67-56-1 Methyl Alcohol</b>       |   |
| WEL                                 | Short-term value: 333 mg/m <sup>3</sup> , 250 ppm<br>Long-term value: 266 mg/m <sup>3</sup> , 200 ppm<br>Sk |
| <b>88-89-1 2,4,6-trinitrophenol</b> |   |
| WEL                                 | Short-term value: 0.3 mg/m <sup>3</sup><br>Long-term value: 0.1 mg/m <sup>3</sup>                           |

· **Additional information:** The lists valid during the making were used as basis.

· **8.2 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.  
Avoid contact with the eyes and skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**



Protective gloves

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

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### SECTION 9: Physical and chemical properties

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

##### · General Information

##### · Appearance:

|                    |                 |
|--------------------|-----------------|
| · Form:            | Liquid          |
| · Colour:          | Yellow          |
| · Odour:           | Pungent         |
| · Odour threshold: | Not determined. |

· pH-value at 20 °C: 1.2-1.6

##### · Change in condition

|  |               |
|--|---------------|
| · Melting point/freezing point:            | Undetermined. |
| · Initial boiling point and boiling range: | 98 °C         |

· Flash point: 40 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 300 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

· Explosive properties: Explosive with or without contact with air.

##### · Explosion limits:

|          |                 |
|----------|-----------------|
| · Lower: | Not determined. |
| · Upper: | Not determined. |

· Vapour pressure at 20 °C: 23 hPa

|                     |                        |
|---------------------|------------------------|
| · Density at 20 °C: | 1.11 g/cm <sup>3</sup> |
| · 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.

##### · Viscosity:

|              |                 |
|--------------|-----------------|
| · Dynamic:   | Not determined. |
| · Kinematic: | Not determined. |

##### · Solvent content:

|                     |         |
|---------------------|---------|
| · Organic solvents: | 27.7 %  |
| · Water:            | 69.4 %  |
| · VOC (EC)          | 27.65 % |

· Solids content: 1.0 %

· 9.2 Other information No further relevant information available.

### SECTION 10: Stability and reactivity

· 10.1 Reactivity No further relevant information available.

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- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**  
Harmful if swallowed or in contact with skin.  
Toxic if inhaled.

- **LD/LC50 values relevant for classification:**

### 50-00-0 formaldehyde

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | >200 mg/kg (rat) |
|------|------|------------------|

### 67-56-1 Methyl Alcohol

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

- **Primary irritant effect:**
- **Skin corrosion/irritation**  
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**  
Causes serious eye damage.
- **Respiratory or skin sensitisation**  
May cause an allergic skin reaction.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity**  
Suspected of causing genetic defects.
- **Carcinogenicity**  
May cause cancer.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**  
May cause damage to the central nervous system and the visual organs.  
May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

## SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Must not reach sewage water or drainage ditch undiluted or unneutralised.

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Danger to drinking water if even small quantities leak into the ground.  
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**  
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

- |  |   |
|--|---|
| · <b>14.1 UN-Number</b><br>· <b>ADR, IMDG, IATA</b>  | UN3265  |
| · <b>14.2 UN proper shipping name</b><br>· <b>ADR</b><br>· <b>IMDG, IATA</b>   | 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br>(METHANOL, ACETIC ACID, GLACIAL)<br>CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br>(METHANOL, ACETIC ACID, GLACIAL)                     |
| · <b>14.3 Transport hazard class(es)</b><br>· <b>ADR, IMDG, IATA</b>   |   |
|   |   |
| · <b>Class</b><br>· <b>Label</b>   | 8 Corrosive substances.<br>8  |
| · <b>14.4 Packing group</b><br>· <b>ADR, IMDG, IATA</b>  | III   |
| · <b>14.5 Environmental hazards:</b>   | Not applicable.   |
| · <b>14.6 Special precautions for user</b><br>· <b>Hazard identification number (Kemler code):</b><br>· <b>EMS Number:</b><br>· <b>Segregation groups</b><br>· <b>Stowage Category</b><br>· <b>Stowage Code</b><br>· <b>Segregation Code</b> | Warning: Corrosive substances.<br>88<br>F-A,S-B<br>Acids<br>B<br>SW2 Clear of living quarters.<br>SG36 Stow "separated from" SGG18-alkalis.<br>SG49 Stow "separated from" SGG6-cyanides |

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|  |  |
|--|--|
| · <b>14.7 Transport in bulk according to Annex II of Marpol and the IBC Code</b> | Not applicable.  |
| · <b>Transport/Additional information:</b>                                       |  |
| · <b>ADR</b>   |  |
| · <b>Limited quantities (LQ)</b>   | 0  |
| · <b>Excepted quantities (EQ)</b>  | Code: E0<br>Not permitted as Excepted Quantity   |
| · <b>Transport category</b>  | 1  |
| · <b>Tunnel restriction code</b>   | E  |
| · <b>IMDG</b>  |  |
| · <b>Limited quantities (LQ)</b>   | 0  |
| · <b>Excepted quantities (EQ)</b>  | Code: E0<br>Not permitted as Excepted Quantity   |
| · <b>UN "Model Regulation":</b>  | UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANOL, ACETIC ACID, GLACIAL), 8, III |

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
  - **Directive 2012/18/EU**
  - **Named dangerous substances - ANNEX I** None of the ingredients is listed.
  - **Seveso category**  
P1a EXPLOSIVES  
H2 ACUTE TOXIC
  - **Qualifying quantity (tonnes) for the application of lower-tier requirements** 10 t
  - **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50 t
  - **National regulations:**
  - **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.
  - **Other regulations, limitations and prohibitive regulations**
- |  |                |
|--|----------------|
| · <b>Substances of very high concern (SVHC) according to REACH, Article 57</b> |                |
| 67-56-1  | Methyl Alcohol |
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**  
H201 Explosive; mass explosion hazard.  
H225 Highly flammable liquid and vapour.  
H226 Flammable liquid and vapour.  
H301 Toxic if swallowed.  
H302 Harmful if swallowed.  
H311 Toxic in contact with skin.

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H312 Harmful in contact with skin.  
 H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H331 Toxic if inhaled.  
 H332 Harmful if inhaled.  
 H341 Suspected of causing genetic defects.  
 H350 May cause cancer.  
 H370 Causes damage to organs.

**Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 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)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 SVHC: Substances of Very High Concern  
 vPvB: very Persistent and very Bioaccumulative  
 Expl. 1.1: Explosives – Division 1.1  
 Unst. Expl.: Explosives – Unstable explosive  
 Flam. Liq. 2: Flammable liquids – Category 2  
 Flam. Liq. 3: Flammable liquids – Category 3  
 Acute Tox. 3: Acute toxicity – Category 3  
 Acute Tox. 4: Acute toxicity – Category 4  
 Skin Corr. 1A: Skin corrosion/irritation – Category 1A  
 Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
 Skin Sens. 1: Skin sensitisation – Category 1  
 Muta. 2: Germ cell mutagenicity – Category 2  
 Carc. 1B: Carcinogenicity – Category 1B  
 STOT SE 1: Specific target organ toxicity (single exposure) – Category 1  
 STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

GB

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 03.06.2022

überarbeitet am: 03.06.2022

### ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des Unternehmens

· **1.1 Produktidentifikator**

· **Handelsname:** **BOUIN'S FLUID**

· **Artikelnummer:** 26386-01

· **UFI:** VNE5-70CQ-K00H-0H33

· **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**

Keine weiteren relevanten Informationen verfügbar.

· **Verwendung des Stoffes / des Gemisches** Laborchemikalien

· **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**

· **Hersteller/Lieferant:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: [info@emsdiasum.com](mailto:info@emsdiasum.com)

[www.emsdiasum.com](http://www.emsdiasum.com)

Science Services GmbH

Unterhachinger Str. 75

81737 München Germany

Tel: +49(0)89 18 93 668-0

[safety@scienceservices.de](mailto:safety@scienceservices.de)

Deutschland: +49 (0)89 19240, 24h Giftnotruf Munchen, [www.toxinfo.org](http://www.toxinfo.org)

Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h

· **Auskunftgebender Bereich:** Product safety department

· **1.4 Notrufnummer:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### ABSCHNITT 2: Mögliche Gefahren

· **2.1 Einstufung des Stoffs oder Gemischs**

· **Einstufung gemäß Verordnung (EG) Nr. 1272/2008**



GHS01 explodierende Bombe

Unst. Expl. H200 Instabil, explosiv.



GHS06 Totenkopf mit gekreuzten Knochen

Acute Tox. 3 H331 Giftig bei Einatmen.



GHS08 Gesundheitsgefahr

Muta. 2 H341 Kann vermutlich genetische Defekte verursachen.

Carc. 1B H350 Kann Krebs erzeugen.

STOT SE 2 H371 Kann das zentrale Nervensystem und die Sehorgane schädigen.

(Fortsetzung auf Seite 2)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 03.06.2022

überarbeitet am: 03.06.2022

**Handelsname: BOUIN'S FLUID**

(Fortsetzung von Seite 1)



GHS05 Ätzwirkung

*Skin Corr. 1A H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.*

*Eye Dam. 1 H318 Verursacht schwere Augenschäden.*



GHS07

*Acute Tox. 4 H302 Gesundheitsschädlich bei Verschlucken.*

*Acute Tox. 4 H312 Gesundheitsschädlich bei Hautkontakt.*

*Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.*

*STOT SE 3 H335 Kann die Atemwege reizen.*

*Flam. Liq. 3 H226 Flüssigkeit und Dampf entzündbar.*

### · 2.2 Kennzeichnungselemente

#### · Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008

Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

#### · Gefahrenpiktogramme



GHS01



GHS05



GHS06



GHS08

#### · Signalwort Gefahr

#### · Gefahrbestimmende Komponenten zur Etikettierung:

Formaldehyd

Methanol

Essigsäure

2,4,6-Trinitrophenol

#### · Gefahrenhinweise

H200 Instabil, explosiv.

H226 Flüssigkeit und Dampf entzündbar.

H302+H312 Gesundheitsschädlich bei Verschlucken oder Hautkontakt.

H331 Giftig bei Einatmen.

H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

H317 Kann allergische Hautreaktionen verursachen.

H341 Kann vermutlich genetische Defekte verursachen.

H350 Kann Krebs erzeugen.

H371 Kann das zentrale Nervensystem und die Sehorgane schädigen.

H335 Kann die Atemwege reizen.

#### · Sicherheitshinweise

P303+P361+P353 BEI BERÜHRUNG MIT DER HAUT (oder dem Haar): Alle kontaminierten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen [oder duschen].

P305+P351+P338 BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.

P310 Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.

P321 Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).

P362+P364 Kontaminierte Kleidung ausziehen und vor erneutem Tragen waschen.

P373 KEINE Brandbekämpfung, wenn das Feuer explosive Stoffe/Gemische/Erzeugnisse erreicht.

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- P380 Umgebung räumen.  
 P401 Gemäß örtlicher/regionaler/nationaler/internationaler Vorschrift lagern.  
 P405 Unter Verschluss aufbewahren.  
 P501 Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.

· **Zusätzliche Angaben:**

Nur für gewerbliche Anwender.

· **2.3 Sonstige Gefahren**

· **Ergebnisse der PBT- und vPvB-Beurteilung**

· **PBT:** Nicht anwendbar.

· **vPvB:** Nicht anwendbar.

### ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

· **3.2 Chemische Charakterisierung: Gemische**

· **Beschreibung:** Gemisch aus nachfolgend angeführten Stoffen mit ungefährlichen Beimengungen.

· **Gefährliche Inhaltsstoffe:**

|                                   |   |           |
|-----------------------------------|---|-----------|
| CAS: 50-00-0<br>EINECS: 200-001-8 | Formaldehyd<br>☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ☠ Muta. 2, H341; Carc. 1B, H350; ☠ Skin Corr. 1B, H314; ☠ Skin Sens. 1, H317 | >10-≤25%  |
| CAS: 64-19-7<br>EINECS: 200-580-7 | Essigsäure<br>☠ Flam. Liq. 3, H226; ☠ Skin Corr. 1A, H314; ☠ Acute Tox. 4, H312   | >2,5-≤10% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | Methanol<br>☠ Flam. Liq. 2, H225; ☠ STOT SE 1, H370; ☠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332   | >2,5-≤10% |
| CAS: 88-89-1<br>EINECS: 201-865-9 | 2,4,6-Trinitrophenol<br>☠ Expl. 1.1, H201; ☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331   | >2,5-≤10% |

· **SVHC**

67-56-1 | Methanol

· **Zusätzliche Hinweise:** Der Wortlaut der angeführten Gefahrenhinweise ist dem Abschnitt 16 zu entnehmen.

### ABSCHNITT 4: Erste-Hilfe-Maßnahmen

· **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**

· **Allgemeine Hinweise:**

Mit Produkt verunreinigte Kleidungsstücke unverzüglich entfernen.

Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.

Atemschutz erst nach Entfernen verunreinigter Kleidungsstücke abnehmen.

Bei unregelmäßiger Atmung oder Atemstillstand künstliche Beatmung.

· **Nach Einatmen:**

Frischluf- oder Sauerstoffzufuhr; ärztliche Hilfe in Anspruch nehmen.

Bei Bewusstlosigkeit Lagerung und Transport in stabiler Seitenlage.

· **Nach Hautkontakt:** Sofort mit Wasser und Seife abwaschen und gut nachspülen.

· **Nach Augenkontakt:**

Augen bei geöffnetem Lidspalt mehrere Minuten unter fließendem Wasser abspülen und Arzt konsultieren.

· **Nach Verschlucken:**

Sofort Arzt aufsuchen.

Reichlich Wasser nachtrinken und Frischluftzufuhr. Unverzüglich Arzt hinzuziehen.

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- **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**  
Keine weiteren relevanten Informationen verfügbar.
- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**  
Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:**  
CO<sub>2</sub>, Löschpulver oder Wassersprühstrahl. Größeren Brand mit Wassersprühstrahl oder alkoholbeständigem Schaum bekämpfen.
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**  
Keine weiteren relevanten Informationen verfügbar.
- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** Atemschutzgerät anlegen.

### ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**  
Schutzausrüstung tragen. Ungeschützte Personen fernhalten.
- **6.2 Umweltschutzmaßnahmen:**  
Mit viel Wasser verdünnen.  
Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**  
Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.  
Neutralisationsmittel anwenden.  
Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.  
Für ausreichende Lüftung sorgen.
- **6.4 Verweis auf andere Abschnitte**  
Informationen zur sicheren Handhabung siehe Abschnitt 7.  
Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.  
Informationen zur Entsorgung siehe Abschnitt 13.

### ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**  
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.  
Behälter mit Vorsicht öffnen und handhaben.  
Aerosolbildung vermeiden.
- **Hinweise zum Brand- und Explosionsschutz:**  
Zündquellen fernhalten - nicht rauchen.  
Vor Hitze schützen.  
Maßnahmen gegen elektrostatische Aufladung treffen.  
Atemschutzgeräte bereithalten.
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** Keine besonderen Anforderungen.
- **Zusammenlagerungshinweise:** Nicht erforderlich.
- **Weitere Angaben zu den Lagerbedingungen:**  
Behälter dicht geschlossen halten.  
Vor Hitze und direkter Sonnenbestrahlung schützen.

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- **Lagerklasse:**
- **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** Entzündbare Flüssigkeiten
- **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

- **8.1 Zu überwachende Parameter**
- **Zusätzliche Hinweise zur Gestaltung technischer Anlagen:** Keine weiteren Angaben, siehe Abschnitt 7.

- **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**

**50-00-0 Formaldehyd**

|     |  |
|-----|--|
| AGW | Langzeitwert: 0,37 mg/m <sup>3</sup> , 0,3 ml/m <sup>3</sup><br>2(I);AGS, Sh, Y, X |
|-----|--|

**64-19-7 Essigsäure**

|     |  |
|-----|--|
| AGW | Langzeitwert: 25 mg/m <sup>3</sup> , 10 ml/m <sup>3</sup><br>2(I);DFG, EU, Y |
|-----|--|

**67-56-1 Methanol**

|     |  |
|-----|--|
| AGW | Langzeitwert: 130 mg/m <sup>3</sup> , 100 ml/m <sup>3</sup><br>2(II);DFG, EU, H, Y |
|-----|--|

**88-89-1 2,4,6-Trinitrophenol**

|     |   |
|-----|---|
| AGW | Langzeitwert: 0,1 E mg/m <sup>3</sup><br>1(I);H, EU, 13 |
|-----|---|

- **Bestandteile mit biologischen Grenzwerten:**

**67-56-1 Methanol**

|     |   |
|-----|---|
| BGW | 30 mg/l<br>Untersuchungsmaterial: Urin<br>Probennahmezeitpunkt: bei Langzeitexposition: am Schichtende nach mehreren vorangegangenen Schichten, Expositionsende bzw. Schichtende<br>Parameter: Methanol |
|-----|---|

- **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.

- **8.2 Begrenzung und Überwachung der Exposition**

- **Persönliche Schutzausrüstung:**

- **Allgemeine Schutz- und Hygienemaßnahmen:**

Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.

Beschmutzte, getränkte Kleidung sofort ausziehen.

Vor den Pausen und bei Arbeitsende Hände waschen.

Getrennte Aufbewahrung der Schutzkleidung.

Berührung mit den Augen vermeiden.

Berührung mit den Augen und der Haut vermeiden.

- **Atemschutz:**

Bei kurzzeitiger oder geringer Belastung Atemfiltergerät; bei intensiver bzw. längerer Exposition umluftunabhängiges Atemschutzgerät verwenden.

- **Handschutz:**



Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein.

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Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

Auswahl des Handschuhmaterials unter Beachtung der Durchbruchzeiten, Permeationsraten und der Degradation.

· **Handschuhmaterial**

Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich. Da das Produkt eine Zubereitung aus mehreren Stoffen darstellt, ist die Beständigkeit von Handschuhmaterialien nicht vorausberechenbar und muß deshalb vor dem Einsatz überprüft werden.

· **Durchdringungszeit des Handschuhmaterials**

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

· **Augenschutz:**



Dichtschließende Schutzbrille

### ABSCHNITT 9: Physikalische und chemische Eigenschaften

· **9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften**

· **Allgemeine Angaben**

· **Aussehen:**

· **Form:** Flüssigkeit

· **Farbe:** Gelb

· **Geruch:** Stechend

· **Geruchsschwelle:** Nicht bestimmt.

· **pH-Wert bei 20 °C:** 1,2-1,6

· **Zustandsänderung**

· **Schmelzpunkt/Gefrierpunkt:** Nicht bestimmt.

· **Siedebeginn und Siedebereich:** 98 °C

· **Flammpunkt:** 40 °C

· **Entzündbarkeit (fest, gasförmig):** Nicht anwendbar.

· **Zündtemperatur:** 300 °C

· **Zersetzungstemperatur:** Nicht bestimmt.

· **Selbstentzündungstemperatur:** Das Produkt ist nicht selbstentzündlich.

· **Explosive Eigenschaften:** Mit und ohne Luft explosionsfähig.

· **Explosionsgrenzen:**

· **Untere:** Nicht bestimmt.

· **Obere:** Nicht bestimmt.

· **Dampfdruck bei 20 °C:** 23 hPa

· **Dichte bei 20 °C:** 1,11 g/cm<sup>3</sup>

· **Relative Dichte** Nicht bestimmt.

· **Dampfdichte** Nicht bestimmt.

· **Verdampfungsgeschwindigkeit** Nicht bestimmt.

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|  |  |
|--|--|
| · <b>Löslichkeit in / Mischbarkeit mit Wasser:</b> | Vollständig mischbar.                              |
| · <b>Verteilungskoeffizient: n-Octanol/Wasser:</b> | Nicht bestimmt.                                    |
| · <b>Viskosität:</b>                               |  |
| <b>Dynamisch:</b>                                  | Nicht bestimmt.                                    |
| <b>Kinematisch:</b>                                | Nicht bestimmt.                                    |
| · <b>Lösemittelgehalt:</b>                         |  |
| <b>Organische Lösemittel:</b>                      | 27,7 %   |
| <b>Wasser:</b>                                     | 69,4 %   |
| <b>VOC (EU)</b>                                    | 27,65 %  |
| <b>Festkörpergehalt:</b>                           | 1,0 %  |
| · <b>9.2 Sonstige Angaben</b>                      | Keine weiteren relevanten Informationen verfügbar. |

### ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität** Keine weiteren relevanten Informationen verfügbar.
- **10.2 Chemische Stabilität**
- **Thermische Zersetzung / zu vermeidende Bedingungen:**  
Keine Zersetzung bei bestimmungsgemäßer Verwendung.
- **10.3 Möglichkeit gefährlicher Reaktionen** Keine gefährlichen Reaktionen bekannt.
- **10.4 Zu vermeidende Bedingungen** Keine weiteren relevanten Informationen verfügbar.
- **10.5 Unverträgliche Materialien:** Keine weiteren relevanten Informationen verfügbar.
- **10.6 Gefährliche Zersetzungsprodukte:** Keine gefährlichen Zersetzungsprodukte bekannt.

### ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität**  
Gesundheitsschädlich bei Verschlucken oder Hautkontakt.  
Giftig bei Einatmen.

|  |                            |
|--|----------------------------|
| · <b>Einstufungsrelevante LD/LC50-Werte:</b> |                            |
| <b>50-00-0 Formaldehyd</b>                   |                            |
| Oral   | LD50 >200 mg/kg (rat)      |
| <b>67-56-1 Methanol</b>                      |                            |
| Oral   | LD50 5.628 mg/kg (rat)     |
| Dermal                                       | LD50 15.800 mg/kg (rabbit) |

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut**  
Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
- **Schwere Augenschädigung/-reizung**  
Verursacht schwere Augenschäden.
- **Sensibilisierung der Atemwege/Haut**  
Kann allergische Hautreaktionen verursachen.
- **Zusätzliche toxikologische Hinweise:**
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
- **Keimzell-Mutagenität**  
Kann vermutlich genetische Defekte verursachen.

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- **Karzinogenität**  
Kann Krebs erzeugen.
- **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**  
Kann das zentrale Nervensystem und die Sehorgane schädigen.  
Kann die Atemwege reizen.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**  
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

### ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**  
Wassergefährdungsklasse 2 (Selbsteinstufung): deutlich wassergefährdend  
Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.  
Darf nicht unverdünnt bzw. unneutralisiert ins Abwasser bzw. in den Vorfluter gelangen.  
Trinkwassergefährdung bereits beim Auslaufen geringer Mengen in den Untergrund.  
Wegspülen größerer Mengen in Kanalisation oder Gewässer kann zur pH-Wert-Erniedrigung führen. Ein niedriger pH-Wert schädigt Wasserorganismen. In der Verdünnung der Anwendungskonzentration erhöht sich der pH-Wert erheblich, so dass nach dem Gebrauch des Produktes die in die Kanalisation gelangenden Abwässer nur schwach wassergefährdend wirken.
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

### ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.
- **Empfohlenes Reinigungsmittel:** Wasser, gegebenenfalls mit Zusatz von Reinigungsmitteln.

### ABSCHNITT 14: Angaben zum Transport

- |  |   |
|--|---|
| · <b>14.1 UN-Nummer</b>                            |   |
| · <b>ADR, IMDG, IATA</b>                           | UN3265  |
| · <b>14.2 Ordnungsgemäße UN-Versandbezeichnung</b> |   |
| · <b>ADR</b>                                       | 3265 ÄTZENDER SAURER ORGANISCHER FLÜSSIGER STOFF, N.A.G. (METHANOL, EISESSIG) |
| · <b>IMDG, IATA</b>                                | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)    |

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· **14.3 Transportgefahrenklassen**

· **ADR, IMDG, IATA**



· **Klasse** 8 Ätzende Stoffe  
 · **Gefahrzettel** 8

· **14.4 Verpackungsgruppe**

· **ADR, IMDG, IATA** III

· **14.5 Umweltgefahren:** Nicht anwendbar.

· **14.6 Besondere Vorsichtsmaßnahmen für den Verwender**

Achtung: Ätzende Stoffe

· **Nummer zur Kennzeichnung der Gefahr (Kemler-Zahl):** 88

· **EMS-Nummer:** F-A,S-B

· **Segregation groups** Acids

· **Stowage Category** B

· **Stowage Code** SW2 Clear of living quarters.

· **Segregation Code** SG36 Stow "separated from" SGG18-alkalis.

SG49 Stow "separated from" SGG6-cyanides

· **14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code** Nicht anwendbar.

· **Transport/weitere Angaben:**

· **ADR**

· **Begrenzte Menge (LQ)** 0

· **Freigestellte Mengen (EQ)** Code: E0  
In freigestellten Mengen nicht zugelassen

· **Beförderungskategorie** I

· **Tunnelbeschränkungscode** E

· **IMDG**

· **Limited quantities (LQ)** 0

· **Excepted quantities (EQ)** Code: E0  
Not permitted as Excepted Quantity

· **UN "Model Regulation":**

UN 3265 ÄTZENDER SAURER ORGANISCHER  
FLÜSSIGER STOFF, N.A.G. (METHANOL, EISESSIG), 8,  
III

### ABSCHNITT 15: Rechtsvorschriften

· **15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**

· **Richtlinie 2012/18/EU**

· **Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Keiner der Inhaltsstoffe ist enthalten.

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- **Seveso-Kategorie**  
P1a EXPLOSIVE STOFFE  
H2 AKUT TOXISCH
- Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 10 t
- Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 50 t
- **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3, 28, 69, 72

· **Richtlinie 2011/65/EU zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten – Anhang II**

Keiner der Inhaltsstoffe ist enthalten.

