

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

## 1 Identification

- **Product identifier**
- **Trade name:** BOUIN'S SOLUTION
- **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: sgkcck@aol.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**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.



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 organs.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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

- **Label elements**

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

- **Hazard pictograms**



GHS02



GHS07



GHS08

(Contd. on page 2)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 1)

· **Signal word** *Danger*

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

*formaldehyde*  
*Methyl Alcohol*  
*2,4,6-trinitrophenol*

· **Hazard statements**

*Flammable liquid and vapor.*  
*Harmful if swallowed.*  
*Causes skin irritation.*  
*Causes serious eye irritation.*  
*May cause an allergic skin reaction.*  
*Suspected of causing genetic defects.*  
*May cause cancer.*  
*May cause damage to organs.*

· **Precautionary statements**

*Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*  
*Use explosion-proof electrical/ventilating/lighting/equipment.*  
*Do not breathe dust/fume/gas/mist/vapors/spray.*  
*Wear protective gloves / eye protection / face protection.*  
*Wear protective gloves.*  
*Wear eye protection / face protection.*  
*Ground/bond container and receiving equipment.*  
*Keep container tightly closed.*  
*Use only non-sparking tools.*  
*Take precautionary measures against static discharge.*  
*Wash thoroughly after handling.*  
*Do not eat, drink or smoke when using this product.*  
*Contaminated work clothing must not be allowed out of the workplace.*  
*Obtain special instructions before use.*  
*Do not handle until all safety precautions have been read and understood.*  
*IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*  
*If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*  
*Continue rinsing.*  
*Specific treatment (see on this label).*  
*If swallowed: Call a poison center/doctor if you feel unwell.*  
*Wash contaminated clothing before reuse.*  
*IF exposed or concerned: Get medical advice/attention.*  
*If skin irritation or rash occurs: Get medical advice/attention.*  
*If eye irritation persists: Get medical advice/attention.*  
*Rinse mouth.*  
*In case of fire: Use for extinction: CO2, powder or water spray.*  
*Take off contaminated clothing and wash it before reuse.*  
*Store locked up.*  
*Store in a well-ventilated place. Keep cool.*  
*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



*Health = 1*  
*Fire = 2*  
*Reactivity = 0*

(Contd. on page 3)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 2)

· **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = *1
FIRE	2	Fire = 2
REACTIVITY	0	Reactivity = 0

- **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	2.5-10%
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%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 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:** No special measures required.

US

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 3)

## 6 Accidental release measures

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

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

50-00-0 formaldehyde

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

(Contd. on page 5)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 4)

REL	Long-term value: 0.016 ppm Ceiling limit value: 0.1* ppm *15-min; See Pocket Guide App. A
TLV	Ceiling limit value: 0.37 mg/m <sup>3</sup> , 0.3 ppm (SEN) NIC-DSEN; RSEN

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

PEL	Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
REL	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 ppm
TLV	Short-term value: 37 mg/m <sup>3</sup> , 15 ppm Long-term value: 25 mg/m <sup>3</sup> , 10 ppm

**67-56-1 Methyl Alcohol**

PEL	Long-term value: 260 mg/m <sup>3</sup> , 200 ppm
REL	Short-term value: 325 mg/m <sup>3</sup> , 250 ppm Long-term value: 260 mg/m <sup>3</sup> , 200 ppm Skin
TLV	Short-term value: 328 mg/m <sup>3</sup> , 250 ppm Long-term value: 262 mg/m <sup>3</sup> , 200 ppm Skin; BEI

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

PEL	Long-term value: 0.1 mg/m <sup>3</sup> Skin
REL	Short-term value: 0.3 mg/m <sup>3</sup> Long-term value: 0.1 mg/m <sup>3</sup> Skin
TLV	Long-term value: 0.1 mg/m <sup>3</sup>

**· Ingredients with biological limit values:**

**67-56-1 Methyl Alcohol**

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

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

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

· **Breathing equipment:**

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

· **Protection of hands:**



Protective gloves

(Contd. on page 6)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 5)