- **VERORDNUNG (EU) 2019/1148**

· **Anhang I - BESCHRÄNKTE AUSGANGSSTOFFE FÜR EXPLOSIVSTOFFE (Oberer Konzentrationsgrenzwert für eine Genehmigung nach Artikel 5 Absatz 3)**

Keiner der Inhaltsstoffe ist enthalten.

- **Anhang II - MELDEPFLICHTIGE AUSGANGSSTOFFE FÜR EXPLOSIVSTOFFE**

Keiner der Inhaltsstoffe ist enthalten.

- **Verordnung (EG) Nr. 273/2004 betreffend Drogenausgangsstoffe**

Keiner der Inhaltsstoffe ist enthalten.

- **Verordnung (EG) Nr. 111/2005 zur Festlegung von Vorschriften für die Überwachung des Handels mit Drogenaustauschstoffen zwischen der Gemeinschaft und Drittländern**

Keiner der Inhaltsstoffe ist enthalten.

- **Nationale Vorschriften:**

- **Hinweise zur Beschäftigungsbeschränkung:**

Arbeitnehmer dürfen den in dieser Zubereitung enthaltenen krebserzeugenden Gefahrstoffen nicht ausgesetzt sein. Im Einzelfall kann die Behörde Ausnahmen zulassen.

- **Technische Anleitung Luft:**

| Klasse | Anteil in % |
|--------|-------------|
| Wasser | 69,4        |
| I      | 25,6        |
| II     | 5,1         |

- **Wassergefährdungsklasse: WGK 2 (Selbsteinstufung):** deutlich wassergefährdend.

- **Sonstige Vorschriften, Beschränkungen und Verbotsverordnungen**

Das Produkt unterliegt der Anlage 2 der Chemikalienverbotsverordnung (ChemVerbotsV) - Anforderungen in Bezug auf die Abgabe

- **Besonders besorgniserregende Stoffe (SVHC) gemäß REACH, Artikel 57**

67-56-1 | Methanol

- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

### ABSCHNITT 16: Sonstige Angaben

Die Angaben stützen sich auf den heutigen Stand unserer Kenntnisse, sie stellen jedoch keine Zusicherung von Produkteigenschaften dar und begründen kein vertragliches Rechtsverhältnis.

- **Relevante Sätze**

H201 Explosiv, Gefahr der Massenexplosion.  
H225 Flüssigkeit und Dampf leicht entzündbar.  
H226 Flüssigkeit und Dampf entzündbar.  
H301 Giftig bei Verschlucken.

(Fortsetzung auf Seite 11)



# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 03.06.2022

überarbeitet am: 03.06.2022

**Handelsname: BOUIN'S FLUID**

(Fortsetzung von Seite 10)

H302 Gesundheitsschädlich bei Verschlucken.  
 H311 Giftig bei Hautkontakt.  
 H312 Gesundheitsschädlich bei Hautkontakt.  
 H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.  
 H317 Kann allergische Hautreaktionen verursachen.  
 H331 Giftig bei Einatmen.  
 H332 Gesundheitsschädlich bei Einatmen.  
 H341 Kann vermutlich genetische Defekte verursachen.  
 H350 Kann Krebs erzeugen.  
 H370 Schädigt die Organe.

**Abkürzungen und Akronyme:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 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)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 SVHC: Substances of Very High Concern  
 vPvB: very Persistent and very Bioaccumulative  
 Expl. 1.1: Explosive Stoffe/Gemische und Erzeugnisse mit Explosivstoff – Unterklasse 1.1  
 Unst. Expl.: Explosive Stoffe/Gemische und Erzeugnisse mit Explosivstoff – Instabil, explosiv  
 Flam. Liq. 2: Entzündbare Flüssigkeiten – Kategorie 2  
 Flam. Liq. 3: Entzündbare Flüssigkeiten – Kategorie 3  
 Acute Tox. 3: Akute Toxizität – Kategorie 3  
 Acute Tox. 4: Akute Toxizität – Kategorie 4  
 Skin Corr. 1A: Hautreizende/-ätzende Wirkung – Kategorie 1A  
 Skin Corr. 1B: Hautreizende/-ätzende Wirkung – Kategorie 1B  
 Eye Dam. 1: Schwere Augenschädigung/Augenreizung – Kategorie 1  
 Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1  
 Muta. 2: Keimzellmutagenität – Kategorie 2  
 Carc. 1B: Karzinogenität – Kategorie 1B  
 STOT SE 1: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 1  
 STOT SE 2: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 2

DE

# Veiligheidsinformatieblad volgens 1907/2006/EG, Artikel 31

datum van de druk: 03.06.2022

Herziening van: 03.06.2022

## RUBRIEK 1: Identificatie van de stof of het mengsel en van de vennootschap/onderneming

### · 1.1 Productidentificatie

· Handelsnaam: **BOUIN'S FLUID**

· Artikelnummer: 26386-01

· UFI: VNE5-70CQ-K00H-0H33

### · 1.2 Relevant geïdentificeerd gebruik van de stof of het mengsel en ontraden gebruik

Geen verdere relevante informatie verkrijgbaar.

· Toepassing van de stof / van de bereiding *Laboratoriumchemicaliën*

### · 1.3 Details betreffende de verstrekker van het veiligheidsinformatieblad

#### · Fabrikant/leverancier:

*Electron Microscopy Sciences*

*1560 Industry Road*

*USA-Hatfield, PA 19440*

*Tel: 215-412-8400 Fax: 215-412-8450*

*email: info@emsdiasum.com*

*www.emsdiasum.com*

*Aurion*

*Binnenhaven 5*

*6709 PD Wageningen*

*The Netherlands*

*Tel: 31 317 415094*

*Fax: 31 317 415955*

*email: info@aurion.nl*

· Inlichtingengevende sector: *Product safety department*

### · 1.4 Telefoonnummer voor noodgevallen:

*ChemTrec 1-800-424-9300 Contract CCN7661*

*1-703-527-3887*

## RUBRIEK 2: Identificatie van de gevaren

### · 2.1 Indeling van de stof of het mengsel

· Indeling overeenkomstig Verordening (EG) nr. 1272/2008



GHS01 ontploffende bom

Unst. Expl. H200 Instabiele ontplofbare stof.



GHS06 doodshoofd met gekruiste beenderen

Acute Tox. 3 H331 Giftig bij inademing.



GHS08 gezondheidsgevaar

Muta. 2 H341 Verdacht van het veroorzaken van genetische schade.

Carc. 1B H350 Kan kanker veroorzaken.

STOT SE 2 H371 Kan schade veroorzaken aan het centrale zenuwstelsel en de visuele organen.

(Vervolg op blz. 2)

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## volgens 1907/2006/EG, Artikel 31

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(Vervolg van blz. 1)



GHS05 corrosie

Skin Corr. 1A H314 Veroorzaakt ernstige brandwonden en oogletsel.

Eye Dam. 1 H318 Veroorzaakt ernstig oogletsel.



GHS07

Acute Tox. 4 H302 Schadelijk bij inslikken.

Acute Tox. 4 H312 Schadelijk bij contact met de huid.

Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.

STOT SE 3 H335 Kan irritatie van de luchtwegen veroorzaken.

Flam. Liq. 3 H226 Ontvlambare vloeistof en damp.

### · 2.2 Etiketteringselementen

#### · Etikettering overeenkomstig Verordening (EG) nr. 1272/2008

Het product is geëtiketteerd en geëtiketteerd volgens de CLP-verordening.

#### · Gevarenpictogrammen



GHS01



GHS05



GHS06



GHS08

#### · Signaalwoord Gevaar

#### · Gevaaraanduidende componenten voor de etikettering:

formaldehyde

methanol

azijnzuur

2,4,6-trinitrofenol

#### · Gevarenaanduidingen

H200 Instabiele ontplofbare stof.

H226 Ontvlambare vloeistof en damp.

H302+H312 Schadelijk bij inslikken en bij contact met de huid.

H331 Giftig bij inademing.

H314 Veroorzaakt ernstige brandwonden en oogletsel.

H317 Kan een allergische huidreactie veroorzaken.

H341 Verdacht van het veroorzaken van genetische schade.

H350 Kan kanker veroorzaken.

H371 Kan schade veroorzaken aan het centrale zenuwstelsel en de visuele organen.

H335 Kan irritatie van de luchtwegen veroorzaken.

#### · Veiligheidsaanbevelingen

P303+P361+P353 BIJ CONTACT MET DE HUID (of het haar): verontreinigde kleding onmiddellijk uittrekken.  
Huid met water afspoelen [of afdouchen].

P305+P351+P338 BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.

P310 Onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.

P321 Specifieke behandeling vereist (zie op dit etiket).

P362+P364 Verontreinigde kleding uittrekken en wassen alvorens deze opnieuw te gebruiken.

P373 NIET blussen wanneer het vuur de ontplofbare stoffen bereikt.

(Vervolg op blz. 3)

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(Vervolg van blz. 2)

- P380 Evacueren.  
 P401 Opslaan volgens de plaatselijke/regionale/nationale/internationale voorschriften.  
 P405 Achter slot bewaren.  
 P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

- **2.3 Andere gevaren**
- **Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.

## RUBRIEK 3: Samenstelling en informatie over de bestanddelen

- **3.2 Chemische karakterisering: Mengsels**
- **Beschrijving:** Mengsel van na elkaar aangevoerde stoffen met ongevaarlijke bijmengingen.

### · Gevaarlijke inhoudstoffen:

|                                   |  |           |
|-----------------------------------|--|-----------|
| CAS: 50-00-0<br>EINECS: 200-001-8 | formaldehyde<br>☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ☠ Muta. 2, H341; Carc. 1B, H350; ☠ Skin Corr. 1B, H314; ☠ Skin Sens. 1, H317 | >10-≤25%  |
| CAS: 64-19-7<br>EINECS: 200-580-7 | azijnzuur<br>☠ Flam. Liq. 3, H226; ☠ Skin Corr. 1A, H314; ☠ Acute Tox. 4, H312   | >2,5-≤10% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | methanol<br>☠ Flam. Liq. 2, H225; ☠ STOT SE 1, H370; ☠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332  | >2,5-≤10% |
| CAS: 88-89-1<br>EINECS: 201-865-9 | 2,4,6-trinitrofenol<br>☠ Expl. 1.1, H201; ☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331   | >2,5-≤10% |

### · SVHC

67-56-1 methanol

### · Aanvullende gegevens:

De woordelijke inhoud van de opgegeven aanwijzingen inzake de mogelijke gevaren is te vinden in hoofdstuk 16.

## RUBRIEK 4: Eerstehulpmaatregelen

### · 4.1 Beschrijving van de eerstehulpmaatregelen

#### · Algemene informatie:

Verontreinigde kleding onmiddellijk uittrekken.

Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.

Ademhalingsstoestel pas afnemen nadat de verontreinigde kleding verwijderd is.

Bij onregelmatige ademhaling of ademstilstand kunstmatige ademhaling toepassen.

#### · Na het inademen:

Verse lucht of zuurstof toedienen; deskundige medische hulp inroepen.

Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

#### · Na huidcontact: Onmiddellijk met water en zeep afwassen en goed naspoelen.

#### · Na oogcontact: Ogen met open ooglid een aantal minuten onder stromend water afspoelen en dokter raadplegen.

#### · Na inslikken:

Onmiddellijk arts raadplegen.

Drink zeer veel water en voer verse lucht aan. Onmiddellijk een dokter waarschuwen.

### · 4.2 Belangrijkste acute en uitgestelde symptomen en effecten

(Vervolg op blz. 4)

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(Vervolg van blz. 3)

- **4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling**  
Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 5: Brandbestrijdingsmaatregelen

- **5.1 Blusmiddelen**
- **Geschikte blusmiddelen:**  
CO<sub>2</sub>, bluspoeder of waterstraal. Grotere brand met waterstraal bestrijden of met schuim, dat tegen alcohol bestand is.
- **5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**  
Geen verdere relevante informatie verkrijgbaar.
- **5.3 Advies voor brandweertieners**
- **Speciale beschermende kleding:** Ademhalingsstoestel aantrekken.

### RUBRIEK 6: Maatregelen bij het accidenteel vrijkomen van de stof of het mengsel

- **6.1 Persoonlijke voorzorgsmaatregelen, beschermingsmiddelen en noodprocedures**  
Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.
- **6.2 Milieuvoorzorgsmaatregelen:**  
Met veel water verdunnen.  
Niet in de riolering/het oppervlaktewater/het grondwater laten terecht komen.
- **6.3 Insluitings- en reinigingsmethoden en -materiaal:**  
Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.  
Neutralisatiemiddel gebruiken.  
Besmet materiaal zoals afval volgens punt 13 verwijderen.  
Voor voldoende ventilatie zorgen.
- **6.4 Verwijzing naar andere rubrieken**  
Informatie inzake veilig gebruik - zie hoofdstuk 7.  
Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.  
Informatie inzake berging - zie hoofdstuk 13.

### RUBRIEK 7: Hantering en opslag

- **7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel**  
Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.  
Tanks voorzichtig openen en behandelen.  
Aërosolvorming vermijden.
- **Informatie m.b.t. brand- en ontploffingsgevaar:**  
Onststekingsbronnen op afstand houden - niet roken.  
Beschermen tegen hitte.  
Maatregelen treffen tegen ontlading van statische elektriciteit.  
Ademhalingsstoestellen gereedhouden.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:**  
Tanks ondoordringbaar gesloten houden.  
Tegen hitte en directe zonnestralen beschermen.

(Vervolg op blz. 5)

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(Vervolg van blz. 4)

- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

## RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

- **8.1 Controleparameters**
- **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.

- **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:**

### 50-00-0 formaldehyde

|    |  |
|----|--|
| WG | Korte termijn waarde: 0,5 mg/m <sup>3</sup> , 0,4 ppm  |
|    | Lange termijn waarde: 0,15 mg/m <sup>3</sup> , 0,1 ppm |

### 64-19-7 azijnzuur

|    |   |
|----|---|
| WG | Korte termijn waarde: 50 mg/m <sup>3</sup> , 20 ppm |
|    | Lange termijn waarde: 25 mg/m <sup>3</sup> , 10 ppm |

### 67-56-1 methanol

|    |   |
|----|---|
| WG | Lange termijn waarde: 133 mg/m <sup>3</sup> , 100 ppm |
|----|---|

### 88-89-1 2,4,6-trinitrofenol

|    |   |
|----|---|
| WG | Lange termijn waarde: 0,1 mg/m <sup>3</sup> |
|----|---|

- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.

- **8.2 Maatregelen ter beheersing van blootstelling**

- **Persoonlijke beschermingsvoorzieningen:**

- **Algemene beschermings- en gezondheidsmaatregelen:**

Verwijderd houden van eet- en drinkwaren.  
Verontreinigde kleding onmiddellijk uittrekken.  
Vóór de pauze en aan het einde van werktijd handen wassen.  
Beschermende kleding afzonderlijk bewaren.  
Aanraking met de ogen vermijden.  
Aanraking met de ogen en de huid vermijden.

- **Ademhalingsbescherming:**

Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingsstoestel gebruiken.

- **Handbescherming:**



Veiligheidshandschoenen

Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.

Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.

Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.

- **Handschoenmateriaal**

De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant. Aangezien het product uit meerdere stoffen is samengesteld, is de duurzaamheid van de handschoenmaterialen niet vooraf berekenbaar en moet derhalve vóór het gebruik worden getest.

- **Doordringingstijd van het handschoenmateriaal**

De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.

(Vervolg op blz. 6)

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(Vervolg van blz. 5)

**· Oogbescherming:**

Nauw aansluitende veiligheidsbril

## RUBRIEK 9: Fysische en chemische eigenschappen

**· 9.1 Informatie over fysische en chemische basiseigenschappen****· Algemene gegevens****· Voorkomen:**

|                           |               |
|---------------------------|---------------|
| <b>Vorm:</b>              | Vloeistof     |
| <b>Kleur:</b>             | Geel          |
| <b>Geur:</b>              | Stekend       |
| <b>Geurdrempelwaarde:</b> | Niet bepaald. |

· **pH-waarde bij 20 °C:** 1,2-1,6

**· Toestandsverandering**

|                                      |               |
|--------------------------------------|---------------|
| <b>Smelt-/vriespunt:</b>             | Niet bepaald. |
| <b>Beginkookpunt en kooktraject:</b> | 98 °C         |

· **Vlampunt:** 40 °C

· **Ontvlambaarheid (vast, gas):** Niet bruikbaar.

· **Ontstekingstemperatuur:** 300 °C

· **Ontledingstemperatuur:** Niet bepaald.

· **Zelfontbrandingstemperatuur:** Het produkt ontbrandt niet uit zichzelf.

· **Ontploffingseigenschappen:** Ontploffbaar met en zonder lucht.

**· Ontploffingsgrenzen:**

|                  |               |
|------------------|---------------|
| <b>Onderste:</b> | Niet bepaald. |
| <b>Bovenste:</b> | Niet bepaald. |

· **Dampspanning bij 20 °C:** 23 hPa

· **Dichtheid bij 20 °C:** 1,11 g/cm<sup>3</sup>

· **Relatieve dichtheid** Niet bepaald.

· **Dampdichtheid** Niet bepaald.

· **Verdampingssnelheid** Niet bepaald.

**· Oplosbaarheid in/mengbaarheid met**

**Water:** Volledig mengbaar.

· **Verdelingscoëfficiënt: n-octanol/water:** Niet bepaald.

**· Viscositeit**

**Dynamisch:** Niet bepaald.

**Kinematisch:** Niet bepaald.

**· Oplosmiddelgehalte:**

**Organisch oplosmiddel:** 27,7 %

**Water:** 69,4 %

**VOC (EG)** 27,65 %

(Vervolg op blz. 7)

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(Vervolg van blz. 6)

|  |       |
|--|-------|
| <b>Gehalte aan vaste bestanddelen:</b> | 1,0 % |
|--|-------|

|                                 |   |
|---------------------------------|---|
| <b>· 9.2 Overige informatie</b> | Geen verdere relevante informatie verkrijgbaar. |
|---------------------------------|---|

## RUBRIEK 10: Stabiliteit en reactiviteit

- **10.1 Reactiviteit** Geen verdere relevante informatie verkrijgbaar.
- **10.2 Chemische stabiliteit**
- **Thermische afbraak / te vermijden omstandigheden:** Geen afbraak bij gebruik volgens voorschrift.
- **10.3 Mogelijke gevaarlijke reacties** Geen gevaarlijke reacties bekend.
- **10.4 Te vermijden omstandigheden** Geen verdere relevante informatie verkrijgbaar.
- **10.5 Chemisch op elkaar inwerkende materialen:** Geen verdere relevante informatie verkrijgbaar.
- **10.6 Gevaarlijke ontledingsproducten:** Geen gevaarlijke ontbindingsproducten bekend.

## RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit**  
Schadelijk bij inslikken en bij contact met de huid.  
Giftig bij inademing.

|   |  |  |
|---|--|--|
| <b>· Indelingsrelevantie LD/LC50-waarden:</b> |  |  |
|---|--|--|

|                             |  |  |
|-----------------------------|--|--|
| <b>50-00-0 formaldehyde</b> |  |  |
|-----------------------------|--|--|

|       |      |                  |
|-------|------|------------------|
| Oraal | LD50 | >200 mg/kg (rat) |
|-------|------|------------------|

|                         |  |  |
|-------------------------|--|--|
| <b>67-56-1 methanol</b> |  |  |
|-------------------------|--|--|

|       |      |                   |
|-------|------|-------------------|
| Oraal | LD50 | 5.628 mg/kg (rat) |
|-------|------|-------------------|

|         |      |                       |
|---------|------|-----------------------|
| Dermaal | LD50 | 15.800 mg/kg (rabbit) |
|---------|------|-----------------------|

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie**  
Veroorzaakt ernstige brandwonden en oogletsel.
- **Ernstig oogletsel/oogirritatie**  
Veroorzaakt ernstig oogletsel.
- **Sensibilisatie van de luchtwegen/de huid**  
Kan een allergische huidreactie veroorzaken.
- **Aanvullende toxicologische informatie:**
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
- **Mutageniteit in geslachtscellen**  
Verdacht van het veroorzaken van genetische schade.
- **Kankerverwekkendheid**  
Kan kanker veroorzaken.
- **Giftigheid voor de voortplanting** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **STOT bij eenmalige blootstelling**  
Kan schade veroorzaken aan het centrale zenuwstelsel en de visuele organen.  
Kan irritatie van de luchtwegen veroorzaken.
- **STOT bij herhaalde blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Gevaar bij inademing** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

NL

(Vervolg op blz. 8)



# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 03.06.2022

Herziening van: 03.06.2022

Handelsnaam: **BOUIN'S FLUID**

(Vervolg van blz. 7)


### RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Verdere ecologische informatie:**
- **Algemene informatie:**  
*Waterbezwaarlijkheid (NL): Z(1) niet afbreekbare stoffen met gevaarlijke eigenschappen voor mens en milieu (carcinogeniteit/mutageniteit/ reprotoxiciteit/bioacumulerend vermogen/ toxiciteit of persistentie)*  
*Gevaar voor water klasse 2 (D) (Zelfclassificatie): gevaar voor water*  
*Niet lozen in grondwater, in oppervlaktewater of in riolering.*  
*Mag niet onverdund of niet geneutraliseerd in oppervlaktewater of in afwateringskanaal geloosd worden.*  
*Gevaar voor drinkwater zelfs bij uitlopen van geringe hoeveelheden in de ondergrond.*  
*Wegspoelen van grotere hoeveelheden in rioleringen of waterlopen kan tot een verlaging van de pH-waarde leiden. Een lage pH-waarde beschadigt in het water levende organismen. In de verdunning van de toepassingsconcentratie verhoogt de pH-waarde aanzienlijk, zodat na het gebruik van het product het afvalwater dat in de riolering geraakt maar een gering gevaar vormt voor het water.*
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

### RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terecht komen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.
- **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

### RUBRIEK 14: Informatie met betrekking tot het vervoer

- **14.1 VN-nummer**
- **ADR, IMDG, IATA** UN3265
- **14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN**
- **ADR** 3265 BIJTENDE ZURE ORGANISCHE VLOEISTOF, N.E.G. (METHANOL, IJSAZIJN)
- **IMDG, IATA** CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)
- **14.3 Transportgevaarenklasse(n)**
- **ADR, IMDG, IATA**
- 
- **klasse** 8 Bijtende stoffen

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|  |  |
|--|--|
| · <b>Etiket</b>  | 8  |
| · <b>14.4 Verpakkingsgroep:</b><br>· <b>ADR, IMDG, IATA</b>  | III  |
| · <b>14.5 Milieugevaren:</b>   | Niet bruikbaar.  |
| · <b>14.6 Bijzondere voorzorgen voor de gebruiker</b><br>· <b>Gevaarsidentificatienummer (Kemler-getal):</b><br>· <b>EMS-nummer:</b><br>· <b>Segregation groups</b><br>· <b>Stowage Category</b><br>· <b>Stowage Code</b><br>· <b>Segregation Code</b> | Waarschuwing: <i>Bijtende stoffen</i><br>88<br>F-A,S-B<br>Acids<br>B<br>SW2 Clear of living quarters.<br>SG36 Stow "separated from" SGG18-alkalis.<br>SG49 Stow "separated from" SGG6-cyanides |
| · <b>14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code</b>  | Niet bruikbaar.  |
| · <b>Transport/verdere gegevens:</b>   |  |
| · <b>ADR</b><br>· <b>Beperkte hoeveelheden (LQ)</b><br>· <b>Uitgezonderde hoeveelheden (EQ)</b>  | 0<br>Code: E0<br>Niet toegestaan als vrijgestelde hoeveelheid  |
| · <b>Vervoerscategorie</b><br>· <b>Tunnelbeperkingscode</b>  | 1<br>E   |
| · <b>IMDG</b><br>· <b>Limited quantities (LQ)</b><br>· <b>Excepted quantities (EQ)</b>   | 0<br>Code: E0<br>Not permitted as Excepted Quantity  |
| · <b>VN "Model Regulation":</b>  | UN 3265 BIJTENDE ZURE ORGANISCHE VLOEISTOF, N.E.G. (METHANOL, IJSAZIJN), 8, III  |

### RUBRIEK 15: Regelgeving

#### · 15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel

|  |  |
|--|--|
| · <b>SZW-lijst van kankerverwekkende stoffen</b>   | 50-00-0 formaldehyde                     |
| · <b>SZW-lijst van mutagene stoffen</b>  | geen der bestanddelen staat op de lijst. |
| · <b>NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid</b> | geen der bestanddelen staat op de lijst. |
| · <b>NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling</b>   | geen der bestanddelen staat op de lijst. |
| · <b>NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding</b>   | geen der bestanddelen staat op de lijst. |
| · <b>Lijst Zeer Zorgwekkende Stoffen (ZZS)</b>   | 50-00-0 formaldehyde                     |

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· **Lijst van Potentieel Zeer Zorgwekkende Stoffen**

geen der bestanddelen staat op de lijst.

· **Richtlijn 2012/18/EU**

· **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** geen der bestanddelen staat op de lijst.

· **Seveso-categorie**

P1a ONTPLOFBARE STOFFEN

H2 ACUUT TOXISCH

· **Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen 10 t**

· **Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen 50 t**

· **Verordening (EG) nr. 1907/2006 BIJLAGE XVII** Beperkingsvoorwaarden: 3, 28, 69, 72

· **Richtlijn 2011/65/EU betreffende beperking van het gebruik van bepaalde gevaarlijke stoffen in elektrische en elektronische apparatuur - Bijlage II**

geen der bestanddelen staat op de lijst.

· **VERORDENING (EU) 2019/1148**

· **Bijlage I - PRECURSOREN VOOR EXPLOSIEVEN WAARVOOR EEN BEPERKING GELDT (Bovengrenswaarde ten behoeve van vergunningverlening op grond van artikel 5, lid 3)**

geen der bestanddelen staat op de lijst.

· **Bijlage II - PRECURSOREN VOOR EXPLOSIEVEN DIE MOETEN WORDEN GEMELD**

geen der bestanddelen staat op de lijst.

· **Verordening (EG) nr. 273/2004 inzake drugsprecursoren**

geen der bestanddelen staat op de lijst.

· **Verordening (EG) Nr. 111/2005 houdende voorschriften voor het toezicht op de handel tussen de Gemeenschap en derde landen in drugsprecursoren**

geen der bestanddelen staat op de lijst.

· **Nationale voorschriften:**

· **Aanwijzingen m.b.t. tewerkstellingsbeperking:**

Werknemers mogen aan de kankerverwekkende gevaarlijke stoffen van deze toebereiding niet blootgesteld worden. In uitzonderingsgevallen kan de overheid speciale vergunningen afgeven.

· **Gevaarklasse v. water:**

Waterbezwaarlijkheid (NL): Z(1) niet afbreekbare stoffen met gevaarlijke eigenschappen voor mens en milieu (carcinogeniteit/mutageniteit/reprotoxiciteit/bioaccumulerend vermogen/toxiciteit of persistentie)

· **Aanvullende voorschriften, beperkingen en verbodsverordeningen**

· **Zeer zorgwekkende stoffen (SVHC) volgens REACH, artikel 57**

67-56-1 | methanol

· **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

## RUBRIEK 16: Overige informatie

Deze gegevens zijn gebaseerd op de huidige stand van onze kennis. Zij beschrijven echter geen garantie van produkteigenschappen en vestigen geen contractuele rechtsbetrekking.

· **Relevante zinnen**

H201 Ontplobbare stof; gevaar voor massa-explosie.

H225 Licht ontvlambare vloeistof en damp.

H226 Ontvlambare vloeistof en damp.

H301 Giftig bij inslikken.

H302 Schadelijk bij inslikken.

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H311 Giftig bij contact met de huid.  
 H312 Schadelijk bij contact met de huid.  
 H314 Veroorzaakt ernstige brandwonden en oogletsel.  
 H317 Kan een allergische huidreactie veroorzaken.  
 H331 Giftig bij inademing.  
 H332 Schadelijk bij inademing.  
 H341 Verdacht van het veroorzaken van genetische schade.  
 H350 Kan kanker veroorzaken.  
 H370 Veroorzaakt schade aan organen.

**Afkortingen en acroniemen:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals  
 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)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 SVHC: Substances of Very High Concern  
 vPvB: very Persistent and very Bioaccumulative  
 Expl. 1.1: Ontploffbare stoffen – Subklasse 1.1  
 Unst. Expl.: Ontploffbare stoffen – Instabiele ontploffbare stof  
 Flam. Liq. 2: Ontvlambare vloeistoffen – Categorie 2  
 Flam. Liq. 3: Ontvlambare vloeistoffen – Categorie 3  
 Acute Tox. 3: Acute toxiciteit – Categorie 3  
 Acute Tox. 4: Acute toxiciteit – Categorie 4  
 Skin Corr. 1A: Huidcorrosie/-irritatie – Categorie 1A  
 Skin Corr. 1B: Huidcorrosie/-irritatie – Categorie 1B  
 Eye Dam. 1: Ernstig oogletsel/oogirritatie – Categorie 1  
 Skin Sens. 1: Sensibilisatie van de huid – Categorie 1  
 Muta. 2: Mutageniteit in geslachtscellen – Categorie 2  
 Carc. 1B: Kankerverwekkendheid – Categorie 1B  
 STOT SE 1: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 1  
 STOT SE 2: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 2

NL

# Fiche de données de sécurité

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### RUBRIQUE 1: Identification de la substance/du mélange et de la société/l'entreprise

- **1.1 Identificateur de produit**
- **Nom du produit:** BOUIN'S FLUID
- **Code du produit:** 26386-01
- **UFI:** VNE5-70CQ-K00H-0H33
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**  
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: [info@emsdiasum.com](mailto:info@emsdiasum.com)  
[www.emsdiasum.com](http://www.emsdiasum.com)
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### RUBRIQUE 2: Identification des dangers

- **2.1 Classification de la substance ou du mélange**
- **Classification selon le règlement (CE) n° 1272/2008**



GHS01 bombe explosant

Unst. Expl. H200 Explosif instable.



GHS06 tête de mort sur deux tibias

Acute Tox. 3 H331 Toxique par inhalation.



GHS08 danger pour la santé

Muta. 2 H341 Susceptible d'induire des anomalies génétiques.

Carc. 1B H350 Peut provoquer le cancer.

STOT SE 2 H371 Risque présumé d'effets graves pour le système nerveux central et les organes visuels.



GHS05 corrosion

Skin Corr. 1A H314 Provoque de graves brûlures de la peau et de graves lésions des yeux.

Eye Dam. 1 H318 Provoque de graves lésions des yeux.



GHS07

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Acute Tox. 4 H302 Nocif en cas d'ingestion.  
 Acute Tox. 4 H312 Nocif par contact cutané.  
 Skin Sens. 1 H317 Peut provoquer une allergie cutanée.  
 STOT SE 3 H335 Peut irriter les voies respiratoires.  
 Flam. Liq. 3 H226 Liquide et vapeurs inflammables.

### · 2.2 Éléments d'étiquetage

· **Étiquetage selon le règlement (CE) n° 1272/2008** Le produit est classifié et étiqueté selon le règlement CLP.

### · Pictogrammes de danger



### · Mention d'avertissement Danger

### · Composants dangereux déterminants pour l'étiquetage:

Formaldéhyde  
 méthanol  
 acide acétique  
 2,4,6-trinitrophénol

### · Mentions de danger

H200 Explosif instable.  
 H226 Liquide et vapeurs inflammables.  
 H302+H312 Nocif en cas d'ingestion ou de contact cutané.  
 H331 Toxique par inhalation.  
 H314 Provoque de graves brûlures de la peau et de graves lésions des yeux.  
 H317 Peut provoquer une allergie cutanée.  
 H341 Susceptible d'induire des anomalies génétiques.  
 H350 Peut provoquer le cancer.  
 H371 Risque présumé d'effets graves pour le système nerveux central et les organes visuels.  
 H335 Peut irriter les voies respiratoires.

### · Conseils de prudence

P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau [ou se doucher].  
 P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.  
 P310 Appeler immédiatement un CENTRE ANTIPOISON/un médecin.  
 P321 Traitement spécifique (voir sur cette étiquette).  
 P362+P364 Enlever les vêtements contaminés et les laver avant réutilisation.  
 P373 NE PAS combattre l'incendie lorsque le feu atteint les explosifs.  
 P380 Évacuer la zone.  
 P401 Stocker conformément à la réglementation locale/régionale/nationale/internationale.  
 P405 Garder sous clef.  
 P501 Éliminer le contenu/réceptacle conformément à la réglementation locale/régionale/nationale/internationale.

### · 2.3 Autres dangers

### · Résultats des évaluations PBT et vPvB

· **PBT:** Non applicable.

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· **vPvB**: Non applicable.

### RUBRIQUE 3: Composition/informations sur les composants

· **3.2 Caractérisation chimique: Mélanges**· **Description:** Mélange des substances mentionnées à la suite avec des additifs non dangereux.· **Composants dangereux:**

|                                   |  |           |
|-----------------------------------|--|-----------|
| CAS: 50-00-0<br>EINECS: 200-001-8 | Formaldéhyde<br>⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317 | >10-≤25%  |
| CAS: 64-19-7<br>EINECS: 200-580-7 | acide acétique<br>⚠ Flam. Liq. 3, H226; ⚠ Skin Corr. 1A, H314; ⚠ Acute Tox. 4, H312  | >2,5-≤10% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | méthanol<br>⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332  | >2,5-≤10% |
| CAS: 88-89-1<br>EINECS: 201-865-9 | 2,4,6-trinitrophénol<br>⚠ Expl. 1.1, H201; ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331  | >2,5-≤10% |

· **SVHC**

67-56-1 | méthanol

· **Indications complémentaires:** Pour le libellé des phrases de risque citées, se référer au chapitre 16.

### RUBRIQUE 4: Premiers secours

· **4.1 Description des premiers secours**· **Remarques générales:**

Enlever immédiatement les vêtements contaminés par le produit.

Les symptômes d'intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.

Ne retirer la protection respiratoire qu'après avoir retiré les vêtements contaminés.

Respiration artificielle dans le cas d'une respiration irrégulière ou d'un arrêt respiratoire.

· **Après inhalation:**

Donner de l'air frais ou de l'oxygène; demander d'urgence une assistance médicale.

En cas d'inconscience, coucher et transporter la personne en position latérale stable.

· **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.· **Après contact avec les yeux:**

Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières et consulter un médecin.

· **Après ingestion:**

Consulter immédiatement un médecin.

Boire de l'eau en abondance et donner de l'air frais. Consulter immédiatement un médecin.

· **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.· **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**

Pas d'autres informations importantes disponibles.

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### RUBRIQUE 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:**  
CO<sub>2</sub>, poudre d'extinction ou eau pulvérisée. Combattre les foyers importants avec de l'eau pulvérisée ou de la mousse résistant à l'alcool.
- **5.2 Dangers particuliers résultant de la substance ou du mélange**  
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Porter un appareil de protection respiratoire.

### RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence**  
Porter un équipement de sécurité. Eloigner les personnes non protégées.
- **6.2 Précautions pour la protection de l'environnement:**  
Diluer avec beaucoup d'eau.  
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**  
Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).  
Utiliser un neutralisant.  
Évacuer les matériaux contaminés en tant que déchets conformément au point 13.  
Assurer une aération suffisante.
- **6.4 Référence à d'autres rubriques**  
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.  
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.  
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

### RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**  
Veiller à une bonne ventilation/aspiration du poste de travail.  
Ouvrir et manipuler les récipients avec précaution.  
Éviter la formation d'aérosols.
- **Préventions des incendies et des explosions:**  
Tenir à l'abri des sources d'inflammation - ne pas fumer.  
Tenir à l'abri de la chaleur.  
Prendre des mesures contre les charges électrostatiques.  
Tenir des appareils de protection respiratoire prêts.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Aucune exigence particulière.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:**  
Tenir les emballages hermétiquement fermés.  
Protéger de la forte chaleur et du rayonnement direct du soleil.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

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### RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

- **8.1 Paramètres de contrôle**
- **Indications complémentaires pour l'agencement des installations techniques:**  
Sans autre indication, voir point 7.

- **Composants présentant des valeurs-seuil à surveiller par poste de travail:**

| <b>50-00-0 Formaldéhyde</b>         |   |
|-------------------------------------|---|
| VLEP                                | Valeur momentanée: 0,74 mg/m <sup>3</sup> , 0,6 ppm<br>Valeur à long terme: 0,37 0,5* mg/m <sup>3</sup> , 0,3 0,62* ppm<br>CIB, M2, *:jusqu'au 11.07.24 l'embaumement |
| <b>64-19-7 acide acétique</b>       |   |
| VLEP                                | Valeur momentanée: 50 mg/m <sup>3</sup> , 20 ppm<br>Valeur à long terme: 25 mg/m <sup>3</sup> , 10 ppm  |
| <b>67-56-1 méthanol</b>             |   |
| VLEP                                | Valeur momentanée: 1300 mg/m <sup>3</sup> , 1000 ppm<br>Valeur à long terme: 260 mg/m <sup>3</sup> , 200 ppm<br>risque de pénétration percutanée, (11)                |
| <b>88-89-1 2,4,6-trinitrophénol</b> |   |
| VLEP                                | Valeur à long terme: 0,1 mg/m <sup>3</sup><br>Risque de pénétration percutanée  |

- **Remarques supplémentaires:**  
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
- **8.2 Contrôles de l'exposition**
- **Equipement de protection individuel:**
- **Mesures générales de protection et d'hygiène:**  
Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.  
Retirer immédiatement les vêtements souillés ou humectés.  
Se laver les mains avant les pauses et en fin de travail.  
Conserver à part les vêtements de protection.  
Eviter tout contact avec les yeux.  
Eviter tout contact avec les yeux et avec la peau.
- **Protection respiratoire:**  
En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.
- **Protection des mains:**



Gants de protection

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.  
À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.  
Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

- **Matériau des gants**  
Le choix de gants appropriés dépend non seulement du matériau, mais aussi d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre. Puisque le produit représente une préparation composée de plusieurs substances, la résistance des matériaux des gants ne peut pas être calculée à l'avance et doit, alors, être contrôlée avant l'utilisation.

- **Temps de pénétration du matériau des gants**  
Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.

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## · Protection des yeux:



Lunettes de protection hermétiques

### RUBRIQUE 9: Propriétés physiques et chimiques

## · 9.1 Informations sur les propriétés physiques et chimiques essentielles

## · Indications générales

## · Aspect:

|                 |                |
|-----------------|----------------|
| Forme:          | Liquide        |
| Couleur:        | Jaune          |
| Odeur:          | Piquante       |
| Seuil olfactif: | Non déterminé. |

· valeur du pH à 20 °C: 1,2-1,6

## · Changement d'état

|  |                |
|--|----------------|
| Point de fusion/point de congélation:                  | Non déterminé. |
| Point initial d'ébullition et intervalle d'ébullition: | 98 °C          |

· Point d'éclair 40 °C

· Inflammabilité (solide, gaz): Non applicable.

· Température d'inflammation: 300 °C

· Température de décomposition: Non déterminé.

· Température d'auto-inflammabilité: Le produit ne s'enflamme pas spontanément.

· Propriétés explosives: Danger d'explosion en contact ou sans contact avec l'air.

## · Limites d'explosion:

|             |                |
|-------------|----------------|
| Inférieure: | Non déterminé. |
| Supérieure: | Non déterminé. |

· Pression de vapeur à 20 °C: 23 hPa

· Densité à 20 °C: 1,11 g/cm<sup>3</sup>

· Densité relative: Non déterminé.

· Densité de vapeur: Non déterminé.

· Taux d'évaporation: Non déterminé.

· Solubilité dans/miscibilité avec l'eau:

Entièrement miscible

· Coefficient de partage: n-octanol/eau: Non déterminé.

## · Viscosité:

|              |                |
|--------------|----------------|
| Dynamique:   | Non déterminé. |
| Cinématique: | Non déterminé. |

## · Teneur en solvants:

|                      |         |
|----------------------|---------|
| Solvants organiques: | 27,7 %  |
| Eau:                 | 69,4 %  |
| VOC (CE)             | 27,65 % |

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|                                      |       |
|--------------------------------------|-------|
| <b>Teneur en substances solides:</b> | 1,0 % |
|--------------------------------------|-------|

|                                  |  |
|----------------------------------|--|
| <b>· 9.2 Autres informations</b> | Pas d'autres informations importantes disponibles. |
|----------------------------------|--|

### RUBRIQUE 10: Stabilité et réactivité

- **10.1 Réactivité** Pas d'autres informations importantes disponibles.
- **10.2 Stabilité chimique**
- **Décomposition thermique/conditions à éviter:** Pas de décomposition en cas d'usage conforme.
- **10.3 Possibilité de réactions dangereuses** Aucune réaction dangereuse connue.
- **10.4 Conditions à éviter** Pas d'autres informations importantes disponibles.
- **10.5 Matières incompatibles:** Pas d'autres informations importantes disponibles.
- **10.6 Produits de décomposition dangereux:** Pas de produits de décomposition dangereux connus

### RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**

- **Toxicité aiguë**

Nocif en cas d'ingestion ou de contact cutané.

Toxique par inhalation.

- **Valeurs LD/LC50 déterminantes pour la classification:**

**50-00-0 Formaldéhyde**

|      |      |                  |
|------|------|------------------|
| Oral | LD50 | >200 mg/kg (rat) |
|------|------|------------------|

**67-56-1 méthanol**

|          |      |                      |
|----------|------|----------------------|
| Oral     | LD50 | 5.628 mg/kg (rat)    |
| Dermique | LD50 | 15.800 mg/kg (lapin) |

- **Effet primaire d'irritation:**

- **Corrosion cutanée/irritation cutanée**

Provoque de graves brûlures de la peau et de graves lésions des yeux.

- **Lésions oculaires graves/irritation oculaire**

Provoque de graves lésions des yeux.

- **Sensibilisation respiratoire ou cutanée**

Peut provoquer une allergie cutanée.

- **Indications toxicologiques complémentaires:**

- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**

- **Mutagénicité sur les cellules germinales**

Susceptible d'induire des anomalies génétiques.

- **Cancérogénicité**

Peut provoquer le cancer.

- **Toxicité pour la reproduction**

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

- **Toxicité spécifique pour certains organes cibles - exposition unique**

Risque présumé d'effets graves pour le système nerveux central et les organes visuels.

Peut irriter les voies respiratoires.

- **Toxicité spécifique pour certains organes cibles - exposition répétée**

Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

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### RUBRIQUE 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Autres indications écologiques:**
- **Indications générales:**  
 Catégorie de pollution des eaux 2 (D) (Classification propre): polluant  
 Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations.  
 Ne doit pas pénétrer à l'état non dilué ou non neutralisé dans les eaux usées ou le collecteur.  
 Danger pour l'eau potable dès fuite d'une petite quantité dans le sous-sol.  
 Jeter de plus grandes quantités dans la canalisation ou les eaux peut mener à une baisse de la valeur du pH. Une valeur du pH basse est nocive pour les organismes aquatiques. Dans la dilution de la concentration utilisée, la valeur du pH augmente considérablement: après l'utilisation du produit, les eaux résiduelles arrivant dans la canalisation ne sont que faiblement polluantes pour l'eau.
- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

### RUBRIQUE 13: Considérations relatives à l'élimination

- **13.1 Méthodes de traitement des déchets**
- **Recommandation:** Ne doit pas être évacué avec les ordures ménagères. Ne pas laisser pénétrer dans les égouts.
- **Emballages non nettoyés:**
- **Recommandation:** Evacuation conformément aux prescriptions légales.
- **Produit de nettoyage recommandé:** Eau, éventuellement avec des produits de nettoyage

### RUBRIQUE 14: Informations relatives au transport

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>· <b>14.1 Numéro ONU</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>  | UN3265  |
| <ul style="list-style-type: none"> <li>· <b>14.2 Désignation officielle de transport de l'ONU</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul> | 3265 LIQUIDE ORGANIQUE CORROSIF, ACIDE, N.S.A. (MÉTHANOL, ACIDE ACÉTIQUE GLACIAL)<br>CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANOL, ACETIC ACID, GLACIAL) |
| <ul style="list-style-type: none"> <li>· <b>14.3 Classe(s) de danger pour le transport</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>                         | 8   |
| <ul style="list-style-type: none"> <li>· <b>Classe</b></li> <li>· <b>Étiquette</b></li> </ul>   | 8 Matières corrosives.<br>8   |



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|   |  |
|---|--|
| · 14.4 Groupe d'emballage<br>· ADR, IMDG, IATA  | III  |
| · 14.5 Dangers pour l'environnement:  | Non applicable.  |
| · 14.6 Précautions particulières à prendre par l'utilisateur<br>· Numéro d'identification du danger (Indice Kemler):<br>· No EMS:<br>· Segregation groups<br>· Stowage Category<br>· Stowage Code<br>· Segregation Code | Attention: Matières corrosives.<br>88<br>F-A,S-B<br>Acids<br>B<br>SW2 Clear of living quarters.<br>SG36 Stow "separated from" SGG18-alkalis.<br>SG49 Stow "separated from" SGG6-cyanides |
| · 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC   | Non applicable.  |
| · Indications complémentaires de transport:   |  |
| · ADR<br>· Quantités limitées (LQ)<br>· Quantités exceptées (EQ)<br><br>· Catégorie de transport<br>· Code de restriction en tunnels  | 0<br>Code: E0<br>Non autorisé en tant que quantité exceptée<br>I<br>E  |
| · IMDG<br>· Limited quantities (LQ)<br>· Excepted quantities (EQ)   | 0<br>Code: E0<br>Not permitted as Excepted Quantity  |
| · "Règlement type" de l'ONU:  | UN 3265 LIQUIDE ORGANIQUE CORROSIF, ACIDE, N.S.A. (MÉTHANOL, ACIDE ACÉTIQUE GLACIAL), 8, III   |

### RUBRIQUE 15: Informations relatives à la réglementation

- 15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement
- Directive 2012/18/UE
- Substances dangereuses désignées - ANNEXE I Aucun des composants n'est compris.
- Catégorie SEVESO  
P1a EXPLOSIBLES  
H2 TOXICITÉ AIGUË
- Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas 10 t
- Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut 50 t
- RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII Conditions de limitation: 3, 28, 69, 72
- Directive 2011/65/UE relative à la limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques – Annexe II
- Aucun des composants n'est compris.

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· **RÈGLEMENT (UE) 2019/1148**

· **Annexe I - PRÉCURSEURS D'EXPLOSIFS FAISANT L'OBJET DE RESTRICTIONS (Valeur limite maximale aux fins de l'octroi d'une licence en vertu de l'article 5, paragraphe 3)**

Aucun des composants n'est compris.

· **Annexe II - PRÉCURSEURS D'EXPLOSIFS DEVANT FAIRE L'OBJET D'UN SIGNALEMENT**

Aucun des composants n'est compris.

· **Règlement (CE) n° 273/2004 relatif aux précurseurs de drogues**

Aucun des composants n'est compris.

· **Règlement (CE) n° 111/2005 fixant des règles pour la surveillance du commerce des précurseurs des drogues entre la Communauté et les pays tiers**

Aucun des composants n'est compris.

· **Prescriptions nationales:**

· **Indications sur les restrictions de travail:**

Le personnel ne doit pas être exposé aux substances dangereuses cancérogènes contenues dans cette préparation. Les autorités peuvent autoriser des exceptions dans des cas particuliers.

· **Autres prescriptions, restrictions et règlements d'interdiction**

· **Substances extrêmement préoccupantes (SVHC) selon REACH, article 57**

67-56-1 méthanol

· **15.2 Évaluation de la sécurité chimique:** Une évaluation de la sécurité chimique n'a pas été réalisée.

### RUBRIQUE 16: Autres informations

Ces indications sont fondées sur l'état actuel de nos connaissances, mais ne constituent pas une garantie quant aux propriétés du produit et ne donnent pas lieu à un rapport juridique contractuel.

· **Phrases importantes**

H201 Explosif; danger d'explosion en masse.

H225 Liquide et vapeurs très inflammables.

H226 Liquide et vapeurs inflammables.

H301 Toxique en cas d'ingestion.

H302 Nocif en cas d'ingestion.

H311 Toxique par contact cutané.

H312 Nocif par contact cutané.

H314 Provoque de graves brûlures de la peau et de graves lésions des yeux.

H317 Peut provoquer une allergie cutanée.

H331 Toxique par inhalation.

H332 Nocif par inhalation.

H341 Susceptible d'induire des anomalies génétiques.

H350 Peut provoquer le cancer.

H370 Risque avéré d'effets graves pour les organes.

· **Acronymes et abréviations:**

ADR: Accord relatif au transport international des marchandises dangereuses par route

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

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*SVHC: Substances of Very High Concern**vPvB: very Persistent and very Bioaccumulative**Expl. 1.1: Explosibles – Division 1.1**Unst. Expl.: Explosibles – Explosible instable**Flam. Liq. 2: Liquides inflammables – Catégorie 2**Flam. Liq. 3: Liquides inflammables – Catégorie 3**Acute Tox. 3: Toxicité aiguë – Catégorie 3**Acute Tox. 4: Toxicité aiguë – Catégorie 4**Skin Corr. 1A: Corrosion cutanée/irritation cutanée – Catégorie 1A**Skin Corr. 1B: Corrosion cutanée/irritation cutanée – Catégorie 1B**Eye Dam. 1: Lésions oculaires graves/irritation oculaire – Catégorie 1**Skin Sens. 1: Sensibilisation cutanée – Catégorie 1**Muta. 2: Mutagénicité sur les cellules germinales – Catégorie 2**Carc. 1B: Cancérogénicité – Catégorie 1B**STOT SE 1: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 1**STOT SE 2: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 2*

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**Scheda di dati di sicurezza**  
ai sensi del regolamento 1907/2006/CE, Articolo 31

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### SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** BOUIN'S FLUID

· **Articolo numero:** 26386-01

· **UFI:** VNE5-70CQ-K00H-0H33

· **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**  
Non sono disponibili altre informazioni.

· **Utilizzazione della Sostanza / del Preparato** Prodotti chimici per laboratorio

· **1.3 Informazioni sul fornitore della scheda di dati di sicurezza**

· **Produttore/fornitore:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: [info@emsdiasum.com](mailto:info@emsdiasum.com)

[www.emsdiasum.com](http://www.emsdiasum.com)

Societa Italiana Chimici

Via Rio Nell Ellba 140

00138 Rome, Italy

Tel: 39 06 8800211

Fax: 39 30 06 8815313

Web: [www.sichim.com](http://www.sichim.com)

· **Informazioni fornite da:** Product safety department

· **1.4 Numero telefonico di emergenza:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### SEZIONE 2: Identificazione dei pericoli

· **2.1 Classificazione della sostanza o della miscela**

· **Classificazione secondo il regolamento (CE) n. 1272/2008**



GHS01 bomba che esplose

Unst. Expl. H200 Esplosivo instabile.



GHS06 teschio e tibie incrociate

Acute Tox. 3 H331 Tossico se inalato.