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Yellow
<b>Odor:</b>	Pungent
<b>Odour threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	98 °C (208 °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:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

· **Explosion limits:**

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

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17 mm Hg)

· **Density at 20 °C (68 °F):** 1.11 g/cm<sup>3</sup> (9.263 lbs/gal)

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 6)

- |   |  |
|---|--|
| <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>                          | 18.0 %                                     |
| <b>Water:</b>                                     | 81.0 %                                     |
| <b>VOC content:</b>                               | 18.0 %                                     |
|   | 1980.2 g/l / 16.53 lb/gl                   |
| <b>Solids content:</b>                            | 1.0 %                                      |
| <b>· Other information</b>                        | No further relevant information available. |

## 10 Stability and reactivity

- **Reactivity**
- **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	5628 mg/kg (rat)
Dermal	LD50	15800 mg/kg (rabbit)

- **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.

- **on the eye:** Irritating effect.

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

- **Additional toxicological information:**

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

Harmful

Irritant

Carcinogenic.

- **Carcinogenic categories**

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

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 7)

· <b>NTP (National Toxicology Program)</b>	
50-00-0 formaldehyde	K
· <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.  
 Danger to drinking water if even small quantities leak into the ground.*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **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>    | UN1993   |
| · <b>UN proper shipping name</b> |  |
| · <b>DOT</b>                     | <i>Flammable liquids, n.o.s. (Methanol, Acetic acid, glacial)</i>      |
| · <b>ADR</b>                     | <i>1993 Flammable liquids, n.o.s. (Methanol, Acetic acid, glacial)</i> |
| · <b>IMDG, IATA</b>              | <i>FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)</i>       |

(Contd. on page 9)

US



# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 8)

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

· **Class** 3 Flammable liquids  
 · **Label** 3

· **ADR, IMDG, IATA**

· **Class** 3 Flammable liquids  
 · **Label** 3

· **Packing group**· **DOT, ADR, IMDG, IATA** III· **Environmental hazards:**· **Marine pollutant:** No· **Special precautions for user** Warning: Flammable liquids· **Danger code (Kemler):** 30· **EMS Number:** F-E,S-E· **Segregation groups** Acids

· **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: 60 L  
 On cargo aircraft only: 220 L

· **ADR**

· **Excepted quantities (EQ)** Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

· **IMDG**

· **Limited quantities (LQ)** 5L  
 · **Excepted quantities (EQ)** Code: E1  
 Maximum net quantity per inner packaging: 30 ml  
 Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":** UN1993, Flammable liquids, n.o.s. (Methanol, Acetic acid, glacial),  
 3, III

US

(Contd. on page 10)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(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 ingredients are listed.

· **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 established by ACGIH)**

50-00-0	formaldehyde	A2
---------	--------------	----

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

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

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

· **Hazard pictograms**



GHS02

GHS07

GHS08

· **Signal word** *Danger*

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

formaldehyde

Methyl Alcohol

2,4,6-trinitrophenol

· **Hazard statements**

Flammable liquid and vapor.

Harmful if swallowed.

Causes skin irritation.

Causes serious eye irritation.

May cause an allergic skin reaction.

(Contd. on page 11)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 10)

*Suspected of causing genetic defects.*

*May cause cancer.*

*May cause damage to organs.*

**· Precautionary statements**

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

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

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

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

*Wear protective gloves.*

*Wear eye protection / face protection.*

*Ground/bond container and receiving equipment.*

*Keep container tightly closed.*

*Use only non-sparking tools.*

*Take precautionary measures against static discharge.*

*Wash thoroughly after handling.*

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

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

*Obtain special instructions before use.*

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

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

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

*Continue rinsing.*

*Specific treatment (see on this label).*

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

*Wash contaminated clothing before reuse.*

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

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

*If eye irritation persists: Get medical advice/attention.*

*Rinse mouth.*

*In case of fire: Use for extinction: CO2, powder or water spray.*

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

*Store locked up.*

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

*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.*

**· Date of preparation / last revision** 06/09/2015 / -

**· Abbreviations and acronyms:**

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

*IMDG: International Maritime Code for Dangerous Goods*

*DOT: US Department of Transportation*

*IATA: International Air Transport Association*

*ACGIH: American Conference of Governmental Industrial Hygienists*

*EINECS: European Inventory of Existing Commercial Chemical Substances*

*ELINCS: European List of Notified Chemical Substances*

(Contd. on page 12)