GHS08 pericolo per la salute

Muta. 2 H341 Sospettato di provocare alterazioni genetiche.

Carc. 1B H350 Può provocare il cancro.

STOT SE 2 H371 Può provocare danni al sistema nervoso centrale e gli organi visivi.



GHS05 corrosione

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*Skin Corr. 1A H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.**Eye Dam. 1 H318 Provoca gravi lesioni oculari.*

GHS07

*Acute Tox. 4 H302 Nocivo se ingerito.**Acute Tox. 4 H312 Nocivo per contatto con la pelle.**Skin Sens. 1 H317 Può provocare una reazione allergica cutanea.**STOT SE 3 H335 Può irritare le vie respiratorie.**Flam. Liq. 3 H226 Liquido e vapori infiammabili.***· 2.2 Elementi dell'etichetta****· Etichettatura secondo il regolamento (CE) n. 1272/2008***Il prodotto è classificato ed etichettato conformemente al regolamento CLP.***· Pittogrammi di pericolo**

GHS01

GHS05

GHS06

GHS08

**· Avvertenza Pericolo****· Componenti pericolosi che ne determinano l'etichettatura:***formaldeide**metanolo**acido acetico**2,4,6-trinitrofenolo***· Indicazioni di pericolo***H200 Esplosivo instabile.**H226 Liquido e vapori infiammabili.**H302+H312 Nocivo se ingerito o a contatto con la pelle.**H331 Tossico se inalato.**H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.**H317 Può provocare una reazione allergica cutanea.**H341 Sospettato di provocare alterazioni genetiche.**H350 Può provocare il cancro.**H371 Può provocare danni al sistema nervoso centrale e gli organi visivi.**H335 Può irritare le vie respiratorie.***· Consigli di prudenza***P303+P361+P353 IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliersi di dosso immediatamente tutti gli indumenti contaminati. Sciacquare la pelle [o fare una doccia].**P305+P351+P338 IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.**P310 Contattare immediatamente un CENTRO ANTIVELENI/un medico.**P321 Trattamento specifico (vedere su questa etichetta).**P362+P364 Togliere tutti gli indumenti contaminati e lavarli prima di indossarli nuovamente.**P373 NON utilizzare mezzi estinguenti se l'incendio raggiunge materiali esplosivi.**P380 Evacuare la zona.**P401 Conservare secondo i regolamenti locali/regionali/nazionali/internazionali.**P405 Conservare sotto chiave.*

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P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

- **2.3 Altri pericoli**
- **Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.

### SEZIONE 3: Composizione/informazioni sugli ingredienti

- **3.2 Caratteristiche chimiche: Miscela**
- **Descrizione:** Miscela delle seguenti sostanze con additivi non pericolosi.

- **Sostanze pericolose:**

|                                   |   |           |
|-----------------------------------|---|-----------|
| CAS: 50-00-0<br>EINECS: 200-001-8 | formaldeide<br>⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317 | >10-≤25%  |
| CAS: 64-19-7<br>EINECS: 200-580-7 | acido acetico<br>⚠ Flam. Liq. 3, H226; ⚠ Skin Corr. 1A, H314; ⚠ Acute Tox. 4, H312  | >2,5-≤10% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | metanolo<br>⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332   | >2,5-≤10% |
| CAS: 88-89-1<br>EINECS: 201-865-9 | 2,4,6-trinitrofenolo<br>⚠ Expl. 1.1, H201; ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331   | >2,5-≤10% |

- **SVHC**

|         |          |
|---------|----------|
| 67-56-1 | metanolo |
|---------|----------|

- **Ulteriori indicazioni:** Il testo dell'avvertenza dei pericoli citati può essere appreso dal capitolo 16

### SEZIONE 4: Misure di primo soccorso

- **4.1 Descrizione delle misure di primo soccorso**
- **Indicazioni generali:**  
Allontanare immediatamente gli abiti contaminati dal prodotto.  
I sintomi di avvelenamento possono comparire dopo molte ore, per tale motivo è necessaria la sorveglianza di un medico nelle 48 ore successive all'incidente.  
Levare la maschera protettiva solamente dopo aver tolto gli abiti contaminati.  
In caso di respirazione irregolare o di blocco respiratorio praticare la respirazione artificiale.
- **Inalazione:**  
Portare il soggetto in zona ben areata o somministrare ossigeno; chiedere l'intervento di un medico.  
Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.
- **Contatto con la pelle:** Lavare immediatamente con acqua e sapone sciacquando accuratamente.
- **Contatto con gli occhi:**  
Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte e consultare il medico.
- **Ingestione:**  
Chiamare subito il medico.  
Bere abbondante acqua e sostare in zona ben areata. Richiedere immediatamente l'intervento del medico.
- **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.
- **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**  
Non sono disponibili altre informazioni.

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### **SEZIONE 5: Misure antincendio**

- **5.1 Mezzi di estinzione**
- **Mezzi di estinzione idonei:**  
CO<sub>2</sub>, polvere o acqua nebulizzata. Estinguere gli incendi di grosse dimensioni con acqua nebulizzata o con schiuma resistente all'alcool.
- **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.
- **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**
- **Mezzi protettivi specifici:** Indossare il respiratore.

### **SEZIONE 6: Misure in caso di rilascio accidentale**

- **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza**  
Indossare equipaggiamento protettivo. Allontanare le persone non equipaggiate.
- **6.2 Precauzioni ambientali:**  
Diluire abbondantemente con acqua.  
Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.
- **6.3 Metodi e materiali per il contenimento e per la bonifica:**  
Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).  
Utilizzare mezzi di neutralizzazione.  
Smaltimento del materiale contaminato conformemente al punto 13.  
Provvedere ad una sufficiente areazione.
- **6.4 Riferimento ad altre sezioni**  
Per informazioni relative ad un manipolazione sicura, vedere capitolo 7.  
Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.  
Per informazioni relative allo smaltimento vedere Capitolo 13.

### **SEZIONE 7: Manipolazione e immagazzinamento**

- **7.1 Precauzioni per la manipolazione sicura**  
Accurata ventilazione/aspirazione nei luoghi di lavoro.  
Aprire e manipolare i recipienti con cautela.  
Evitare la formazione di aerosol.
- **Indicazioni in caso di incendio ed esplosione:**  
Tenere lontano da fonti di calore, non fumare.  
Proteggere dal calore.  
Adottare provvedimenti contro cariche elettrostatiche.  
Tener pronto il respiratore.
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** Non sono richiesti requisiti particolari.
- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:**  
Mantenere i recipienti ermeticamente chiusi.  
Proteggere dal calore e dai raggi diretti del sole.
- **7.3 Usi finali particolari** Non sono disponibili altre informazioni.

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### SEZIONE 8: Controllo dell'esposizione/protezione individuale

- **8.1 Parametri di controllo**
- **Ulteriori indicazioni sulla struttura di impianti tecnici:** Nessun dato ulteriore, vedere punto 7.

· **Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:**

#### 50-00-0 formaldeide

TWA Limite Ceiling: 0,37 mg/m<sup>3</sup>, 0,3 ppm  
sen, A2

#### 64-19-7 acido acetico

TWA Valore a breve termine: 37 mg/m<sup>3</sup>, 15 ppm  
Valore a lungo termine: 25 mg/m<sup>3</sup>, 10 ppm  
VL Valore a breve termine: 50 mg/m<sup>3</sup>, 20 ppm  
Valore a lungo termine: 25 mg/m<sup>3</sup>, 10 ppm

#### 67-56-1 metanolo

TWA Valore a breve termine: 328 mg/m<sup>3</sup>, 250 ppm  
Valore a lungo termine: 262 mg/m<sup>3</sup>, 200 ppm  
Cute, IBE  
VL Valore a lungo termine: 260 mg/m<sup>3</sup>, 200 ppm  
Cute

#### 88-89-1 2,4,6-trinitrofenolo

TWA Valore a lungo termine: 0,1 mg/m<sup>3</sup>

· **Componenti con valori limite biologici:**

#### 67-56-1 metanolo

IBE 15 mg/l  
Campioni: urine  
Momento del prelievo: a fine turno  
Indicatore biologico: metanolo

· **Ulteriori indicazioni:** Le liste valide alla data di compilazione sono state usate come base.

#### · 8.2 Controlli dell'esposizione

· **Mezzi protettivi individuali:**

· **Norme generali protettive e di igiene del lavoro:**

- Tenere lontano da cibo, bevande e foraggi.
- Togliere immediatamente gli abiti contaminati.
- Lavarsi le mani prima dell'intervallo o a lavoro terminato.
- Custodire separatamente l'equipaggiamento protettivo.
- Evitare il contatto con gli occhi.
- Evitare il contatto con gli occhi e la pelle.

· **Maschera protettiva:**

Nelle esposizioni brevi e minime utilizzare la maschera; nelle esposizioni più intense e durature indossare l'autorespiratore.

· **Guanti protettivi:**



Guanti protettivi

Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione.

A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche.

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Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.

· **Materiale dei guanti**

La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro. Poiché il prodotto rappresenta una formulazione di più sostanze, la stabilità dei materiali dei guanti non è calcolabile in anticipo e deve essere testata prima dell'impiego

· **Tempo di permeazione del materiale dei guanti**

Richiedere dal fornitore dei guanti il tempo di passaggio preciso il quale deve essere rispettato.

· **Occhiali protettivi:**



Occhiali protettivi a tenuta

### SEZIONE 9: Proprietà fisiche e chimiche

· **9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali**

· **Indicazioni generali**

· **Aspetto:**

**Forma:** Liquido

**Colore:** Giallo

· **Odore:** Pungente

· **Soglia olfattiva:** Non definito.

· **valori di pH a 20 °C:** 1,2-1,6

· **Cambiamento di stato**

**Punto di fusione/punto di congelamento:** Non definito.

**Punto di ebollizione iniziale e intervallo di ebollizione:** 98 °C

· **Punto di infiammabilità:** 40 °C

· **Infiammabilità (solidi, gas):** Non applicabile.

· **Temperatura di accensione:** 300 °C

· **Temperatura di decomposizione:** Non definito.

· **Temperatura di autoaccensione:** Prodotto non autoinfiammabile.

· **Proprietà esplosive:** Esplosivo a contatto o senza contatto con l'aria.

· **Limiti di infiammabilità:**

**Inferiore:** Non definito.

**Superiore:** Non definito.

· **Tensione di vapore a 20 °C:** 23 hPa

· **Densità a 20 °C:** 1,11 g/cm<sup>3</sup>

· **Densità relativa** Non definito.

· **Densità di vapore:** Non definito.

· **Velocità di evaporazione** Non definito.

· **Solubilità in/Miscibilità con acqua:**

Completamente miscibile.

· **Coefficiente di ripartizione: n-ottanolo/acqua:** Non definito.

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|                                 |  |
|---------------------------------|--|
| · <b>Viscosità:</b>             |  |
| <b>Dinamica:</b>                | Non definito.                            |
| <b>Cinematica:</b>              | Non definito.                            |
| · <b>Tenore del solvente:</b>   |  |
| <b>Solventi organici:</b>       | 27,7 %                                   |
| <b>Acqua:</b>                   | 69,4 %                                   |
| <b>VOC (CE)</b>                 | 27,65 %                                  |
| · <b>Contenuto solido:</b>      | 1,0 %                                    |
| · <b>9.2 Altre informazioni</b> | Non sono disponibili altre informazioni. |

### SEZIONE 10: Stabilità e reattività

- **10.1 Reattività** Non sono disponibili altre informazioni.
- **10.2 Stabilità chimica**
- **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.
- **10.3 Possibilità di reazioni pericolose** Non sono note reazioni pericolose.
- **10.4 Condizioni da evitare** Non sono disponibili altre informazioni.
- **10.5 Materiali incompatibili:** Non sono disponibili altre informazioni.
- **10.6 Prodotti di decomposizione pericolosi:** Non sono noti prodotti di decomposizione pericolosi.

### SEZIONE 11: Informazioni tossicologiche

#### · 11.1 Informazioni sugli effetti tossicologici

##### · Tossicità acuta

Nocivo se ingerito o a contatto con la pelle.  
Tossico se inalato.

##### · Valori LD/LC50 rilevanti per la classificazione:

###### 50-00-0 formaldeide

|       |      |                  |
|-------|------|------------------|
| Orale | LD50 | >200 mg/kg (rat) |
|-------|------|------------------|

###### 67-56-1 metanolo

|         |      |                       |
|---------|------|-----------------------|
| Orale   | LD50 | 5.628 mg/kg (rat)     |
| Cutaneo | LD50 | 15.800 mg/kg (rabbit) |

##### · Irritabilità primaria:

##### · Corrosione/irritazione cutanea

Provoca gravi ustioni cutanee e gravi lesioni oculari.

##### · Lesioni oculari gravi/irritazioni oculari gravi

Provoca gravi lesioni oculari.

##### · Sensibilizzazione respiratoria o cutanea

Può provocare una reazione allergica cutanea.

##### · Ulteriori dati tossicologici:

##### · Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)

##### · Mutagenicità delle cellule germinali

Sospettato di provocare alterazioni genetiche.

##### · Cancerogenicità

Può provocare il cancro.

##### · Tossicità per la riproduzione

Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

##### · Tossicità specifica per organi bersaglio (STOT) - esposizione singola

Può provocare danni al sistema nervoso centrale e gli organi visivi.

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*Può irritare le vie respiratorie.*

- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**  
*Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.*
- **Pericolo in caso di aspirazione** *Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.*

**SEZIONE 12: Informazioni ecologiche**

- **12.1 Tossicità**
- **Tossicità acquatica:** *Non sono disponibili altre informazioni.*
- **12.2 Persistenza e degradabilità** *Non sono disponibili altre informazioni.*
- **12.3 Potenziale di bioaccumulo** *Non sono disponibili altre informazioni.*
- **12.4 Mobilità nel suolo** *Non sono disponibili altre informazioni.*
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**  
*Pericolosità per le acque classe 2 (D) (Autoclassificazione): pericoloso*  
*Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature.*  
*Non immettere il prodotto non diluito o non neutralizzato nelle acque di scarico e nei canali di raccolta.*  
*Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di piccole quantità di prodotto.*  
*Dilavare grandi quantità nella fognatura o in corpi d'acqua può risultare in un abbassamento del valore pH. Un basso valore pH danneggia gli organismi acquatici. Nella diluizione della concentrazione d'uso si alza il valore pH notevolmente, cosicché dopo l'uso del prodotto le acque di scarico che raggiungono la fognatura sono soltanto poco pericolose per l'acqua.*
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** *Non applicabile.*
- **vPvB:** *Non applicabile.*
- **12.6 Altri effetti avversi** *Non sono disponibili altre informazioni.*

**SEZIONE 13: Considerazioni sullo smaltimento**

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** *Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.*
- **Imballaggi non puliti:**
- **Consigli:** *Smaltimento in conformità con le disposizioni amministrative.*
- **Detergente consigliato:** *Acqua eventualmente con l'aggiunta di detersivi.*

**SEZIONE 14: Informazioni sul trasporto**

- |   |  |
|---|--|
| · <b>14.1 Numero ONU</b>                  |  |
| · <b>ADR, IMDG, IATA</b>                  | UN3265   |
| · <b>14.2 Nome di spedizione dell'ONU</b> |  |
| · <b>ADR</b>                              | 3265 LIQUIDO ORGANICO CORROSIVO, ACIDO, N.A.S.<br>(METANOLO, ACIDO ACETICO GLACIALE) |
| · <b>IMDG, IATA</b>                       | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br>(METHANOL, ACETIC ACID, GLACIAL)        |

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· **14.3 Classi di pericolo connesso al trasporto**· **ADR, IMDG, IATA**

· **Classe** 8 Materie corrosive  
 · **Etichetta** 8

· **14.4 Gruppo di imballaggio**· **ADR, IMDG, IATA** III· **14.5 Pericoli per l'ambiente:** Non applicabile.· **14.6 Precauzioni speciali per gli utilizzatori** *Attenzione: Materie corrosive*· **N° identificazione pericolo (Numero Kemler):** 88· **Numero EMS:** F-A,S-B· **Segregation groups** Acids· **Stowage Category** B· **Stowage Code** SW2 Clear of living quarters.· **Segregation Code** SG36 Stow "separated from" SGG18-alkalis.

SG49 Stow "separated from" SGG6-cyanides

· **14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC**

Non applicabile.

· **Trasporto/ulteriori indicazioni:**· **ADR**· **Quantità limitate (LQ)** 0· **Quantità esenti (EQ)** Codice: E0

Vietato al trasporto in quantità esente

· **Categoria di trasporto** I· **Codice di restrizione in galleria** E· **IMDG**· **Limited quantities (LQ)** 0· **Excepted quantities (EQ)** Code: E0

Not permitted as Excepted Quantity

· **UN "Model Regulation":**

UN 3265 LIQUIDO ORGANICO CORROSIVO, ACIDO, N.A.S. (METANOLO, ACIDO ACETICO GLACIALE), 8, III

**SEZIONE 15: Informazioni sulla regolamentazione**· **15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**· **Direttiva 2012/18/UE**· **Sostanze pericolose specificate - ALLEGATO I** Nessuno dei componenti è contenuto.· **Categoria Seveso**

P1a ESPLOSIVI

H2 TOSSICITÀ ACUTA

· **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 10 t**· **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 50 t**

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- **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3, 28, 69, 72

- **Direttiva 2011/65/UE sulla restrizione dell'uso di determinate sostanze pericolose nelle apparecchiature elettriche ed elettroniche - Allegato II**

Nessuno dei componenti è contenuto.

- **REGOLAMENTO (UE) 2019/1148**

- **Allegato I - PRECURSORI DI ESPLOSIVI SOGGETTI A RESTRIZIONI (Valore limite superiore ai fini della concessione di licenze a norma dell'articolo 5, paragrafo 3)**

Nessuno dei componenti è contenuto.

- **Allegato II - PRECURSORI DI ESPLOSIVI SOGGETTI A SEGNALAZIONE**

Nessuno dei componenti è contenuto.

- **Regolamento (CE) n. 273/2004 relativo ai precursori di droghe**

Nessuno dei componenti è contenuto.

- **Regolamento (CE) N. 111/2005 recante norme per il controllo del commercio dei precursori di droghe tra la Comunità e i paesi terzi**

Nessuno dei componenti è contenuto.

- **Disposizioni nazionali:**

- **Indicazioni relative alla limitazione delle attività lavorative:**

Il personale non deve essere esposto alle sostanze cancerogene contenute in questo preparato L'autorità può ammettere nei singoli casi delle eccezioni.

- **Istruzione tecnica aria:**

| Classe | quota in % |
|--------|------------|
| NC     | 27,7       |

- **Ulteriori disposizioni, limitazioni e decreti proibitivi**

- **Sostanze estremamente preoccupanti (SVHC) ai sensi della regolamento REACH, articolo 57**

67-56-I metanolo

- **15.2 Valutazione della sicurezza chimica:** Una valutazione della sicurezza chimica non è stata effettuata.

## SEZIONE 16: Altre informazioni

I dati sono riportati sulla base delle nostre conoscenze attuali, non rappresentano tuttavia alcuna garanzia delle caratteristiche del prodotto e non motivano alcun rapporto giuridico contrattuale.

- **Frasei rilevanti**

H201 Esplosivo; pericolo di esplosione di massa.

H225 Liquido e vapori facilmente infiammabili.

H226 Liquido e vapori infiammabili.

H301 Tossico se ingerito.

H302 Nocivo se ingerito.

H311 Tossico per contatto con la pelle.

H312 Nocivo per contatto con la pelle.

H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.

H317 Può provocare una reazione allergica cutanea.

H331 Tossico se inalato.

H332 Nocivo se inalato.

H341 Sospettato di provocare alterazioni genetiche.

H350 Può provocare il cancro.

H370 Provoca danni agli organi.

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**· Abbreviazioni e acronimi:**

*ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)*  
*IMDG: International Maritime Code for Dangerous Goods*  
*IATA: International Air Transport Association*  
*GHS: Globally Harmonised System of Classification and Labelling of Chemicals*  
*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)*  
*VOC: Volatile Organic Compounds (USA, EU)*  
*LC50: Lethal concentration, 50 percent*  
*LD50: Lethal dose, 50 percent*  
*PBT: Persistent, Bioaccumulative and Toxic*  
*SVHC: Substances of Very High Concern*  
*vPvB: very Persistent and very Bioaccumulative*  
*Expl. 1.1: Esplosivi – Divisione 1.1*  
*Unst. Expl.: Esplosivi – Esplosivo instabile*  
*Flam. Liq. 2: Liquidi infiammabili – Categoria 2*  
*Flam. Liq. 3: Liquidi infiammabili – Categoria 3*  
*Acute Tox. 3: Tossicità acuta – Categoria 3*  
*Acute Tox. 4: Tossicità acuta – Categoria 4*  
*Skin Corr. 1A: Corrosione/irritazione della pelle – Categoria 1A*  
*Skin Corr. 1B: Corrosione/irritazione della pelle – Categoria 1B*  
*Eye Dam. 1: Gravi lesioni oculari/irritazione oculare – Categoria 1*  
*Skin Sens. 1: Sensibilizzazione della pelle – Categoria 1*  
*Muta. 2: Mutagenicità sulle cellule germinali – Categoria 2*  
*Carc. 1B: Cancerogenicità – Categoria 1B*  
*STOT SE 1: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 1*  
*STOT SE 2: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 2*

IT

# 물질안전보건자료 GHS에 따라

인쇄일자: 2022.06.03

개정: 2022.06.03

## 1 화학제품과 회사에 관한 정보

- 제품 식별자
- 제품명: **BOUIN'S FLUID**
- 상품번호: 26386-01
- 해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도
- 제품의 권고 용도와 사용상의 제한: BOUIN'S FLUID
- 제품의 권고 용도와 사용상의 제한: 실험실 화학품
- 안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보
- 제조자/수입자/유통업자 정보:  
 Electron Microscopy Sciences  
 1560 Industry Road  
 USA-Hatfield, PA 19440  
 Tel: 215-412-8400 Fax: 215-412-8450  
 email: info@emsdiasum.com  
 www.emsdiasum.com
- Samchang Commercial Co., Ltd.  
 Yeo Eui Do  
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 Seoul, Korea  
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- Daedok Science, Co. Ltd.  
 34141 E10 Korea Advanced Institute of Science  
 Guseong-Dong, Yuseong-gu, Daejeon,  
 Korea  
 Phone: 82 42 710 2091  
 Fax: 82 42 367 0005  
 Website: www.labsmro.com
- 추가적인 정보 획득 가능: Product safety department
- 비상연락 전화번호:  
 ChemTrec 1-800-424-9300 Contract CCN7661  
 1-703-527-3887

## 2 유해성·위험성

- 순물질 또는 혼합물의 분류



폭발

폭발성 물질 – 불안정한 폭발성 물질 H200 불안정한 폭발성 물질



화염

인화성 액체 – 구분3 H226 인화성 액체 및 증기



두개골과 대퇴골

급성 독성 - 흡입 – 구분3 H331 흡입하면 유독함

(2 쪽에 계속)

# 물질안전보건자료 GHS에 따라

인쇄일자: 2022.06.03

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**제품명: BOUIN'S FLUID**

(1 쪽부터계속)



건강에 위험

생식세포 변이원성- 구분2                    H341 유전적인 결함을 일으킬 것으로 의심됨  
 발암성 - 구분1B                                H350 암을 일으킬 수 있음  
 특정표적장기 독성 - 1회 노출- 구분2    H371 중추 신경계 그리고 시각 기관 을 손상시킬 수 있다.



부식

피부 부식성/피부 자극성 - 구분 1        H314 피부에 심한 화상과 눈에 손상을 일으킴  
 심한 눈 손상성/눈 자극성 - 구분1        H318 눈에 심한 손상을 일으킴



급성 독성 - 경구 - 구분4                    H302 삼키면 유해함  
 급성 독성 - 경피 - 구분4                    H312 피부와 접촉하면 유해함  
 피부 과민성은 - 구분1                      H317 알레르기성 피부 반응을 일으킬 수 있음

· 라벨표기 요소

· **GHS 라벨 요소** 본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

· **GHS 그림문자**



GHS01    GHS02    GHS05    GHS06    GHS08

· 신호어 위험

· **상표상에명확히위험성이표시된성분:**

- 포르말린
- 메틸알코올
- Acetic Acid Glacial
- 피크릭 산

· **유해·위험문구**

- 불안정한 폭발성 물질
- 인화성 액체 및 증기
- 삼키거나 피부에 접촉하면 유해함.
- 흡입하면 유독함
- 피부에 심한 화상과 눈에 손상을 일으킴
- 알레르기성 피부 반응을 일으킬 수 있음
- 유전적인 결함을 일으킬 것으로 의심됨
- 암을 일으킬 수 있음
- 중추 신경계 그리고 시각 기관 을 손상시킬 수 있다.

· **예방조치문구**

- 피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으시오/샤워하십시오 .
- 눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으시오.
- 즉시 독성물질센터/병원 연락 필요.
- (라벨 참조) 처치를 하시오.
- 오염된 의복은 벗고 다시 사용 전 세척하십시오.

(3 쪽에계속)

# 물질안전보건자료 GHS에 따라

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(2 쪽부터 계속)

화염이 폭발성 물질에 도달하면 불을 끄려 하지 마시오.  
주변 지역의 사람을 대피시키시오.  
현지/지역/국가/국제 규정에 따라서 보관 하기  
밀봉하여 저장하시오.  
(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하시오.

- 기타 유해성
- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.