**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 06/09/2015

Reviewed on 06/09/2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 11)

*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**Flam. Liq. 3: Flammable liquids, Hazard Category 3**Acute Tox. 4: Acute toxicity, Hazard Category 4**Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2**Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A**Skin Sens. 1: Sensitisation - Skin, Hazard Category 1**Muta. 2: Germ cell mutagenicity, Hazard Category 2**Carc. 1B: Carcinogenicity, Hazard Category 1B**STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2*

US

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

Printing date 09.06.2015

Revision: 09.06.2015

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

· **Product identifier**

· **Trade name:** BOUIN'S SOLUTION

· **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: [sgkcck@aol.com](mailto:sgkcck@aol.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)

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 Hazards identification

· **Classification of the substance or mixture**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



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 organs.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

(Contd. on page 2)

AU

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

Printing date 09.06.2015

Revision: 09.06.2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 1)

*Skin Irrit. 2 H315 Causes skin irritation.**Eye Irrit. 2 H319 Causes serious eye irritation.**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**

GHS02

GHS07

GHS08

**· Signal word** *Danger***· Hazard-determining components of labelling:***formaldehyde**Methyl Alcohol**2,4,6-trinitrophenol***· Hazard statements***Flammable liquid and vapour.**Harmful if swallowed.**Causes skin irritation.**Causes serious eye irritation.**May cause an allergic skin reaction.**Suspected of causing genetic defects.**May cause cancer.**May cause damage to organs.***· Precautionary statements***Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Use explosion-proof electrical/ventilating/lighting/equipment.**Do not breathe dust/fume/gas/mist/vapours/spray.**Wear protective gloves / eye protection / face protection.**Wear protective gloves.**Wear eye protection / face protection.**Ground/bond container and receiving equipment.**Keep container tightly closed.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Contaminated work clothing should not be allowed out of the workplace.**Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**Specific treatment (see on this label).**IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.**Wash contaminated clothing before reuse.**IF exposed or concerned: Get medical advice/attention.**If skin irritation or rash occurs: Get medical advice/attention.**If eye irritation persists: Get medical advice/attention.**Rinse mouth.*

(Contd. on page 3)

# Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 09.06.2015

Revision: 09.06.2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 2)

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

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

*Store locked up.*

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

*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/information on ingredients

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

· **Dangerous components:**

50-00-0	formaldehyde	2.5-10%
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%

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

### 4 First aid measures

- **Description of first aid measures**
- **General information:**  
*Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.*
- **After inhalation:**  
*Supply fresh air and to be sure call for a doctor.*  
*In case of unconsciousness place patient stably in side position for transportation.*
- **After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*
- **After eye contact:**  
*Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.*
- **After swallowing:** *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 Firefighting 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:** *No special measures required.*

AU

(Contd. on page 4)

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

Printing date 09.06.2015

Revision: 09.06.2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 3)

## 6 Accidental release measures

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

NES	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

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

(Contd. on page 5)



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

Printing date 09.06.2015

Revision: 09.06.2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 4)

**67-56-1 Methyl Alcohol**

NES 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**

NES 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 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

## 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.

(Contd. on page 6)

-AU

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

Printing date 09.06.2015

Revision: 09.06.2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 5)

· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	98 °C
· <b>Flash point:</b>	40 °C
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	300 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>Self-igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<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>	18.0 %
<b>Water:</b>	81.0 %
<b>VOC (EC)</b>	18.00 %
<b>Solids content:</b>	1.0 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **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.