### 3 구성성분의 명칭 및 함유량

- 화학적 특성: 혼합물
- 설명: 무해한 첨가물이 함유된 아래에 열거된 물질로 만들어진 혼합물.

· 위험요소:

|         |   |           |
|---------|---|-----------|
| 50-00-0 | 포르말린<br>⚠ 급성 독성 - 경구 - 구분3, H301; ⚠ 급성 독성 - 경피 - 구분3, H311; ⚠ 급성 독성 - 흡입 - 구분3, H331; ⚠ 생식세포 변이원성 - 구분2, H341; ⚠ 발암성 - 구분1B, H350; ⚠ 피부 부식성/피부 자극성 - 구분1, H314; ⚠ 피부 과민성은 - 구분1, H317 | >10-≤25%  |
| 64-19-7 | Acetic Acid Glacial<br>⚠ 인화성 액체 - 구분3, H226; ⚠ 피부 부식성/피부 자극성 - 구분1, H314; ⚠ 급성 독성 - 경피 - 구분4, H312  | >2.5-≤10% |
| 67-56-1 | 메틸알코올<br>⚠ 인화성 액체 - 구분2, H225; ⚠ 특정표적장기 독성 - 1회 노출 - 구분1, H370; ⚠ 급성 독성 - 경구 - 구분4, H302; ⚠ 급성 독성 - 경피 - 구분4, H312; ⚠ 급성 독성 - 흡입 - 구분4, H332  | >2.5-≤10% |
| 88-89-1 | 피크릭 산<br>⚠ 폭발성 물질 - 등급 1.1, H201; ⚠ 급성 독성 - 경구 - 구분3, H301; ⚠ 급성 독성 - 경피 - 구분3, H311; ⚠ 급성 독성 - 흡입 - 구분3, H331  | >2.5-≤10% |

### 4 응급조치 요령

· 응급조치요령 내용

· 일반적 정보:

이 제품에 의해 오염된 의상은 즉시 제거 한다.  
중독 증상은 몇 시간이 지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48 시간동안은 의료진의 관찰을 받아야 한다.  
반드시 오염된 의상을 완전히 제거한 후에 호흡보호기를 떼어낸다.  
불규칙적인 호흡이나 호흡정지상태에서는 인공호흡을 실시한다.

· 흡입했을 때:

신선한 공기나 산소를 공급받고, 의료진의 도움을 구한다.  
환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.

· 피부에 접촉했을 때: 즉시물과비누로씻고잘행군다.

· 눈에 들어갔을 때: 흐르는 물에 눈을 몇분동안 씻어내고나서, 의사와 상담한다

· 먹었을 때:

즉시 의사의 도움을 구한다.  
물을 충분히 마시고 신선한 공기를 쐬다. 즉시 의사의 도움을 구한다.

· 기타 의사의 주의사항:

· 가장 중요한 급·만성 증상 및 영향 추가적인 정보가 존재하지 않습니다.

(4 쪽에 계속)

# 물질안전보건자료

## GHS에 따라

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· 즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후 추가적인 정보가 존재하지 않습니다.

### 5 폭발·화재시 대처방법

- 소화제
- 적절한 소화제: 이 산화 탄소, 진화용 석회 가루 또는 물 방사를 사용하고, 더 큰 화재는 물을 분사하거나 알코올이 함유된 거품으로 끈다.
- 본 화학물질이나 혼합물에서 발생하는 특별 유해성 추가적인 정보가 존재하지 않습니다.
- 소방관에 대한 권고사항
- 화재 진압 시 착용할 보호구 및 예방조치: 호흡보호장비설치.

### 6 누출 사고 시 대처방법

- 개인적 예방조치, 보호장비 및 응급처치 절차 안전장비 착용하고, 무방비의 사람은 격리시킨다.
- 환경 관련 예방조치: 많은 물로 희석시킨다.  
하수도망/해수면위의물/지하수로도달하지않게한다.
- 밀폐 및 정화 방법과 소재: 액체가 혼합된 물질 (모래, 규조토, 산성 결합물, 일반 결합물, 톱밥)에 흡입되도록 한다.  
중성제를사용한다.  
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.  
충분한 환기가 되도록 한다.
- 타 섹션 참조  
안전 관리에 대한 정보는 제7 장을 참고하십시오.  
개인 보호 장비에 대한 정보는 제8 장을 참고하십시오.  
쓰레기 처리에 대한 정보는 제13 장을 참고하십시오.

### 7 취급 및 저장방법

- 취급:
  - 안전 취급을 위한 예방조치  
작업장에서는통풍이잘되고/습기제거가잘되게주의한다.  
조심스럽게용기를 개봉하거나취급한다.  
연무질이형성되는것을피한다.
  - 화재 및 폭발 사고 예방대책에 관한 정보:  
발화 요소는 멀리 둔다-금연.  
열로부터보호한다.  
정전기의 충전으로부터 보호한다.  
호흡보호장비를항상비치한다.
  - 혼합위험성 등 안전 저장 조건
- 보관:
  - 안전한 저장 방법: 특별한 요구사항이 없음.
  - 하나의 공동 보관 시설에 대한 보관 관련 정보: 필요없음
  - 보관 조건에 관한 추가적인 정보:  
용기를새지않게밀폐한채보관한다.  
열이나직사광선으로부터보호한다.
- 구체적 최종 사용자 추가적인 정보가 존재하지 않습니다.

KR

(5 쪽에계속)

물질안전보건자료  
GHS에 따라

인쇄일자: 2022.06.03

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**8 노출방지 및 개인보호구**

·첨단시설 디자인에 대한 추가정보: 더 이상 의 자료는 없음. 항 목 7 을 참고하시 오.

·통제 변수

·화학물질의 노출기준, 생물학적 노출기준 등:

**50-00-0 포르말린**

|            |   |
|------------|---|
| OELV (KR)  | 장기간의값: 0.3 ppm<br>발암성1A,생식세포 변이원성2  |
| BOELV (EU) | 단기간의값: 0.74 mg/m <sup>3</sup> , 0.6 ppm<br>장기간의값: 0.37 (0.62)* mg/m <sup>3</sup> , 0.3 (0.5)* ppm<br>Skin sens;*health/funeral/embalming till 11/7/24 |
| PEL (US)   | 단기간의값: 2 ppm<br>장기간의값: 0.75 ppm<br>see 29 CFR 1910.1048(c)  |
| REL (US)   | 장기간의값: 0.016 ppm<br>최고노출기준: 0.1* ppm<br>*15-min; See Pocket Guide App. A  |
| TLV (US)   | 단기간의값: 0.3 ppm<br>장기간의값: 0.1 ppm<br>DSEN; RSEN, A1  |

**64-19-7 Acetic Acid Glacial**

|            |  |
|------------|--|
| OELV (KR)  | 단기간의값: 15 ppm<br>장기간의값: 10 ppm   |
| IOELV (EU) | 단기간의값: 50 mg/m <sup>3</sup> , 20 ppm<br>장기간의값: 25 mg/m <sup>3</sup> , 10 ppm |
| PEL (US)   | 장기간의값: 25 mg/m <sup>3</sup> , 10 ppm   |
| REL (US)   | 단기간의값: 37 mg/m <sup>3</sup> , 15 ppm<br>장기간의값: 25 mg/m <sup>3</sup> , 10 ppm |
| TLV (US)   | 단기간의값: 15 ppm<br>장기간의값: 10 ppm   |

**67-56-1 메틸알코올**

|            |  |
|------------|--|
| OELV (KR)  | 단기간의값: 250 ppm<br>장기간의값: 200 ppm<br>Skin   |
| IOELV (EU) | 장기간의값: 260 mg/m <sup>3</sup> , 200 ppm<br>Skin   |
| PEL (US)   | 장기간의값: 260 mg/m <sup>3</sup> , 200 ppm   |
| REL (US)   | 단기간의값: 325 mg/m <sup>3</sup> , 250 ppm<br>장기간의값: 260 mg/m <sup>3</sup> , 200 ppm<br>Skin |
| TLV (US)   | 단기간의값: 250 ppm<br>장기간의값: 200 ppm<br>Skin; BEI  |

**88-89-1 피크릭 산**

|           |                                      |
|-----------|--------------------------------------|
| OELV (KR) | 장기간의값: 0.1 mg/m <sup>3</sup><br>Skin |
|-----------|--------------------------------------|

(6 쪽에계속)

# 물질안전보건자료 GHS에 따라

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(5 쪽부터 계속)

|            |  |
|------------|--|
| IOELV (EU) | 장기간의값: 0.1 mg/m <sup>3</sup>   |
| PEL (US)   | 장기간의값: 0.1 mg/m <sup>3</sup><br>Skin                                 |
| REL (US)   | 단기간의값: 0.3 mg/m <sup>3</sup><br>장기간의값: 0.1 mg/m <sup>3</sup><br>Skin |
| TLV (US)   | 장기간의값: 0.1 mg/m <sup>3</sup>   |

· 생물학적 허용값을 갖는 원료:

**67-56-1 메틸알코올**

|          |   |
|----------|---|
| BEI (US) | 15 mg/L<br>Medium: urine<br>Time: end of shift<br>Parameter: Methanol (background, nonspecific) |
|----------|---|

· 추가 정보: 제조 할 당시에 유효 한 목록을 기초로 사용했다.

· 노출 통제

· 개인 보호구

· 일반적보호조치및위생조치:

· 식료품, 음료수와 사료로부터 멀리 떨어져 놓는다.

· 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.

· 휴식 전 이 나 작업이 끝날때마다 손을 씻는다.

· 방호복은 따로 보관한다.

· 눈과의 접촉을 피한다.

· 눈과 피부와의 접촉을 피한다.

· 호흡기 보호:

· 단 시간 또는 경미한 오염의 경우에는 호흡여과기를 사용한다. 심각한 또는 장기간 노출시에는 호흡보호장비를 사용한다.

· 손 보호:



보호용 장갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.

테스트를하지않았기때문에 제품 / 조제 / 화학혼합물에 적합한 장갑재질에 대한 추천이 없다.

투과 시간, 침투율과저하를고려해서 장갑 재료를 선택한다.

· 장갑의재료

· 적합한장갑의선택은재질차이뿐아니라품질기준의차이도고려하여이루어져야하고제조업종에따라서도다르게선정되어야한다 .  
· 제품은다양한재료로부터의조제로이루어지는것이기때문에 , 장갑재질의안정성은사전에예측되어질수있는것이아니고 ,  
· 반드시사용전에 (그안전성이) 체크되어야한다.

· 장갑재료의 투과 시간 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

· 눈 보호:



꼭조이는보안경

KR

(7 쪽에 계속)



# 물질안전보건자료 GHS에 따라

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**제품명: BOUIN'S FLUID**

(6 쪽부터계속)

## 9 물리화학적 특성

|                         |                        |
|-------------------------|------------------------|
| · 기본 물리 및 화학적 특성에 대한 정보 |                        |
| · 일반정보                  |                        |
| · 외형                    |                        |
| · 물리적 상태:               | 액체                     |
| · 색:                    | 노랑                     |
| · 냄새:                   | 찌르는듯한                  |
| · 후각역치                  | 알맞지않다.                 |
| · pH 의경우 20 °C:         | 1.2-1.6                |
| · 상태변화                  |                        |
| · 녹는점/어는점:              | 맞지않는                   |
| · 초기 끓는점과 끓는점 범위:       | 98 °C                  |
| · 인화점:                  | 40 °C                  |
| · 인화성(고체, 기체):          | 해당사항 없음.               |
| · 점화온도:                 | 300 °C                 |
| · 분해 온도:                | 알맞지않다.                 |
| · 자기점화:                 | 이제품은자연발화성이없다.          |
| · 폭발위험:                 | 공기가있던없던폭발가능성이있는        |
| · 인화 또는 폭발 범위의 상한/하한    |                        |
| · 아래로:                  | 알맞지않다.                 |
| · 위로:                   | 알맞지않다.                 |
| · 증기압 의경우 20 °C:        | 23 hPa                 |
| · 밀도 의경우 20 °C:         | 1.11 g/cm <sup>3</sup> |
| · 비중:                   | 알맞지않다.                 |
| · 증기밀도:                 | 알맞지않다.                 |
| · 증발 속도:                | 알맞지않다.                 |
| · 용해도:                  |                        |
| · 물:                    | 완전히혼합할수있는              |
| · n 옥탄올/물 분배계수:         | 알맞지않다.                 |
| · 점도:                   |                        |
| · 역학성:                  | 알맞지않다.                 |
| · 동점성:                  | 알맞지않다.                 |
| · 용매내용물                 |                        |
| · 유기용매:                 | 27.7 %                 |
| · 물:                    | 69.4 %                 |
| · VOC (EU)              | 27.65 %                |
| · 고체의 함량:               | 1.0 %                  |
| · 기타 정보                 | 추가적인 정보가 존재하지 않습니다.    |

## 10 안정성 및 반응성

· 반응성 추가적인 정보가 존재하지 않습니다.

(8 쪽에계속)

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- 화학적 안정성
- 화학적 안정성 및 유해 반응의 가능성 / 피해야 할 조건: 규정에따라서사용할경우해체는없다
- 유해반응 가능성 위험한반응으로는알려지지않았다.
- 피해야 할 조건 추가적인 정보가 존재하지 않습니다.
- 혼합 금지 물질: 추가적인 정보가 존재하지 않습니다.
- 유해분해물질: 위험성있는분해물들은알려지지않았다.

## 11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:

· LD/LC50-수치에 따른 분류:

**50-00-0 포르말린**

|     |      |                  |
|-----|------|------------------|
| 구강의 | LD50 | >200 mg/kg (rat) |
|-----|------|------------------|

**67-56-1 메틸알코올**

|     |      |                   |
|-----|------|-------------------|
| 구강의 | LD50 | 5,628 mg/kg (rat) |
|-----|------|-------------------|

|     |      |                       |
|-----|------|-----------------------|
| 피부의 | LD50 | 15,800 mg/kg (rabbit) |
|-----|------|-----------------------|

- 일차적 자극 효과:
- 피부 부식성 또는 자극성: 피부와점막에강한부식작용.
- 심한 눈 손상 또는 자극성:
  - 강한부식작용
  - 심각한안구상처의위험이있는강한자극
- 감각화: 피부접촉을통하여감각화가능성이있다.
- 추가적인 독성에 관한 정보:
  - 이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전준비에대하여제시하고있다.
  - 독성의
  - 건강에해로운
  - 부식작용의
  - 자극적인
  - 삼킬경우식도나위등의내장기관벽에상처를주는위험과마찬가지로입주변이나구강에강한부식작용을한다
  - 암을유발하는
- 다음 종류의 잠재적인 효과에 대한 정보
- CMR-효과 (암 유발, 돌연변이성 그리고 생식 독성)
  - 생식세포 변이원성- 구분2, 발암성 - 구분1B

## 12 환경에 미치는 영향

- 독성
- 수생독성: 추가적인 정보가 존재하지 않습니다.
- 지속성 및 분해성 추가적인 정보가 존재하지 않습니다.
- 환경 시스템에서의 행동:
- 생물농축 잠재성 추가적인 정보가 존재하지 않습니다.
- 토양내 이동성 추가적인 정보가 존재하지 않습니다.
- 추가적인 생태학 정보:
- 일반 특징:
  - 수질오염등급 2 (자체등급분류): 수질오염이된
  - 지하수나, 하천으로또는하수도망에도달하지않게한다.
  - 희석시키지않은채또는중화시키지않은채하수도나배수로에도달하지않게해야한다.

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지하수로경미한양이유입되었을경우엔이미식수오염상태이다  
 많은양을하수도관이나하천으로방류하게되면, p H-수치는낮아집니다. 낮은 p H-수치는물속의유기체를손상시킵니다.  
 사용농축액을희석시키면 p H - 수치는현저하게높아지게됩니다.  
 그래서제품을사용한후에하수도관에도달되는폐수는물에끼치는위험성이약해지게됩니다.

- **PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과**
- **PBT(잔류성, 생물농축성, 독성 물질):** 해당사항 없음.
- **vPvB(고 잔류성, 고 생물농축성 물질):** 해당사항 없음.
- **기타 부작용** 추가적인 정보가 존재하지 않습니다.

### 13 폐기시 주의사항

- **폐기물 처리 방법**
- **권고:** 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.
- **비위생적 포장:**
- **권고:** 당국의지침에입각한쓰레기처리.
- **추 천 세정제:** 경우에따라서세제가첨가된물

### 14 운송에 필요한 정보

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· 유엔 번호</li> <li>· ADR, IMDG, IATA</li> </ul>   | UN3265  |
| <ul style="list-style-type: none"> <li>· UN 적정 선정명</li> <li>· ADR</li> <li>· IMDG, IATA</li> </ul>   | 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)<br>CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)         |
| <ul style="list-style-type: none"> <li>· 교통 위험 클래스</li> <li>· ADR, IMDG, IATA</li> </ul>   |    |
| <ul style="list-style-type: none"> <li>· 등급</li> <li>· 위험물 라벨</li> </ul>   | 8 부식작용하는물질<br>8   |
| <ul style="list-style-type: none"> <li>· 용기등급</li> <li>· ADR, IMDG, IATA</li> </ul>  | III   |
| <ul style="list-style-type: none"> <li>· 환경적 유해물질:</li> </ul>  | 해당사항 없음.  |
| <ul style="list-style-type: none"> <li>· 이용자 특별 예방조치</li> <li>· 위험 코드:</li> <li>· EMS-번호:</li> <li>· Segregation groups</li> <li>· Stowage Category</li> <li>· Stowage Code</li> <li>· Segregation Code</li> </ul> | 경고: 부식작용하는물질<br>88<br>F-A,S-B<br>Acids<br>B<br>SW2 Clear of living quarters.<br>SG36 Stow "separated from" SGG18-alkalis.<br>SG49 Stow "separated from" SGG6-cyanides |

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|   |  |   |
|---|--|---|
| · MARPOL73/78(선박으로부터의 해양오염방지협약)<br>부속서2 및 IBC Code(국제선적화물코드)에 따른<br>벌크(bulk) 운송 |  | 해당사항 없음.  |
| · 운 송/추가 정보:  |  |   |
| · ADR   |  |   |
| · 한정 수량 (LQ)  |  | 0   |
| · Excepted quantities (EQ)  |  | Code: E0<br>Not permitted as Excepted Quantity  |
| · 운송 구분   |  | 1   |
| · 터널 제한 코드  |  | E   |
| · IMDG  |  |   |
| · Limited quantities (LQ)   |  | 0   |
| · Excepted quantities (EQ)  |  | Code: E0<br>Not permitted as Excepted Quantity  |
| · UN "모범 규제":   |  | UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC,<br>N.O.S. (METHANOL, ACETIC ACID, GLACIAL), 8, III |

15 법적 규제현황

|                                       |                     |          |
|---------------------------------------|---------------------|----------|
| · 산업안전보건법에 의한 규제:                     |                     |          |
| · 제조 등 금지물질:                          |                     |          |
| 어떠한내용물도목록화되어있지않다                      |                     |          |
| · 허가대상물질:                             |                     |          |
| 어떠한내용물도목록화되어있지않다                      |                     |          |
| · 관리대상유해물질:                           |                     |          |
| 50-00-0                               | 포르말린                |          |
| 64-19-7                               | Acetic Acid Glacial |          |
| 67-56-1                               | 메틸알코올               |          |
| · 관리대상 유해물질의 종류 유기화합물: 118            |                     |          |
| · 작업환경측정 대상 유해인자                      |                     |          |
| 50-00-0                               | 포르말린                | 1A105    |
| 64-19-7                               | Acetic Acid Glacial | 1C15     |
| 67-56-1                               | 메틸알코올               | 1A28     |
| · 특수건강진단 대상 유해인자                      |                     |          |
| 50-00-0                               | 포르말린                | 1A98     |
| 67-56-1                               | 메틸알코올               | 1A31     |
| · 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률 |                     |          |
| · Korean Existing Chemical Inventory  |                     |          |
| 7732-18-5                             | 물                   | KE-35400 |
| 50-00-0                               | 포르말린                | KE-17074 |
| 64-19-7                               | Acetic Acid Glacial | KE-00013 |
| 67-56-1                               | 메틸알코올               | KE-23193 |
| 88-89-1                               | 피크릭 산               | KE-34715 |

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· 화학물질관리법

· 사고대비물질

50-00-0 포르말린

67-56-1 메틸알코올

· 금지물질

어떠한내용물도목록화되어있지않다

· 제한물질

50-00-0 포르말린

· 유독물질

50-00-0 포르말린

67-56-1 메틸알코올

88-89-1 피크릭 산

· 허가물질

50-00-0 포르말린

67-56-1 메틸알코올

88-89-1 피크릭 산

· 위험물안전관리법 (위험물 및 지정수량) 제 5: 200 킬로그램, 제 4: 400 리터

· 등록 또는 신고 면제대상 화학물질

7732-18-5 물

· '21년까지 등록하여야 할 암, 돌연변이, 생식능력 이상을 일으키거나 일으킬 우려가 있는 기존화학물질

어떠한내용물도목록화되어있지않다

· 중점관리물질의 지정

· 표1 중점관리물질(제2조 관련)

50-00-0 포르말린

· 표2 중점관리물질(제2조 관련)

어떠한내용물도목록화되어있지않다

· GHS 라벨 요소 본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.

· GHS 그림문자



GHS01 GHS02 GHS05 GHS06 GHS08

· 신호어 위험

· 상표상에 명확히 위험성이 표시된 성분:

- 포르말린
- 메틸알코올
- Acetic Acid Glacial
- 피크릭 산

· 유해·위험문구

- 불안정한 폭발성 물질
- 인화성 액체 및 증기
- 삼키거나 피부에 접촉하면 유해함.
- 흡입하면 유독함
- 피부에 심한 화상과 눈에 손상을 일으킴
- 알레르기성 피부 반응을 일으킬 수 있음

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유전적인 결함을 일으킬 것으로 의심됨

암을 일으킬 수 있음

중추 신경계 그리고 시각 기관 을 손상시킬 수 있다.

**· 예방조치문구**

피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으시오/샤워하십시오 .

눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으시오.

즉시 독성물질센터/병원 연락 필요.

(라벨 참조) 처치를 하시오.

오염된 의복은 벗고 다시 사용 전 세척하십시오.

화염이 폭발성 물질에 도달하면 불을 끄려 하지 마시오.

주변 지역의 사람을 대피시키시오.

현지/지역/국가/국제 규정에 따라서 보관 하기

밀봉하여 저장하십시오.

(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

**· 국내규정:**

**· 사용제한에 대한 정보:**

노동자들은이러한예방준비하에암을유발시키는성분을함유한위험물을버리지말아야한다

개별적인경우에관청은예외를허가할수있다.

**· 화학물질 안전성 평가:** 화학물질 안전성 평가가 수행되지 않음

## 16 그 밖의 참고사항

이 보고는 우리 지식에 대한 오늘날의 상태에 대하여 평가하고 있다

하지만 이 보고서는 생산 특성에 관한 보증은 기술하지 않았으며 계약적인 법률 관계에 기반을 두고 있지 않다

**· 담당자:**

**· 최초 작성일자:** 2022.06.03

**· 개정 횟수 및 최종 개정일자:** 1 / 2022.06.03

**· 약어와 두문자어:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

# 安全資料表

## 根據 危害性化學品標示及通識規則

打印日期 2022.06.03

在 2022.06.03 審核

### 1 化學品與廠商資料

- 產品識別者
- 化學品中文(英文)名稱, 化學品俗名或商品名: **BOUIN'S FLUID**
- 商品編號: 26386-01
- 相應純物質或者混合物的相關下位用途及禁止用途 無相關詳細資料。
- 物質或混合物的用途 實驗室化學物
- 安全技術說明書內供應商詳細信息
- 企業名稱:  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- 可獲取更多資料的部門: Product safety department
- 緊急聯繫電話號碼:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2 危害辨識資料

#### · 緊急情況概述:

黃色, 液體, 不穩定爆炸物。 易燃液體和蒸氣。 吞食或皮膚接觸有害。 吸入有毒。  
造成嚴重皮膚灼傷和眼睛損傷。 可能造成皮膚過敏。 懷疑造成遺傳性缺陷。 可能致癌。 可能對造成損害  
中樞神經系統和 視覺器官。

#### · GHS危險性類別



爆炸的炸彈

不穩定爆炸物

H200 不穩定爆炸物



火焰

易燃液體 第3級

H226 易燃液體和蒸氣



骷髏和交叉骨

急毒性物質(吸入) 第3級

H331 吸入有毒



健康危險

生殖細胞致突變性物質 第2級

H341 懷疑造成遺傳性缺陷

致癌物質 第1B級

H350 可能致癌

特定標的器官系統毒性物質(單一暴露) 第2級 H371 可能對造成損害 中樞神經系統和 視覺器官



腐蝕

(在 2 頁繼續)

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(在 1 頁繼續)

腐蝕/刺激皮膚物質 第1A級  
嚴重損傷/刺激眼睛物質 第1級

H314 造成嚴重皮膚灼傷和眼睛損傷  
H318 造成嚴重眼睛損傷



急毒性物質(吞食) 第4級  
急毒性物質(皮膚) 第4級  
皮膚過敏物質 第1級

H302 吞食有害  
H312 皮膚接觸有害  
H317 可能造成皮膚過敏

### 標籤要素

· **GHS標籤元素** 本產品根據化學物質分類及標記全球協調制度(GHS)進行了分類及標記。

### 象形圖



GHS01 GHS02 GHS05 GHS06 GHS08

· **警示詞** 危險

### 標籤上辨別危險的成份:

福爾馬林溶液  
木精  
醋酸溶液  
苦味酸

### 危險性說明

不穩定爆炸物  
易燃液體和蒸氣  
吞食或皮膚接觸有害。  
吸入有毒  
造成嚴重皮膚灼傷和眼睛損傷  
可能造成皮膚過敏  
懷疑造成遺傳性缺陷  
可能致癌  
可能對造成損害 中樞神經系統和 視覺器官

### 防範說明

### 事故響應

如皮膚(或頭髮)沾染:立即移除或脫掉所有沾染的衣物。用水沖洗/淋洗皮膚。  
如進入眼睛:用水小心清洗數分鐘。如帶隱形眼鏡且可方便地取出,取出隱形眼鏡。繼續清洗。  
立即呼叫解毒中心/醫生  
專項處置(參見本標示)。  
脫掉沾染的衣服,清洗後方可重新使用  
火燒到爆炸物時切勿滅火。  
撤離現場。

### 安全貯存

按照地方/區域/國家/國際法規儲存。  
加鎖存放。

### 廢棄處置

按照地方/區域/國家/國際法規處理內容物之廢棄/容器。

### 其他有害性

· PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質) 評價結果  
· PBT(殘留性、生物濃縮性、毒性物質) 不適用的

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# 安全資料表

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· vPvB(高殘留性、高生物濃縮性物質): 不適用的

### 3 成分辨識資料

· 混合物

· 描述: 由以下含有無害添加劑的成分組成的混合物

· 危險的成分:

|         |  |           |
|---------|--|-----------|
| 50-00-0 | 福爾馬林溶液<br>⚠ 急毒性物質(吞食) 第3級, H301; 急毒性物質(皮膚) 第3級, H311; 急毒性物質(吸入) 第3級, H331; ⚠ 生殖細胞致突變性物質 第2級, H341; 致癌物質 第1B級, H350;<br>⚠ 腐蝕/刺激皮膚物質 第1B級, H314; ⚠ 皮膚過敏物質 第1級, H317;<br>易燃液體 第4級, H227 | >10-≤25%  |
| 64-19-7 | 醋酸溶液<br>⚠ 易燃液體 第3級, H226; ⚠ 腐蝕/刺激皮膚物質 第1A級, H314;<br>⚠ 急毒性物質(皮膚) 第4級, H312; 急毒性物質(吞食) 第5級, H303  | >2.5-≤10% |
| 67-56-1 | 木精<br>⚠ 易燃液體 第2級, H225; ⚠ 特定標的器官系統毒性物質(單一暴露) 第1級, H370;<br>⚠ 急毒性物質(吞食) 第4級, H302; 急毒性物質(皮膚) 第4級, H312; 急毒性物質(吸入) 第4級, H332   | >2.5-≤10% |
| 88-89-1 | 苦味酸<br>⚠ 爆炸物 第1.1級, H201; ⚠ 急毒性物質(吞食) 第3級, H301; 急毒性物質(皮膚) 第3級, H311; 急毒性物質(吸入) 第3級, H331  | >2.5-≤10% |

### 4 急救措施

· 應急措施要領

· 總說明:

馬上脫下染有該產品的衣服。

中毒的症狀可能會在幾個小時以後才出現;因此在發生事故之後起碼要有 48 小時的醫療觀察。

只在徹底地脫去了已被汙染的衣服之後才能移走呼吸儀器。

萬一出現了不規則的呼吸或呼吸的阻礙,請為病人提供人工呼吸。

· 吸入:

供給新鮮空氣或氧氣;叫醫生。

萬一病人不清醒時,請讓病人側躺以便移動。

· 皮膚接觸: 馬上用水和肥皂進行徹底的沖洗。

· 眼睛接觸: 張開眼睛在流水下沖洗數分鐘。然後諮詢醫生。

· 食入:

馬上召喚醫生。

喝大量的清水和提供新鮮的空氣。馬上召喚醫生。

· 給醫生的資料:

· 最重要的急慢性症狀及其影響 無相關詳細資料。

· 需要及時的醫療處理及特別處理的症狀 無相關詳細資料。

### 5 滅火措施

· 滅火方法

· 滅火的方法和滅火劑: 二氧化碳(CO<sub>2</sub>)、滅火粉末或灑水。使用灑水或抗酒精泡沫滅火劑撲滅較大的火種。

· 特別危險性 無相關詳細資料。

(在 4 頁繼續)

# 安全資料表

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- 特殊滅火方法
- 消防人員特殊的防護裝備: 口腔呼吸保護裝置.

## 6 洩漏處理方法

- 保護措施 帶上保護儀器. 讓未受到保護的人們遠離.
- 環境保護措施:
  - 用大量的水進行稀釋.
  - 切勿讓其進入下水道/水面或地下水.
- 密封及淨化方法和材料:
  - 吸收液體粘合原料 (沙粒、矽藻土、酸性粘合劑、通用粘合劑、鋸屑).
  - 使用中和劑.
  - 根據第 13 條條款棄置受汙染物.
  - 確保有足夠的通風裝置.
- 參照其他部分
  - 有關安全處理的資料請參閱第 7 節.
  - 有關個人保護裝備的資料請參閱第 8 節.
  - 有關棄置的資料請參閱第 13 節.

## 7 安全處置與儲存方法

- 操作處置
- 儲存
  - 確保工作間有良好的通風/排氣裝置.
  - 小心打開及處理貯藏器.
  - 防止氣溶膠的形成.
- 有關火災及防止爆炸的資料:
  - 遠離火源 一切勿吸煙.
  - 防熱.
  - 防靜電.
  - 提供呼吸保護裝置.
- 混合危險性等安全儲存條件
- 儲存:
  - 儲存庫和容器須要達到的要求: 沒有特別的要求.
  - 有關使用一個普通的儲存設施來儲存的資料: 不需要.
  - 有關儲存條件的更多資料:
    - 將容器密封.
    - 免受接觸熱力和直接受陽光照射.
    - 具體的最終用戶 無相關詳細資料。

## 8 暴露預防措施

- 工程控制方法: 沒有進一步數據;見第 7 項.
- 控制變數

· 在工作場需要監控的限值成分

50-00-0 福爾馬林溶液

PEL (TW) PC-TWA: 1.2 mg/m<sup>3</sup>, 1 ppm

OEL (CN) 上限值: 0.5 mg/m<sup>3</sup>  
敏, G1

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# 安全資料表

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**64-19-7 醋酸溶液**PEL (TW) PC-TWA: 25 mg/m<sup>3</sup>, 10 ppmOEL (CN) PC-STEL: 20 mg/m<sup>3</sup>  
PC-TWA: 10 mg/m<sup>3</sup>**67-56-1 木精**PEL (TW) PC-TWA: 262 mg/m<sup>3</sup>, 200 ppmOEL (CN) PC-STEL: 50 mg/m<sup>3</sup>  
PC-TWA: 25 mg/m<sup>3</sup>  
皮**88-89-1 苦味酸**PEL (TW) PC-TWA: 0.1 mg/m<sup>3</sup>OEL (CN) PC-TWA: 0.1 mg/m<sup>3</sup>· **額外的資料:** 制作期間有效的清單將作為基礎來使用。· **遺漏控制**· **個人防護設備:**· **一般保護和衛生措施:**

遠離食品、飲料和飼料。

立即除去所有的不潔的和被汙染的衣服。

在休息之前和工作完畢後請清洗雙手。

分開儲存保護性衣服。

避免和眼睛接觸。

避免和眼睛及皮膚接觸。

· **呼吸系統防護:**

如果會短暫接觸或在低汙染的情況下

請使用呼吸過濾裝置

如果會深入或較長時間接觸,請使用獨立的呼吸保護裝置。

· **手防護:**

保護手套

手套的物料必須是不滲透性的, 且能抵抗該產品/物質/添加劑。

基於缺乏測試, 對於產品/制劑/化學混合物, 並不會提供手套材料的建議

選擇手套材料時, 請注意材料的滲透時間, 滲濾率和降解參數

· **手套材料**

選擇合適的手套不單取決於材料, 亦取決於質量特征, 以及來自哪一間生產廠家,

因為該產品是由很多材料配制而成, 手套材料的抵抗力並不可預計, 所以, 必須在使用之前進行檢查

· **滲入手套材料的時間** 請向勞保手套生產廠家獲取準確的破裂時間並觀察實際的破裂時間· **眼睛防護:**

密封的護目鏡

TW

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# 安全資料表

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### 9 物理及化學性質

#### · 有關基本物理及化學特性的資訊

#### · 一般說明

#### · 外觀:

· 形狀: 液體

· 顏色: 黃色

· 氣味: 刺激性的

· 嗅覺閾限: 未決定.

· pH值 在 20 °C: 1.2-1.6

#### · 條件的更改

· 熔點: 未確定的

· 沸點/初沸點和沸程: 98 °C

· 閃點: 40 °C

· 可燃性 (固體、氣體): 不適用的

· 點火溫度: 300 °C

· 分解溫度: 未決定.

· 自燃溫度: 該產品是不自燃的

· 爆炸的危險性: 不論和空氣接觸與否都具有爆炸性.

#### · 爆炸極限:

· 較低: 未決定.

· 較高: 未決定.

· 蒸氣壓 在 20 °C: 23 hPa

· 密度 在 20 °C: 1.11 g/cm<sup>3</sup>

· 相對密度: 未決定.

· 蒸氣密度: 未決定.

· 蒸發速率: 未決定.

#### · 溶解性

· 水: 完全可拌和的

· n-辛醇/水分配係數: 未決定.

#### · 黏性:

· 動態: 未決定.

· 運動學的: 未決定.

#### · 溶劑成份:

· 有機溶劑: 27.7 %

· 水: 69.4 %

· 固體成份: 1.0 %

· 其他資訊: 無相關詳細資料。

### 10 安定性及反應性

· 反應性: 無相關詳細資料。

#### · 穩定性

· 熱分解/要避免的情況: 如果遵照規格使用則不會分解.

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(在 6 頁繼續)

- 有害反應可能性 未有已知的危險反應.
- 應避免的條件 無相關詳細資料.
- 不相容的物質: 無相關詳細資料.
- 危險的分解產物: 未知有危險的分解產品.

### 11 毒性資料

- 對毒性學影響的資訊
- 急性毒性:

- 與分類相關的 LD/ LC50 值:

#### 50-00-0 福爾馬林溶液

|    |      |                  |
|----|------|------------------|
| 口腔 | LD50 | >200 mg/kg (rat) |
|----|------|------------------|

#### 67-56-1 木精

|    |      |                   |
|----|------|-------------------|
| 口腔 | LD50 | 5,628 mg/kg (rat) |
|----|------|-------------------|

|    |      |                       |
|----|------|-----------------------|
| 皮膚 | LD50 | 15,800 mg/kg (rabbit) |
|----|------|-----------------------|

- 主要的刺激性影響:
- 皮膚: 在皮膚和粘膜上造成強烈的腐蝕性影響.
- 在眼睛上面:  
強烈的腐蝕性影響.  
強烈的刺激性和造成嚴重傷害眼睛的危險.
- 致敏作用: 通過皮膚接觸可能造成敏化作用.
- 更多毒物的資料:  
根據有關配制的歐盟分類指南的計算方法 (刊印在最新版本), 該產品顯示以下的危險:  
毒性的  
有害的  
腐蝕性的  
刺激性的  
吞咽該產品除了導致口部和喉嚨出現強烈的腐蝕性現象之外, 還有對食道和胃部造成穿孔的危險.  
致癌的.
- 對以下組別可能產生影響的資料:  
· CMR作用 (致癌、導致基因突變、對生殖系統有害)  
生殖細胞致突變性物質 第2級, 致癌物質 第1B級

### 12 生態資料

- 生態毒性
- 水生毒性: 無相關詳細資料.
- 持久性和降解性 無相關詳細資料.
- 環境系統習性:
- 潛在的生物累積性 無相關詳細資料.
- 土壤內移動性 無相關詳細資料.
- 額外的生態學資料:
- 總括注解:  
水危害級別 2 (德國規例) (通過名單進行自我評估): 對水是危害的  
不要讓該產品接觸地下水、水道或污水系統.  
不要讓未被稀釋或未被中和的產品接觸下水道或排水溝渠.  
即使是少量的產品滲入地下也會對飲用水造成危險.  
大量向河流和下水道排放, 可引起 pH 值的降低. 過低的 pH 值對水中的有機物有危害.  
在使用時進行濃度稀釋, 可大大提高 pH 值, 所以使用產品後可減少對水的危害.
- PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質) 評價結果
- PBT(殘留性、生物濃縮性、毒性物質) 不適用的

(在 8 頁繼續)

# 安全資料表

## 根據 危害性化學品標示及通識規則

打印日期 2022.06.03

在 2022.06.03 審核

化學品中文(英文)名稱, 化學品俗名或商品名: BOUIN'S FLUID


- vPvB(高殘留性、高生物濃縮性物質): 不適用的
- 其他副作用 無相關詳細資料。

(在 7 頁繼續)

### 13 廢棄處置方法

- 廢棄處置方法
- 建議: 不能將該產品和家居垃圾一起丟棄. 不要讓該產品接觸汗水系統.
- 受污染的容器和包裝:
- 建議: 必須根據官方的規章來丟棄.
- 建議的清洗劑: 如有必要請使用水及清潔劑進行清潔.

### 14 運送資料

|   |   |
|---|---|
| · 聯合國危險貨物編號(UN號)  | UN3265  |
| · ADR, IMDG, IATA   |   |
| · UN適當裝船名   | 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)       |
| · ADR   |   |
| · IMDG, IATA  | CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)            |
| · 運輸危險等級  |   |
| · ADR, IMDG, IATA   |   |
|  |   |
| · 級別  | 8 腐蝕性物質   |
| · 標籤  | 8   |
| · 包裝組別  |   |
| · ADR, IMDG, IATA   | III   |
| · 環境危害  | 不適用的  |
| · 用戶特別預防措施  | 警告: 腐蝕性物質   |
| · 危險編碼:   | 88  |
| · EMS 號碼:   | F-A,S-B   |
| · Segregation groups  | Acids   |
| · Stowage Category  | B   |
| · Stowage Code  | SW2 Clear of living quarters.   |
| · Segregation Code  | SG36 Stow "separated from" SGG18-alkalis.<br>SG49 Stow "separated from" SGG6-cyanides |
| · MARPOL73/78(針對船舶引起的海洋污染預防協約)附件書2及根據IBC Code(國際裝船貨物編碼)的大量運送                        | 不適用的  |

(在 9 頁繼續)

# 安全資料表

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打印日期 2022.06.03

在 2022.06.03 審核

化學品中文(英文)名稱, 化學品俗名或商品名: BOUIN'S FLUID

(在 8 頁繼續)

## · 運輸/額外的資料:

## · ADR

· Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

## · IMDG

· Limited quantities (LQ)

0

· Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

## · UN "標準規定":

UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANOL, ACETIC ACID, GLACIAL), 8, III

### 15 法規資料

· 對相應純物質或者混合物的安全、保健及環境法規/法律

· 優先管理化學品之指定及運作管理辦法

· 附表一-對於未滿十八歲及妊娠或分娩後未滿一年女性勞工具危害性之化學品

沒有列出成份

## · 第二條第二款第一目

50-00-0 福爾馬林溶液

## · 第二條第二款第二目

64-19-7 醋酸溶液

67-56-1 木精

· 新化學物質及既有化學物質資料登錄辦法 英

沒有列出成份

· 中國現有化學物質名錄

列出所有成分

· TCSCA

· 列管編號

50-00-0 福爾馬林溶液

66/01

· 毒性分類

50-00-0 福爾馬林溶液

2, 3

· 管制濃度(w/w%)

50-00-0 福爾馬林溶液

15

· 大量運作基準(公斤)

50-00-0 福爾馬林溶液

50

· 新化學物質及既有化學物質資料登錄辦法, 附表六

沒有列出成份

· TCSI - Taiwan Chemical Substance Inventory

列出所有成分

· GHS標籤元素 本產品根據化學物質分類及標記全球協調制度(GHS)進行了分類及標記。

(在 10 頁繼續)

# 安全資料表

## 根據 危害性化學品標示及通識規則

打印日期 2022.06.03

在 2022.06.03 審核

化學品中文(英文)名稱, 化學品俗名或商品名: BOUIN'S FLUID

(在 9 頁繼續)

**· 象形圖**

GHS01 GHS02 GHS05 GHS06 GHS08

**· 警示詞 危險****· 標籤上辨別危險的成份:**

福爾馬林溶液

木精

醋酸溶液

苦味酸

**· 危險性說明**

不穩定爆炸物

易燃液體和蒸氣

吞食或皮膚接觸有害。

吸入有毒

造成嚴重皮膚灼傷和眼睛損傷

可能造成皮膚過敏

懷疑造成遺傳性缺陷

可能致癌

可能對造成損害 中樞神經系統和 視覺器官

**· 防範說明****· 事故響應**

如皮膚(或頭髮)沾染:立即移除或脫掉所有沾染的衣物。用水沖洗/淋洗皮膚。

如進入眼睛:用水小心清洗數分鐘。如帶隱形眼鏡且可方便地取出,取出隱形眼鏡。繼續清洗。

立即呼叫解毒中心/醫生

專項處置(參見本標示)。

脫掉沾染的衣服,清洗後方可重新使用

火燒到爆炸物時切勿滅火。

撤離現場。

**· 安全貯存**

按照地方 / 區域 / 國家 / 國際法規儲存。

加鎖存放。

**· 廢棄處置**

按照地方/區域/國家/國際法規處理內容物之廢棄/容器。

**· 國家的規章:****· 有關使用限制的資料:** 禁止員工接觸在配制中含有致癌的物料。在某些情況中由當局作出例外的決定。**· 化學物質安全性評價:** 尚未進行化學物質安全性評價**16 其他資料**

該資料是基於我們目前的知識

然而,這並不構成對任何特定產品特性的擔保並且不建立一個法律上有效的合同關係。

**· 聯絡:****· 縮寫:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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安全資料表  
根據 危害性化學品標示及通識規則

打印日期 2022.06.03

在 2022.06.03 審核

化學品中文(英文)名稱, 化學品俗名或商品名: BOUIN'S FLUID

(在 10 頁繼續)

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: 持久性生物累積性有毒物質

vPvB: very Persistent and very Bioaccumulative

爆炸物 第1.1級: Explosives – Division 1.1

不穩定爆炸物: Explosives – Unstable explosive

易燃液體 第2級: Flammable liquids – Category 2

易燃液體 第3級: Flammable liquids – Category 3

易燃液體 第4級: Flammable liquids – Category 4

急毒性物質(吞食) 第3級: Acute toxicity – Category 3

急毒性物質(吞食) 第5級: Acute toxicity – Category 5

急毒性物質(皮膚) 第4級: Acute toxicity – Category 4

腐蝕/刺激皮膚物質 第1A級: Skin corrosion/irritation – Category 1A

腐蝕/刺激皮膚物質 第1B級: Skin corrosion/irritation – Category 1B

嚴重損傷/刺激眼睛物質 第1級: Serious eye damage/eye irritation – Category 1

皮膚過敏物質 第1級: Skin sensitisation – Category 1

生殖細胞致突變性物質 第2級: Germ cell mutagenicity – Category 2

致癌物質 第1B級: Carcinogenicity – Category 1B

特定標的器官系統毒性物質(單一暴露) 第1級: Specific target organ toxicity (single exposure) – Category 1

特定標的器官系統毒性物質(單一暴露) 第2級: Specific target organ toxicity (single exposure) – Category 2

TW

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 03.06.2022

Revisión: 03.06.2022

### SECCIÓN 1: Identificación de la sustancia o la mezcla y de la sociedad o la empresa

#### · 1.1 Identificador del producto

· **Nombre comercial:** BOUIN'S FLUID

· **Número del artículo:** 26386-01

· **UFI:** VNE5-70CQ-K00H-0H33

#### · 1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados

No existen más datos relevantes disponibles.

· **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio

#### · 1.3 Datos del proveedor de la ficha de datos de seguridad

##### · **Fabricante/distribuidor:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

Tel: 215-412-8400 Fax: 215-412-8450

email: [info@emsdiasum.com](mailto:info@emsdiasum.com)

[www.emsdiasum.com](http://www.emsdiasum.com)

##### Aname

C/ Perez Galdos no. 2

28693 Quijorna

Madrid, Spain

Tel: +34.91.816.89.50

Fax: +34.91.816.85.94

email: [ventas@aname.es](mailto:ventas@aname.es)

· **Área de información:** Product safety department

#### · 1.4 Teléfono de emergencia:

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

### SECCIÓN 2: Identificación de los peligros

#### · 2.1 Clasificación de la sustancia o de la mezcla

· **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS01 bomba explotando

Unst. Expl. H200 Explosivo inestable.



GHS06 calavera y tibias cruzadas

Acute Tox. 3 H331 Tóxico en caso de inhalación.



GHS08 peligro para la salud

Muta. 2 H341 Se sospecha que provoca defectos genéticos.

Carc. 1B H350 Puede provocar cáncer.

STOT SE 2 H371 Puede provocar daños en el sistema nervioso central y los órganos visuales.

( se continua en página 2 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 03.06.2022

Revisión: 03.06.2022

**Nombre comercial: BOUIN'S FLUID**

( se continua en página 1 )



GHS05 corrosión

Skin Corr. 1A H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

Eye Dam. 1 H318 Provoca lesiones oculares graves.



GHS07

Acute Tox. 4 H302 Nocivo en caso de ingestión.

Acute Tox. 4 H312 Nocivo en contacto con la piel.

Skin Sens. 1 H317 Puede provocar una reacción alérgica en la piel.

STOT SE 3 H335 Puede irritar las vías respiratorias.

Flam. Liq. 3 H226 Líquidos y vapores inflamables.

### · 2.2 Elementos de la etiqueta

#### · Etiquetado con arreglo al Reglamento (CE) n° 1272/2008

El producto se ha clasificado y etiquetado de conformidad con el reglamento CLP.

#### · Pictogramas de peligro



GHS01



GHS05



GHS06



GHS08

#### · Palabra de advertencia Peligro

#### · Componentes peligrosos a indicar en el etiquetaje:

formaldehído

metanol

ácido acético

2,4,6-trinitrofenol

#### · Indicaciones de peligro

H200 Explosivo inestable.

H226 Líquidos y vapores inflamables.

H302+H312 Nocivo en caso de ingestión o en contacto con la piel.

H331 Tóxico en caso de inhalación.

H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

H317 Puede provocar una reacción alérgica en la piel.

H341 Se sospecha que provoca defectos genéticos.

H350 Puede provocar cáncer.

H371 Puede provocar daños en el sistema nervioso central y los órganos visuales.

H335 Puede irritar las vías respiratorias.

#### · Consejos de prudencia

P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente toda la ropa contaminada. Enjuagar la piel con agua [o ducharse].

P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado.

P310 Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.

P321 Se necesita un tratamiento específico (ver en esta etiqueta).

P362+P364 Quitar las prendas contaminadas y lavarlas antes de volver a usarlas.

( se continua en página 3 )

**Ficha de datos de seguridad**  
según 1907/2006/CE, Artículo 31

fecha de impresión 03.06.2022

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**Nombre comercial: BOUIN'S FLUID**

( se continua en página 2 )

- P373 NO luchar contra el incendio cuando el fuego llega a los explosivos.
- P380 Evacuar la zona.
- P401 Almacenar conforme a la reglamentación local/regional/nacional/internacional.
- P405 Guardar bajo llave.
- P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

- **2.3 Otros peligros**
- **Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.

**SECCIÓN 3: Composición/información sobre los componentes**

- **3.2 Caracterización química: Mezclas**
- **Descripción:** Mezcla formada por las sustancias especificadas a continuación con adiciones no peligrosas.

· **Componentes peligrosos:**

|                                   |  |           |
|-----------------------------------|--|-----------|
| CAS: 50-00-0<br>EINECS: 200-001-8 | formaldehído<br>⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1B, H314; ⚠ Skin Sens. 1, H317 | >10-≤25%  |
| CAS: 64-19-7<br>EINECS: 200-580-7 | ácido acético<br>⚠ Flam. Liq. 3, H226; ⚠ Skin Corr. 1A, H314; ⚠ Acute Tox. 4, H312   | >2,5-≤10% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | metanol<br>⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332   | >2,5-≤10% |
| CAS: 88-89-1<br>EINECS: 201-865-9 | 2,4,6-trinitrofenol<br>⚠ Expl. 1.1, H201; ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331   | >2,5-≤10% |

· **SVHC**

67-56-1 metanol

- **Indicaciones adicionales:** El texto de los posibles riesgos aquí indicados se puede consultar en el capítulo 16.

**SECCIÓN 4: Primeros auxilios**

· **4.1 Descripción de los primeros auxilios**

· **Instrucciones generales:**

Quitarse de inmediato toda prenda contaminada con el producto.  
Los síntomas de intoxicación pueden presentarse después de muchas horas, por lo que se requiere una supervisión médica durante un mínimo de 48 horas después del accidente.  
Antes de quitarse la protección respiratoria, quítese la ropa contaminada.  
En caso de respiración irregular o apnea (paro respiratorio), hágase la respiración artificial.

· **En caso de inhalación del producto:**

Suministrar aire fresco u oxígeno; solicitar ayuda médica.  
Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.

· **En caso de contacto con la piel:** Lavar inmediatamente con agua y jabón y enjuagar bien.

· **En caso de con los ojos:**

Limpia los ojos abiertos durante varios minutos con agua corriente y consultar un médico.

· **En caso de ingestión:**

Consultar inmediatamente un médico.  
Beber mucha agua a respirar aire fresco. Solicitar asistencia médica inmediatamente.

· **4.2 Principales síntomas y efectos, agudos y retardados** No existen más datos relevantes disponibles.

( se continua en página 4 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 03.06.2022

Revisión: 03.06.2022

**Nombre comercial: BOUIN'S FLUID**

( se continua en página 3 )

- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**  
No existen más datos relevantes disponibles.

### SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:**  
CO<sub>2</sub>, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.
- **5.2 Peligros específicos derivados de la sustancia o la mezcla** No existen más datos relevantes disponibles.
- **5.3 Recomendaciones para el personal de lucha contra incendios**
- **Equipo especial de protección:** Colocarse la protección respiratoria.

### SECCIÓN 6: Medidas en caso de vertido accidental

- **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia**  
Llevar puesto equipo de protección. Mantener alejadas las personas sin protección.
- **6.2 Precauciones relativas al medio ambiente:**  
Diluir con mucha agua.  
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
- **6.3 Métodos y material de contención y de limpieza:**  
Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).  
Utilizar un neutralizador.  
Desechar el material contaminado como vertido según item 13.  
Asegurar suficiente ventilación.
- **6.4 Referencia a otras secciones**  
Ver capítulo 7 para mayor información sobre una manipulación segura.  
Ver capítulo 8 para mayor información sobre el equipo personal de protección.  
Para mayor información sobre cómo desechar el producto, ver capítulo 13.

### SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**  
Asegurar suficiente ventilación /aspiración en el puesto de trabajo.  
Abrir y manejar el recipiente con cuidado.  
Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:**  
Mantener alejadas las fuentes de encendido. No fumar.  
Proteger del calor.  
Tomar medidas contra las cargas electrostáticas.  
Tener preparados los aparatos respiratorios.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** No se requieren medidas especiales.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**  
Mantener el recipiente cerrado herméticamente.  
Proteger del calor y de la luz directa del sol.
- **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

ES

( se continua en página 5 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 03.06.2022

Revisión: 03.06.2022

Nombre comercial: **BOUIN'S FLUID**

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### SECCIÓN 8: Controles de exposición/protección individual

#### · 8.1 Parámetros de control

#### · Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:

Sin datos adicionales, ver punto 7.

#### · Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:

##### 50-00-0 formaldehído

LEP Valor de corta duración: 0,74 mg/m<sup>3</sup>, 0,6 ppm  
 Valor de larga duración: 0,37 mg/m<sup>3</sup>, 0,3 ppm  
 CIB, Sen, s

##### 64-19-7 ácido acético

LEP Valor de corta duración: 50 mg/m<sup>3</sup>, 20 ppm  
 Valor de larga duración: 25 mg/m<sup>3</sup>, 10 ppm  
 VLI

##### 67-56-1 metanol

LEP Valor de larga duración: 266 mg/m<sup>3</sup>, 200 ppm  
 vía dérmica, VLB, VLI, r

##### 88-89-1 2,4,6-trinitrofenol

LEP Valor de larga duración: 0,1 mg/m<sup>3</sup>  
 VLI

#### · Componentes con valores límite biológicos:

##### 67-56-1 metanol

VLB 15 mg/l  
 Muestra: orina  
 Momento de Muestero: Final de la jornada laboral  
 Indicador Biológico: Metanol

· **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.

#### · 8.2 Controles de la exposición

#### · Equipo de protección individual:

#### · Medidas generales de protección e higiene:

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

Lavarse las manos antes de las pausas y al final del trabajo.

Guardar la ropa protectora por separado.

Evitar el contacto con los ojos.

Evitar el contacto con los ojos y la piel.

#### · Protección respiratoria:

Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.

#### · Protección de manos:



Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / substancia / preparado.

Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de substancias químicas.

Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

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· **Material de los guantes**

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro. Teniendo en cuenta que el producto está fabricado a partir de diferentes materiales, su calidad no puede ser evaluada de antemano, de modo que los guantes deberán ser controlados antes de su utilización.

· **Tiempo de penetración del material de los guantes**

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

· **Protección de ojos:**



Gafas de protección herméticas

### SECCIÓN 9: Propiedades físicas y químicas

· **9.1 Información sobre propiedades físicas y químicas básicas**

· **Datos generales**

· **Aspecto:**

|                           |                 |
|---------------------------|-----------------|
| · <b>Forma:</b>           | Líquido         |
| · <b>Color:</b>           | Amarillo        |
| · <b>Olor:</b>            | Penetrante      |
| · <b>Umbral olfativo:</b> | No determinado. |

· **valor pH a 20 °C:** 1,2-1,6

· **Cambio de estado**

|   |                |
|---|----------------|
| · <b>Punto de fusión/punto de congelación:</b>                  | Indeterminado. |
| · <b>Punto inicial de ebullición e intervalo de ebullición:</b> | 98 °C          |

· **Punto de inflamación:** 40 °C

· **Inflamabilidad (sólido, gas):** No aplicable.

· **Temperatura de ignición:** 300 °C

· **Temperatura de descomposición:** No determinado.

· **Temperatura de auto-inflamación:** El producto no es autoinflamable.

· **Propiedades explosivas:** Peligro de explosión, en contacto o sin contacto con el aire.

· **Límites de explosión:**

|                    |                 |
|--------------------|-----------------|
| · <b>Inferior:</b> | No determinado. |
| · <b>Superior:</b> | No determinado. |

· **Presión de vapor a 20 °C:** 23 hPa

· **Densidad a 20 °C:** 1,11 g/cm<sup>3</sup>

· **Densidad relativa** No determinado.

· **Densidad de vapor** No determinado.

· **Tasa de evaporación:** No determinado.

· **Solubilidad en / miscibilidad con agua:** Completamente mezclable.

· **Coefficiente de reparto: n-octanol/agua:** No determinado.

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Nombre comercial: **BOUIN'S FLUID**

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|  |  |
|--|--|
| · <b>Viscosidad:</b>                   |  |
| <b>Dinámica:</b>                       | No determinado.                              |
| <b>Cinemática:</b>                     | No determinado.                              |
| · <b>Concentración del disolvente:</b> |  |
| <b>Disolventes orgánicos:</b>          | 27,7 %                                       |
| <b>Agua:</b>                           | 69,4 %                                       |
| <b>VOC (CE)</b>                        | 27,65 %                                      |
| · <b>Contenido de cuerpos sólidos:</b> | 1,0 %  |
| · <b>9.2 Otros datos</b>               | No existen más datos relevantes disponibles. |

### SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad** No existen más datos relevantes disponibles.
- **10.2 Estabilidad química**
- **Descomposición térmica / condiciones que deben evitarse:** No se descompone al emplearse adecuadamente.
- **10.3 Posibilidad de reacciones peligrosas** No se conocen reacciones peligrosas.
- **10.4 Condiciones que deben evitarse** No existen más datos relevantes disponibles.
- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

### SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda**  
Nocivo en caso de ingestión o en contacto con la piel.  
Tóxico en caso de inhalación.

· **Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:**

|                             |      |                       |
|-----------------------------|------|-----------------------|
| <b>50-00-0 formaldehído</b> |      |                       |
| Oral                        | LD50 | >200 mg/kg (rat)      |
| <b>67-56-1 metanol</b>      |      |                       |
| Oral                        | LD50 | 5.628 mg/kg (rat)     |
| Dermal                      | LD50 | 15.800 mg/kg (rabbit) |

- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas**  
Provoca quemaduras graves en la piel y lesiones oculares graves.
- **Lesiones o irritación ocular graves**  
Provoca lesiones oculares graves.
- **Sensibilización respiratoria o cutánea**  
Puede provocar una reacción alérgica en la piel.
- **Indicaciones toxicológicas adicionales:**
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
- **Mutagenicidad en células germinales**  
Se sospecha que provoca defectos genéticos.
- **Carcinogenicidad**  
Puede provocar cáncer.
- **Toxicidad para la reproducción** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición única**  
Puede provocar daños en el sistema nervioso central y los órganos visuales.

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# Ficha de datos de seguridad

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Puede irritar las vías respiratorias.

- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**  
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

### SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.
- **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.
- **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**  
Nivel de riesgo para el agua 2 (autoclasiificación): peligroso para el agua  
No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.  
En estado no diluido o no neutralizado, no verter en el alcantarillado o en otros sistemas de desagüe.  
Una cantidad mínima vertida en el subsuelo ya representa un peligro para el agua potable.  
El vertido de grandes cantidades en la canalización o en las aguas puede causar un aumento del valor pH. Un valor de pH alto es nocivo para los organismos acuáticos. En la dilución de la concentración de la aplicación, el valor pH se reduce considerablemente, de modo que después de utilizar el producto, las aguas residuales vertidas en la canalización son mínimamente dañinas para el agua.
- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

### SECCIÓN 13: Consideraciones relativas a la eliminación

- **13.1 Métodos para el tratamiento de residuos**
- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.
- **Embalajes sin limpiar:**
- **Recomendación:** Eliminar conforme a las disposiciones oficiales.
- **Producto de limpieza recomendado:** Agua, eventualmente añadiendo productos de limpieza.

### SECCIÓN 14: Información relativa al transporte

- **14.1 Número ONU**
- **ADR, IMDG, IATA** UN3265
- **14.2 Designación oficial de transporte de las Naciones Unidas**
- **ADR** 3265 LÍQUIDO CORROSIVO, ÁCIDO, ORGÁNICO, N.E.P. (METANOL, ÁCIDO ACÉTICO GLACIAL)
- **IMDG, IATA** CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)

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· **14.3 Clase(s) de peligro para el transporte**

· **ADR, IMDG, IATA**



· **Clase** 8 Materias corrosivas  
· **Etiqueta** 8

· **14.4 Grupo de embalaje**

· **ADR, IMDG, IATA** III

· **14.5 Peligros para el medio ambiente:** No aplicable.

· **14.6 Precauciones particulares para los usuarios**

· **Número de identificación de peligro (Número** Atención: Materias corrosivas  
**Kemler):** 88

· **Número EMS:** F-A,S-B

· **Segregation groups** Acids

· **Stowage Category** B

· **Stowage Code** SW2 Clear of living quarters.

· **Segregation Code** SG36 Stow "separated from" SGG18-alkalis.

SG49 Stow "separated from" SGG6-cyanides

· **14.7 Transporte a granel con arreglo al anexo II del**  
**Convenio MARPOL y el Código IBC**

No aplicable.

· **Transporte/datos adicionales:**

· **ADR**

· **Cantidades limitadas (LQ)** 0

· **Cantidades exceptuadas (EQ)** Código: E0

No se permite como cantidad exceptuada

· **Categoría de transporte** 1

· **Código de restricción del túnel** E

· **IMDG**

· **Limited quantities (LQ)** 0

· **Excepted quantities (EQ)** Code: E0

Not permitted as Excepted Quantity

· **"Reglamentación Modelo" de la UNECE:**

UN 3265 LÍQUIDO CORROSIVO, ÁCIDO, ORGÁNICO,  
N.E.P. (METANOL, ÁCIDO ACÉTICO GLACIAL), 8, III

**SECCIÓN 15: Información reglamentaria**

· **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**

· **Directiva 2012/18/UE**

· **Sustancias peligrosas nominadas - ANEXO I** ninguno de los componentes está incluido en una lista

· **Categoría Seveso**

P1a EXPLOSIVOS

H2 TOXICIDAD AGUDA

· **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior 10 t**

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- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior 50 t**

- **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII Restricciones: 3, 28, 69, 72**

- **Directiva 2011/65/UE sobre restricciones a la utilización de determinadas sustancias peligrosas en aparatos eléctricos y electrónicos - Anexo II**

ninguno de los componentes está incluido en una lista

- **REGLAMENTO (UE) 2019/1148**

- **Anexo I - PRECURSORES DE EXPLOSIVOS RESTRINGIDOS (Valor límite superior a efectos de la concesión de licencias con arreglo al artículo 5, apartado 3)**

ninguno de los componentes está incluido en una lista

- **Anexo II - PRECURSORES DE EXPLOSIVOS NOTIFICABLES**

ninguno de los componentes está incluido en una lista

- **Reglamento (CE) no 273/2004 sobre precursores de drogas**

ninguno de los componentes está incluido en una lista

- **Reglamento (CE) N o 111/2005 por el que establecen normas para la vigilancia del comercio de precursores de drogas entre la Comunidad y terceros países**

ninguno de los componentes está incluido en una lista

- **Disposiciones nacionales:**

- **Indicaciones sobre las limitaciones de trabajo:**

Los empleados no deben exponerse a las sustancias cancerígenas contenidas en el producto. En casos aislados las autoridades pueden hacer excepciones.

- **Demás disposiciones, limitaciones y decretos prohibitivos**

- **Sustancias altamente preocupantes (SVHC) según REACH, artículo 57**

67-56-1 | metanol

- **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

### SECCIÓN 16: Otra información

Los datos se fundan en el estado actual de nuestros conocimientos, pero no constituyen garantía alguna de cualidades del producto y no generan ninguna relación jurídica contractual.

- **Frases relevantes**

H201 Explosivo; peligro de explosión en masa.

H225 Líquido y vapores muy inflamables.

H226 Líquidos y vapores inflamables.

H301 Tóxico en caso de ingestión.

H302 Nocivo en caso de ingestión.

H311 Tóxico en contacto con la piel.

H312 Nocivo en contacto con la piel.

H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

H317 Puede provocar una reacción alérgica en la piel.

H331 Tóxico en caso de inhalación.

H332 Nocivo en caso de inhalación.

H341 Se sospecha que provoca defectos genéticos.

H350 Puede provocar cáncer.

H370 Provoca daños en los órganos.

- **Abreviaturas y acrónimos:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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**Ficha de datos de seguridad**  
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*GHS: Globally Harmonised System of Classification and Labelling of Chemicals**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)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**SVHC: Substances of Very High Concern**vPvB: very Persistent and very Bioaccumulative**Expl. 1.1: Explosivos – División 1.1**Unst. Expl.: Explosivos – Explosivo inestable**Flam. Liq. 2: Líquidos inflamables – Categoría 2**Flam. Liq. 3: Líquidos inflamables – Categoría 3**Acute Tox. 3: Toxicidad aguda – Categoría 3**Acute Tox. 4: Toxicidad aguda – Categoría 4**Skin Corr. 1A: Corrosión o irritación cutáneas – Categoría 1A**Skin Corr. 1B: Corrosión o irritación cutáneas – Categoría 1B**Eye Dam. 1: Lesiones oculares graves o irritación ocular – Categoría 1**Skin Sens. 1: Sensibilización cutánea – Categoría 1**Muta. 2: Mutagenicidad en células germinales – Categoría 2**Carc. 1B: Carcinogenicidad – Categoría 1B**STOT SE 1: Toxicidad específica en determinados órganos ( exposición única) – Categoría 1**STOT SE 2: Toxicidad específica en determinados órganos ( exposición única) – Categoría 2*

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# แผ่นข้อมูลความปลอดภัย ตาม GHS

วันที่พิมพ์ 2022.06.03

การปรับปรุงใหม่ : 2022.06.03

## 1 การบ่งชี้สารเดี่ยวหรือสารผสม และผู้ผลิต

- 1.1 ลักษณะเฉพาะของผลิตภัณฑ์
- ชื่อทางการค้า **BOUIN'S FLUID**
- เลขที่รายชื่อ 26386-01
- 1.2 สารหรือสารผสมที่เกี่ยวข้องที่ระบุให้ใช้และที่ไม่ควรให้ใช้ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- การประยุกต์ใช้สาร/ การทำ เคมีภัณฑ์ห้องทดลอง
- 1.3 รายละเอียดของผู้จัดหาข้อมูลด้านความปลอดภัย
- ผู้ผลิต/ ผู้จัดหา  
Electron Microscopy Sciences  
1560 Industry Road  
USA-Hatfield, PA 19440  
Tel: 215-412-8400 Fax: 215-412-8450  
email: info@emsdiasum.com  
www.emsdiasum.com
- ข้อมูลรายละเอียดเพิ่มเติมหาได้จาก Product safety department
- 1.4 หมายเลขโทรศัพท์ฉุกเฉิน:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

## 2 การบ่งชี้ความเป็นอันตราย

- 2.1 การจำแนกประเภทของสารหรือสารผสม
- การแบ่งประเภทตามข้อบังคับ (อีซี) เลขที่ 1272/2008



ระเบิดกำลังระเบิด

Unst. Expl. H200 ระเบิดที่ไม่เสถียร



หวักระโหลกและกระดูกไขว้

Acute Tox. 3 H331 มีพิษหากสูดหายใจเข้า



สิ่งอันตรายต่อสุขภาพ

Muta. 2 H341 สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม

Carc. 1B H350 อาจเป็นเหตุให้เกิดมะเร็ง

STOT SE 2 H371 สามารถก่อให้เกิดอันตรายต่อ ระบบประสาทส่วนกลาง “และ” อวัยวะที่มองเห็น.



การกัดกร่อน

Skin Corr. 1 H314 เป็นสาเหตุให้ผิวหนังไหม้อย่างสาหัสและทำอันตรายต่อดวงตา

Eye Dam. 1 H318 เป็นสาเหตุให้เกิดอันตรายต่อดวงตาอย่างสาหัส



Acute Tox. 4 H302 เป็นอันตรายหากกลืนเข้าไป

Acute Tox. 4 H312 เป็นอันตรายหากสัมผัสกับผิวหนัง

(ต่อหน้า 2)

-TH

## แผนข้อมูลความปลอดภัย ตาม GHS

วันที่พิมพ์ 2022.06.03

การปรับปรุงใหม่ : 2022.06.03

### ชื่อทางการค้า BOUIN'S FLUID

(ต่อหน้า 1)

Skin Sens. 1 H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้  
 STOT SE 3 H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ  
 Flam. Liq. 3 H226 ของเหลวและไอที่ไวไฟ

- 2.2 องค์ประกอบของฉลาก
- ฉลากตามระเบียบ (EC) เลขที่ 1272/2008 ผลิตภัณฑ์ที่ได้รับการจัดประเภทและติดฉลากตามข้อบังคับของ CLP
- ภาพสัญลักษณ์ที่เป็นอันตราย



- สัญลักษณ์คำ อันตราย
- ส่วนประกอบที่ระบุอันตรายบนฉลาก  
 ฟอร์มัลดีไฮด์  
 เมทานอล  
 กรดอะซีติก  
 กรดฟอสฟอริก

#### · ประกาศสิ่งที่เป็นอันตราย

H200 ระเบิดที่ไม่เสถียร  
 H226 ของเหลวและไอที่ไวไฟ  
 H302+H312 อันตรายหากมีการกลืนกิน หรือ มีการสัมผัสกับผิวหนัง.  
 H331 มีพิษหากสูดหายใจเข้า  
 H314 เป็นสาเหตุให้ผิวหนังไหม้อย่างสาหัสและทำอันตรายต่อดวงตา  
 H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้  
 H341 สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม  
 H350 อาจเป็นเหตุให้เกิดมะเร็ง  
 H371 สามารถก่อให้เกิดอันตรายต่อ ระบบประสาทส่วนกลาง “และ” อวัยวะที่มองเห็น.  
 H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ

#### · ประกาศการป้องกันระดับระวังภัย

P303+P361+P353 หากสัมผัสถูกผิวหนัง (หรือเส้นผม) ถอดเสื้อผ้าที่เปื้อนทั้งหมดทันที ล้างผิวหนังด้วยน้ำ/อาบน้ำ  
 P305+P351+P338 หากเข้าตา : ชะล้างน้ำอย่างระมัดระวังเป็นเวลาหลายนาทีที่ถอดคอนแทกซ์เลนส์ถ้ายังอยู่ที่เดิมและสะดวกที่จะทำก็ให้ชะล้างต่อไป  
 P310 โทรศัพทหึ่งศูนย์พิษวิทยา/แพทย์ ทันที  
 P321 การบำบัดรักษาเฉพาะ (ดูฉลาก)  
 P362+P364 ถอดเสื้อผ้าที่เปื้อนและซักก่อนที่จะนำกลับมาใช้ใหม่  
 P373 ห้ามดับเพลิงเมื่อไฟไหม้ถึงจุดที่ระเบิดแล้ว  
 P380 บริเวณอพยพ  
 P401 เก็บตามกฎหมายของท้องถิ่น/ ภาค/ ประเทศ/ ระหว่างประเทศ  
 P405 เก็บในที่ใส่กุญแจปิด  
 P501 ทิ้งสิ่งที่ยับรุด/ภาชนะที่ยับรุดตามกฎหมายของท้องถิ่น/แคว้น/ในประเทศ/ระหว่างประเทศ

#### · 2.3 อันตรายอื่นๆ

- ผลของ PBT และการประเมิน vPvB
- PBT: ไม่สามารถใช้ได้
- vPvB: ไม่สามารถใช้ได้

### 3 องค์ประกอบและข้อมูลเกี่ยวกับส่วนผสม

- 3.2 คุณลักษณะทางเคมี: ส่วนผสม
- คำอธิบาย ส่วนผสมของสารในรายการข้างล่างพร้อมสารเติมแต่งที่ไม่เป็นอันตราย

(ต่อหน้า 3)

TH

## แผนข้อมูลความปลอดภัย ตาม GHS

วันที่พิมพ์ 2022.06.03

การปรับปรุงใหม่ : 2022.06.03

### ชื่อทางการค้า BOUIN'S FLUID

(ต่อหน้า 2)

| · ส่วนประกอบที่มีอันตราย          |  |           |
|-----------------------------------|--|-----------|
| CAS: 50-00-0<br>EINECS: 200-001-8 | ฟอร์มาลดีไฮด์<br>⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ Skin Corr. 1, H314; ⚠ Skin Sens. 1, H317 | >10-≤25%  |
| CAS: 64-19-7<br>EINECS: 200-580-7 | กรดอะซิติก<br>⚠ Flam. Liq. 3, H226; ⚠ Skin Corr. 1, H314; ⚠ Acute Tox. 4, H312   | >2.5-≤10% |
| CAS: 67-56-1<br>EINECS: 200-659-6 | เมทานอล<br>⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332   | >2.5-≤10% |
| CAS: 88-89-1<br>EINECS: 201-865-9 | กรดฟอสฟอริก<br>⚠ Expl. 1.1, H201; ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331   | >2.5-≤10% |

· ข้อมูลรายละเอียดเสริม สำหรับข้อมูลที่ระบุในรายการความเสี่ยงที่อ้างอิงถึงในส่วนที่ 16

### 4 มาตรการปฐมพยาบาล

#### · 4.1 คำอธิบายถึงมาตรการปฐมพยาบาล

##### · ข้อมูลรายละเอียดทั่วไป

ให้ถอดเสื้อผ้าที่เปื้อนเปื้อนผลิตภัณฑ์ออกทันที

อาการจากพิษอาจเกิดขึ้นหลังจากนั้นหลายชั่วโมงดังนั้นจะต้องเฝ้าติดตามอาการทางการแพทย์อย่างน้อย 48 ชั่วโมงหลังจากอุบัติเหตุ

ให้ถอดอุปกรณ์ช่วยหายใจออกหลังจากที่ถอดเสื้อผ้าที่เปื้อนออกเรียบร้อยแล้วเท่านั้น

ในกรณีที่ยาใจผิดปกติหรือการหายใจหยุดชะงักให้ใช้อุปกรณ์ช่วยหายใจ

##### · หลังจากการสูดหายใจเข้าไป

หาบริเวณที่มีอากาศบริสุทธิ์หรือให้ออกซิเจนติดต่อแพทย์

ในกรณีที่คนไข้ไม่รู้สึกรู้สึกทำให้คนย้ายคนไข้อย่างมั่นคงในท่าตะแคงด้านข้าง

##### · หลังจากการสัมผัสผิวหนัง

ล้างด้วยน้ำและสบู่แล้วฟอกให้ทั่วทันที

##### · หลังจากการสัมผัสลูกตา

ชะตาที่เปิดอยู่ใต้น้ำที่กำลังไหลเป็นเวลาหลายนาที่จากนั้นให้ปรึกษาแพทย์

##### · หลังจากการกลืนเข้าไป:

พบแพทย์โดยทันที

ดื่มน้ำมากๆและให้สูดอากาศบริสุทธิ์พบแพทย์โดยทันที

##### · 4.2 อาการสำคัญส่วนใหญ่และผลกระทบ ทั้งชนิดเฉียบพลันและค่อยๆ แสดงอาการ

ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

##### · 4.3 ช่องข้อของอาการที่ต้องเข้ารับการรักษาจากแพทย์ทันทีและการบำบัดพิเศษที่จำเป็น

ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

### 5 มาตรการผจญเพลิง

#### · 5.1 สารที่ใช้ดับเพลิง

· สารดับเพลิงที่เหมาะสม คาร์บอนไดออกไซด์สเปรย์ผงหรือน้ำดับเพลิงขนาดใหญ่ด้วยการฉีดน้ำหรือโฟมแอลกอฮอล์ที่ทนทาน

#### · 5.2 อันตรายเฉพาะอย่างที่เกิดจากสารหรือส่วนผสม

ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

#### · 5.3 คำแนะนำสำหรับพนักงานดับเพลิง

· อุปกรณ์ป้องกันภัย อุปกรณ์ป้องกันซึ่งเหมาะสำหรับการหายใจทางปาก

### 6 มาตรการจัดการเมื่อมีการหกรั่วไหลของสาร

#### · 6.1 การป้องกันส่วนบุคคล อุปกรณ์ป้องกัน และขั้นตอนดำเนินการเมื่อเกิดกรณีฉุกเฉิน

สวมอุปกรณ์ป้องกันภัยกันคนที่ไม่ใช่อุปกรณ์ป้องกันออกไป

#### · 6.2 การให้ความคุ้มครองสิ่งแวดล้อมล่วงหน้า:

ทำให้เจือจางด้วยน้ำมากๆ

อย่าปล่อยให้เข้าไปในพ่อน้ำทิ้ง/ น้ำบนดินหรือใต้ดิน

#### · 6.3 วิธีดำเนินการและวัสดุสำหรับการบรรจุและการทำความสะอาด:

ดูดซับด้วยวัสดุที่สามารถยึดของเหลวไว้ (ทรายโดอะโดไมท์ตัวยึดเกาะกรดตัวยึดต่างๆ ไปซีล้อย)

(ต่อหน้า 4)

## แผนข้อมูลความปลอดภัย ตาม GHS

วันที่พิมพ์ 2022.06.03

การปรับปรุงใหม่ : 2022.06.03

### ชื่อทางการค้า BOUIN'S FLUID

(ต่อหน้า 3)

ใช้สารให้เป็นกลาง

ทั้งวัสดุที่ปนเปื้อนเป็นของเสียตามรายการในบัญชี 13

ตรวจให้แน่ใจว่ามีการระบายอากาศที่ดีพอ

#### • 6.4 การอ้างอิงถึงส่วนอื่น

ดูข้อมูลรายละเอียดเรื่องความปลอดภัยในการขนถ่ายจากส่วนที่ 7

ดูข้อมูลรายละเอียดเรื่องอุปกรณ์ป้องกันส่วนบุคคลจากส่วนที่ 8

ดูข้อมูลรายละเอียดเรื่องการจัดเก็บจากส่วนที่ 13

### 7 การขนถ่าย เคลื่อนย้าย ใช้งาน และเก็บรักษา

#### • 7.1 การป้องกันล่วงหน้าสำหรับการจัดการด้านความปลอดภัย

ทำให้แน่ใจว่าสถานที่ทำงานมีการระบายอากาศ/ ระบายที่ดี

เปิดและถือภาชนะรองรับอย่างระมัดระวัง

ป้องกันการเกิดละอองสารฟุ้ง

#### • ข้อมูลรายละเอียดเกี่ยวกับการป้องกันอัคคีภัยและการระเบิด

ออกห่างจากแหล่งที่ติดไฟอย่างสมบูรณ์

ป้องกันให้พ้นจากความร้อน

ป้องกันให้พ้นจากประกายไฟฟาสถิต

เก็บอุปกรณ์ป้องกันสำหรับการช่วยหายใจให้มีพร้อมใช้งาน

#### • 7.2 เสนอใช้ในการเก็บรักษาอย่างปลอดภัย, รวมถึงสิ่งที่เข้ากันไม่ได้ใดๆ

##### • การจัดเก็บ

• ข้อกำหนดที่ต้องปฏิบัติตามสำหรับห้องเก็บและภาชนะบรรจุ ไม่มีข้อกำหนดพิเศษ

• ข้อมูลรายละเอียดด้านการจัดเก็บในสถานที่จัดเก็บรวม ไม่ได้กำหนด

##### • ข้อมูลรายละเอียดเพิ่มเติมด้านสภาพการจัดเก็บ

เก็บโดยปิดผนึกอย่างแน่นหนา

ป้องกันให้พ้นจากความร้อนและแสงแดดส่อง

#### • 7.3 การระบุถึงการสิ้นสุดการใช้ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

### 8 การควบคุมการสัมผัสและการป้องกันส่วนบุคคล

#### • 8.1 การควบคุมตัวแปร

• ข้อมูลรายละเอียดเสริมสำหรับการออกแบบสิ่งอำนวยความสะดวกทางเทคนิค ไม่มีข้อมูลนอกเหนือจากนี้ดูรายการ 7

• ส่วนผสมพร้อมค่าขอบเขตที่ต้องเฝ้าดูในสถานที่ปฏิบัติงาน

#### 50-00-0 ฟอรัลดีไฮด์

PEL (US)

ค่าระยะสั้น: 2 ppm

ค่าระยะยาว: 0.75 ppm

see 29 CFR 1910.1048(c)

REL (US)

ค่าระยะยาว: 0.016 ppm

Ceiling limit value: 0.1\* ppm

\*15-min; See Pocket Guide App. A

TLV (US)

ค่าระยะสั้น: 0.3 ppm

ค่าระยะยาว: 0.1 ppm

DSEN; RSEN, A1

#### 64-19-7 กรดอะซีติก

PEL (US)

ค่าระยะยาว: 25 mg/m<sup>3</sup>, 10 ppm

REL (US)

ค่าระยะสั้น: 37 mg/m<sup>3</sup>, 15 ppmค่าระยะยาว: 25 mg/m<sup>3</sup>, 10 ppm

TLV (US)

ค่าระยะสั้น: 15 ppm

ค่าระยะยาว: 10 ppm

(ต่อหน้า 5)



**แผนข้อมูลความปลอดภัย**  
**ตาม GHS**

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**ชื่อทางการค้า BOUIN'S FLUID**

(ต่อหน้า 4)

**67-56-1 เมทานอล**PEL (US) ค่าระยะยาว: 260 mg/m<sup>3</sup>, 200 ppmREL (US) ค่าระยะสั้น: 325 mg/m<sup>3</sup>, 250 ppmค่าระยะยาว: 260 mg/m<sup>3</sup>, 200 ppm

Skin

TLV (US) ค่าระยะสั้น: 250 ppm

ค่าระยะยาว: 200 ppm

Skin; BEI

**88-89-1 กรดฟิดริก**PEL (US) ค่าระยะยาว: 0.1 mg/m<sup>3</sup>

Skin

REL (US) ค่าระยะสั้น: 0.3 mg/m<sup>3</sup>ค่าระยะยาว: 0.1 mg/m<sup>3</sup>

Skin

TLV (US) ค่าระยะยาว: 0.1 mg/m<sup>3</sup>

## · ส่วนประกอบต่างๆ ที่มีค่าขีดจำกัดทางชีวภาพ:

**67-56-1 เมทานอล**

BEI (US) 15 mg/L

Medium: urine

Time: end of shift

Parameter: Methanol (background, nonspecific)

## · ข้อมูลรายละเอียดเสริม รายการถูกต้องระหว่างที่จัดทำโดยอาศัยการใช้งานเป็นหลัก

## · 8.2 การควบคุมการสัมผัส

## · อุปกรณ์ป้องกันส่วนบุคคล

## · มาตรการการป้องกันและสุขอนามัยทั่วไป

เก็บให้ห่างจากสิ่งของที่เป็นอาหาร เครื่องดื่ม และอาหารสัตว์

ให้ถอดเสื้อผ้าที่เปื้อนและเจือปนออกทันที

ล้างมือก่อนที่จะหยุดพักและเมื่อสิ้นสุดเวลาทำงาน

เก็บชุดป้องกันแยกต่างหาก

หลีกเลี่ยงการสัมผัสถูกตา

หลีกเลี่ยงการสัมผัสถูกตาและผิวหนัง

## · การป้องกันการสูดหายใจเข้าไป

ในกรณีที่อยู่เป็นเวลาสั้นหรืออากาศเป็นพิษระดับต่ำ ใช้หน้ากากกรองเพื่อช่วยหายใจในกรณีที่มีความเข้มข้นสูงหรืออยู่เป็นเวลานานให้ใช้เครื่องป้องกันที่มีอุปกรณ์ช่วยหายใจในตัว

## · การป้องกันมือ



ถุงมือป้องกัน

วัสดุของถุงมือจะต้องไม่ให้อากาศผ่านเข้าออกและทนทานต่อผลิตภัณฑ์/ สาร/ การผลิต

เนื่องจากขาดการทดสอบจึงไม่มีคำแนะนำสำหรับวัสดุที่ใช้ทำถุงมือสำหรับผลิตภัณฑ์/ การผลิต/ ของผสมเคมี

เลือกวัสดุสำหรับถุงมือโดยพิจารณาจากเวลาที่ใช้ในการซึมผ่านอัตราการแพร่และการเสื่อม

## · วัสดุที่ใช้ทำถุงมือ

การเลือกใช้ถุงมือที่เหมาะสมไม่เพียงแต่ขึ้นอยู่กับวัสดุแต่ยังขึ้นกับมาตรฐานด้านคุณภาพและข้อแตกต่างระหว่างผู้ผลิตแต่ละแห่งโดยที่ผู้ผลิตที่เตรียมมาจากสารหลายชนิดความทนทานของวัสดุถุงมือไม่สามารถที่จะคำนวณล่วงหน้าดังนั้นจึงต้องตรวจสอบกับการใช้งาน

## · เวลาที่ใช้ในการทะลุผ่านวัสดุที่ใช้ทำถุงมือ ผู้ผลิตถุงมือป้องกันจะต้องทดสอบหาเวลาแน่นอนที่ใช้ในการทะลุผ่านและจะต้องมีการตรวจสอบติดตาม

(ต่อหน้า 6)

TH

## แผนข้อมูลความปลอดภัย ตาม GHS

วันที่พิมพ์ 2022.06.03

การปรับปรุงใหม่ : 2022.06.03

### ชื่อทางการค้า BOUIN'S FLUID

· การป้องกันตา

(ต่อหน้า 5)



แว่นตาที่ขอบปิดสนิท

## 9 คุณสมบัติทางกายภาพและทางเคมี

· 9.1 ข้อมูลคุณสมบัติพื้นฐานทางกายภาพและเคมี

· ข้อมูลรายละเอียดทั่วไป

· ลักษณะ :

· รูปสี

ของเหลว

· กลิ่น

สีเหลือง

· เกณฑ์กลิ่น :

กลิ่นฉุน

· ค่า pH ที่ 20 °C

ไม่ได้กำหนดไว้.

· การเปลี่ยนสภาวะ

จุดหลอมเหลว/ ขอบเขตการหลอมละลาย  
จุดเดือด/ ขอบเขตการเดือดไม่ได้กำหนด  
98 °C

· จุดวาบไฟ

40 °C

· ความสามารถติดไฟ (ของแข็งแกส)

ไม่สามารถใช้ได้

· อุณหภูมิจุดระเบิด

300 °C

· อุณหภูมิสลายตัว

ไม่ได้กำหนดไว้.

· การเผาไหม้ด้วยตัวเอง

ผลิตภัณฑ์ไม่เป็นสารจุดไฟติดด้วยตัวเอง

· อันตรายนจากการระเบิด

การระเบิดเมื่อสัมผัสหรือไม่ต้องสัมผัสกับอากาศ

· ขอบเขตการระเบิด

· ชั้นต่ำ

ไม่ได้กำหนดไว้.

· ชั้นสูง

ไม่ได้กำหนดไว้.

· ความดันไอ ที่ 20 °C

23 hPa

· ความหนาแน่น ที่ 20 °C

1.11 g/cm<sup>3</sup>

· ความหนาแน่นสัมพัทธ์

ไม่ได้กำหนดไว้.

· ความหนาแน่นของไอ

ไม่ได้กำหนดไว้.

· อัตราการระเหย

ไม่ได้กำหนดไว้.

· ความสามารถในการละลายใน

ความสามารถผสมเป็นสารละลายเนื้อเดียวทุกส่วนผสมกับ  
น้ำ/   
ผสมกันได้อย่างเต็มที่

· สมบัติการแยกตัว (เอ็น-ออกทานอล/น้ำ)

ไม่ได้กำหนดไว้.

· ความหนืด

(ไดนามิค) พลศาสตร์

ไม่ได้กำหนดไว้.

(คิเนมาติก) จลนศาสตร์

ไม่ได้กำหนดไว้.

· ปริมาณส่วนประกอบตัวทำละลาย

ตัวทำละลายอินทรีย์

27.7 %

น้ำ

69.4 %

VOC (EC)

27.65 %

(ต่อหน้า 7)

-TH

## แผนข้อมูลความปลอดภัย ตาม GHS

วันที่พิมพ์ 2022.06.03

การปรับปรุงใหม่ : 2022.06.03

### ชื่อทางการค้า BOUIN'S FLUID

(ต่อหน้า 6)

ส่วนประกอบที่เป็นของแข็ง

1.0 %

· 9.2 ข้อมูลอื่นๆ

ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

### 10 ความเสถียรและการเกิดปฏิกิริยา

- 10.1 ปฏิกิริยาโต้ตอบ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.2 เสถียรภาพทางเคมี
- การสลายตัวด้วยความร้อน / เสื่อมไหม้ที่ต้องหลีกเลี่ยง ไม่มีการสลายตัวถ้าใช้ตามรายละเอียดที่ระบุไว้
- 10.3 ความเป็นไปได้ของการเกิดปฏิกิริยาอันตราย ไม่มีปฏิกิริยาเป็นอันตรายที่รู้จัก
- 10.4 เสื่อมไหม้เพื่อการหลีกเลี่ยง ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.5 วัสดุที่เข้ากันไม่ได้: ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.6 อันตรายจากการสลายตัวของผลิตภัณฑ์: ไม่มีสารจากการสลายตัวที่เป็นอันตรายที่รู้จัก

### 11 ข้อมูลด้านพิษวิทยา

- 11.1 ข้อมูลเกี่ยวกับผลกระทบทางพิษวิทยา
- ความเป็นพิษอย่างสาหัส:  
อันตรายหากมีการกลืนกิน หรือ มีการสัมผัสกับผิวหนัง,  
มีพิษหากสูดหายใจเข้า

· การจัดแบ่งตามค่า LD/LC50

**50-00-0** ฟอรั่มลด์ไฮด์

ทางปาก LD50 &gt;200 mg/kg (rat)

**67-56-1** เมทานอล

ทางปาก LD50 5,628 mg/kg (rat)

ทางผิวหนัง LD50 15,800 mg/kg (rabbit)

- อาการระคายเคืองเบื้องต้น
- บนผิวหนัง  
เป็นสาเหตุให้ผิวหนังไหม้อย่างสาหัสและทำอันตรายต่อดวงตา
- ที่ดวงตา  
เป็นสาเหตุให้เกิดอันตรายต่อดวงตาอย่างสาหัส
- การทำให้แพ้  
อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้
- ข้อมูลรายละเอียดเสริมเกี่ยวกับพิษวิทยา
- ผลกระทบ CMR (การทำให้เกิดมะเร็งการผ่าเหล่าและพิษต่อการสืบพันธุ์)
- การผ่าเหล่าในเซลล์สืบพันธุ์  
สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม
- การกระตุ้นให้เกิดมะเร็ง  
อาจเป็นเหตุให้เกิดมะเร็ง
- พิษต่อระบบสืบพันธุ์ Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi.
- ความเป็นพิษต่ออวัยวะเป้าหมายเฉพาะ – การสัมผัสในครี  
สามารถก่อให้เกิดอันตรายต่อ ระบบประสาทส่วนกลาง “และ” อวัยวะที่มองเห็น.  
อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ
- ความเป็นพิษต่ออวัยวะเป้าหมายเฉพาะ – การสัมผัสซ้ำหาลา Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi.
- อันตรายต่อระบบหายใจ Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi.

-TH-

(ต่อหน้า 8)

## แผนข้อมูลความปลอดภัย ตาม GHS

วันที่พิมพ์ 2022.06.03

การปรับปรุงใหม่ : 2022.06.03

### ชื่อทางการค้า BOUIN'S FLUID

(ต่อหน้า 7)


#### 12 ข้อมูลด้านนิเวศวิทยา

- 12.1 ความเป็นพิษ
- ความเป็นพิษที่เกี่ยวกับน้ำ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.2 การคงอยู่และการย่อยสลาย ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.3 การสะสมทางชีวภาพที่อาจเกิดขึ้น ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.4 การเปลี่ยนแปลงในดิน ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- ข้อมูลรายละเอียดเสริมเกี่ยวกับนิเวศวิทยา
- **หมายเหตุทั่วไป**  
เป็นอันตรายต่อน้ำชั้น 2 (กฎข้อบังคับของเยอรมัน)(การประเมินค่าด้วยตัวเอง):เป็นอันตรายกับน้ำ  
อย่าปล่อยให้ผลิตภัณฑ์ไปถึงน้ำผิวดินเส้นทางน้ำหรือระบบระบายน้ำเสีย  
ผลิตภัณฑ์ที่ยังไม่ได้เจือจางหรือยังไม่ได้ทำให้เป็นกลางต้องไม่ไปลงน้ำเสียหรือคูระบายน้ำ  
เป็นอันตรายต่อน้ำดื่มแม้จะร่วงลงในพื้นที่เป็นปริมาณน้อย  
การชะล้างสารเป็นจำนวนมากลงในทางระบายน้ำหรือแหล่งน้ำในสภาพแวดล้อมจะทำให้ค่า p H ลดต่ำลงค่า p H  
ที่ลดลงเป็นอันตรายต่อสิ่งมีชีวิตในน้ำการทำให้เจือจางจนถึงระดับที่ใช้งานค่า p H  
จะเพิ่มขึ้นมากตั่งนั้นหลังการใช้งานน้ำเสียของผลิตภัณฑ์เมื่อเททิ้งในท่อระบายจึงมีอันตรายต่อน้ำในระดับต่ำ
- 12.5 ผลของ PBT และการประเมิน vPvB
- PBT: ไม่สามารถใช้ได้
- vPvB: ไม่สามารถใช้ได้
- 12.6 ผลข้างเคียงอื่นๆ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

#### 13 ข้อพิจารณาในการกำจัด

- 13.1 วิธีการกำจัดของเสีย
- คำแนะนำ ต้องไม่ทิ้งไปพร้อมกับขยะจากบ้านเรือนอย่าปล่อยให้ผลิตภัณฑ์เข้าถึงระบบระบายน้ำเสีย
- ภาชนะบรรจุที่ยังไม่ได้ล้างทำความสะอาด
- คำแนะนำ การกำจัดจะต้องทำตามกฎระเบียบที่เป็นทางการ
- สารทำความสะอาดที่แนะนำ น้ำถ้าจำเป็นใช้คู่กับสารทำความสะอาด

#### 14 ข้อมูลการขนส่ง

- 14.1 เลขที่ UN
  - ADR, IMDG, IATA UN3265
  - 14.2 ชื่อการจัดส่งสินค้าที่เหมาะสมของ UN
  - ADR 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.  
(METHANOL, ACETIC ACID, GLACIAL)
  - IMDG, IATA CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANOL,  
ACETIC ACID, GLACIAL)
  - 14.3 ชั้นเรียนอันตรายจากการขนส่ง
  - ADR, IMDG, IATA
- 
- ประเภท 8 สารกัดกร่อน
  - ฉลากสิ่งที่เป็นอันตราย 8

(ต่อหน้า 9)

TH

**แผนข้อมูลความปลอดภัย**  
**ตาม GHS**

วันที่พิมพ์ 2022.06.03

การปรับปรุงใหม่ : 2022.06.03

**ชื่อทางการค้า BOUIN'S FLUID**

(ต่อหน้า 8)

|   |   |
|---|---|
| · 14.4 กลุ่มของภาชนะบรรจุ<br>· ADR, IMDG, IATA  | III   |
| · 14.5 สิ่งที่เป็นอันตรายต่อสภาพแวดล้อม   | ไม่สามารถใช้ได้   |
| · 14.6 การป้องกันพิเศษล่วงหน้าสำหรับผู้ใช้<br>· รหัสความอันตราย:<br>· หมายเลข EMS<br>· Segregation groups<br>· Stowage Category<br>· Stowage Code<br>· Segregation Code | คำเตือน !: สารกัดกร่อน<br>88<br>F-A,S-B<br>Acids<br>B<br>SW2 Clear of living quarters.<br>SG36 Stow "separated from" SGG18-alkalis.<br>SG49 Stow "separated from" SGG6-cyanides |
| · 14.7 การขนส่งขนาดใหญ่ตามภาคผนวก 2 ของ<br>MARPOL73/78 และรหัส IBC  | ไม่สามารถใช้ได้   |
| · การขนส่ง/ข้อมูลรายละเอียดเสริม  |   |
| · ADR<br>· ปริมาณที่จำกัด (LQ)<br>· Excepted quantities (EQ)  | 0<br>Code: E0<br>Not permitted as Excepted Quantity   |
| · หมวดหมู่การขนส่ง<br>· รหัสควบคุมการผ่านอุโมงค์  | 1<br>E  |
| · IMDG<br>· Limited quantities (LQ)<br>· Excepted quantities (EQ)   | 0<br>Code: E0<br>Not permitted as Excepted Quantity   |
| · “กฎระเบียบต้นแบบ” ของ UN  | UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.<br>(METHANOL, ACETIC ACID, GLACIAL), 8, III   |

**15 ข้อมูลด้านกฎข้อบังคับ**

- 15.1 ความปลอดภัย สุขภาพและระเบียบ/กฎหมายสิ่งแวดล้อมโดยเฉพาะของสารหรือสารผสม
- บัญชีรายชื่อวัตถุอันตราย

## · กรมวิชาการเกษตร

ไม่มีส่วนผสมอยู่ในรายการ

## · กรมประมง

50-00-0 พอร์มัลดีไฮด์

ชนิดที่ 2

64-19-7 กรดอะซีติก

ชนิดที่ 3

## · กรมปศุสัตว์

50-00-0 พอร์มัลดีไฮด์

ชนิดที่ 3

64-19-7 กรดอะซีติก

ชนิดที่ 3

## · อาหารและยา

50-00-0 พอร์มัลดีไฮด์

ชนิดที่ 4

64-19-7 กรดอะซีติก

ชนิดที่ 3

67-56-1 เมทานอล

ชนิดที่ 4

(ต่อหน้า 10)

## แผนข้อมูลความปลอดภัย ตาม GHS

วันที่พิมพ์ 2022.06.03

การปรับปรุงใหม่ : 2022.06.03

### ชื่อทางการค้า BOUIN'S FLUID

(ต่อหน้า 9)

|  |               |           |
|--|---------------|-----------|
| · <b>กรมโรงงานอุตสาหกรรม</b>   |               |           |
| 50-00-0  | ฟอร์มาลดีไฮด์ | ชนิดที่ 2 |
| 64-19-7  | กรดอะซิติก    | ชนิดที่ 3 |
| 67-56-1  | เมทานอล       | ชนิดที่ 1 |
| 88-89-1  | กรดฟอสฟอริก   | ชนิดที่ 3 |
| · <b>กรมธุรกิจพลังงาน</b>  |               |           |
| ไม่มีส่วนผสมอยู่ในรายการ   |               |           |
| · <b>ทำเนียบสารเคมีที่มีอยู่แล้วของประเทศไทย (กรมโรงงานอุตสาหกรรม)</b> |               |           |
| ส่วนผสมทั้งหมดอยู่ในรายการ   |               |           |

· **กฎหมายของประเทศ**· **ข้อมูลรายละเอียดเกี่ยวกับขอบเขตการใช้งาน**

ไม่อนุญาตให้คนงานเข้าไปสัมผัสกับวัตถุอันตรายที่ทำให้เกิดมะเร็งซึ่งมีอยู่ในการผลิตช็อกวุ้นอาจทำได้เมื่อได้รับอนุญาตจากผู้มีอำนาจในบางกรณี

· **15.2 การประเมินความปลอดภัยของสารเคมี:** ไม่ได้ดำเนินการตามการประเมินความปลอดภัยของสารเคมี

## 16 ข้อมูลอื่นๆ

ข้อมูลรายละเอียดนี้ใช้ความรู้ปัจจุบันของเราเป็นหลักอย่างไรก็ตามข้อมูลนี้ไม่ใช่การรับประกันจากสถาบันต่อคุณสมบัติเฉพาะของผลิตภัณฑ์และไม่สามารถยืนยันการบังคับใช้ตามกฎหมายที่เกี่ยวข้องกับสัญญา

· **วัสดุที่เกี่ยวข้องกับ**

- H201 ระเบิดอันตรายจากการระเบิดขนาดใหญ่
- H225 ของเหลวและไอที่ไวไฟสูง
- H226 ของเหลวและไอที่ไวไฟ
- H301 มีพิษหากกลืนเข้าไป
- H302 เป็นอันตรายหากกลืนเข้าไป
- H311 มีพิษโดยการสัมผัสกับผิวหนัง
- H312 เป็นอันตรายหากสัมผัสกับผิวหนัง
- H314 เป็นสาเหตุให้ผิวหนังไหม้อย่างสาหัสและทำอันตรายต่อดวงตา
- H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้
- H331 มีพิษหากสูดหายใจเข้า
- H332 ให้โทษหากสูดหายใจเข้า
- H341 สงสัยว่าเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม
- H350 อาจเป็นเหตุให้เกิดมะเร็ง
- H370 เป็นสาเหตุทำให้อวัยวะเสียหาย

· **คำย่อและชื่อย่อที่ผสมขึ้น**

- ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- 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)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Expl. 1.1: Explosives – Division 1.1
- Unst. Expl.: Explosives – Unstable explosive
- Flam. Liq. 2: Flammable liquids – Category 2
- Flam. Liq. 3: Flammable liquids – Category 3
- Acute Tox. 3: Acute toxicity – Category 3
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Corr. 1: Skin corrosion/irritation – Category 1

(ต่อหน้า 11)

แผ่นข้อมูลความปลอดภัย  
ตาม GHS

วันที่พิมพ์ 2022.06.03

การปรับปรุงใหม่ : 2022.06.03

ชื่อทางการค้า **BOUIN'S FLUID**

Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
Skin Sens. 1: Skin sensitisation – Category 1  
Muta. 2: Germ cell mutagenicity – Category 2  
Carc. 1B: Carcinogenicity – Category 1B  
STOT SE 1: Specific target organ toxicity (single exposure) – Category 1  
STOT SE 2: Specific target organ toxicity (single exposure) – Category 2

(ต่อหน้า 10)

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