AU

(Contd. on page 7)

# Safety data sheet

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

Printing date 09.06.2015

Revision: 09.06.2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 6)

### 11 Toxicological information

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

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

#### 50-00-0 formaldehyde

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

#### 67-56-1 Methyl Alcohol

Oral	LD50	5628 mg/kg (rat)
------	------	------------------

Dermal	LD50	15800 mg/kg (rabbit)
--------	------	----------------------

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.
- **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:

Harmful

Irritant

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.  
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **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.

(Contd. on page 8)

-AU-

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


Printing date 09.06.2015

Revision: 09.06.2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 7)

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.**14 Transport information**

· UN-Number · ADG, IMDG, IATA	UN1993
· UN proper shipping name · ADG · IMDG, IATA	1993 FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL) FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)
· Transport hazard class(es) · ADG, IMDG, IATA	
· Class · Label	3 Flammable liquids. 3
· Packing group · ADG, IMDG, IATA	III
· Environmental hazards: · Marine pollutant:	No
· Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups	Warning: Flammable liquids. 30 F-E,S-E Acids
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category · Tunnel restriction code	3 D/E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL), 3, III

AU

(Contd. on page 9)

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

Printing date 09.06.2015

Revision: 09.06.2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 8)

**15 Regulatory information**

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

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

· **Standard for the Uniform Scheduling of Medicines and Poisons**

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

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

· **Hazard pictograms**



GHS02    GHS07    GHS08

· **Signal word** *Danger*

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

*formaldehyde*

*Methyl Alcohol*

*2,4,6-trinitrophenol*

· **Hazard statements**

*Flammable liquid and vapour.*

*Harmful if swallowed.*

*Causes skin irritation.*

*Causes serious eye irritation.*

*May cause an allergic skin reaction.*

*Suspected of causing genetic defects.*

*May cause cancer.*

*May cause damage to organs.*

· **Precautionary statements**

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

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

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

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

*Wear protective gloves.*

*Wear eye protection / face protection.*

*Ground/bond container and receiving equipment.*

*Keep container tightly closed.*

*Use only non-sparking tools.*

*Take precautionary measures against static discharge.*

*Wash thoroughly after handling.*

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

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

*Obtain special instructions before use.*

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

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

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

*Continue rinsing.*

(Contd. on page 10)

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

Printing date 09.06.2015

Revision: 09.06.2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 9)

*Specific treatment (see on this label).**IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.**Wash contaminated clothing before reuse.**IF exposed or concerned: Get medical advice/attention.**If skin irritation or rash occurs: Get medical advice/attention.**If eye irritation persists: Get medical advice/attention.**Rinse mouth.**In case of fire: Use for extinction: CO2, powder or water spray.**Take off contaminated clothing and wash it before reuse.**Store locked up.**Store in a well-ventilated place. Keep cool.**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.· **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.*· **Abbreviations and acronyms:***ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**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**Flam. Liq. 3: Flammable liquids, Hazard Category 3**Acute Tox. 4: Acute toxicity, Hazard Category 4**Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2**Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2**Skin Sens. 1: Sensitisation - Skin, Hazard Category 1**Muta. 2: Germ cell mutagenicity, Hazard Category 2**Carc. 1B: Carcinogenicity, Hazard Category 1B**STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2*

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

## 1 Identification

- **Product identifier**
- **Trade name:** BOUIN'S SOLUTION
- **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: sgkcck@aol.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**



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.



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 organs.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Not applicable.



Toxic

May cause cancer.



Harmful

Harmful if swallowed. Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

(Contd. on page 2)

CA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 1)

**Irritant**

*Irritating to eyes and skin. May cause sensitisation by skin contact.*

*Flammable.*

· **Information concerning particular hazards for human and environment:**

*The product has to be labeled due to the calculation procedure of international guidelines.*

· **Classification system:**

*The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.*

· **Label elements**

· **Labelling according to EU guidelines:**

*The product has been classified and marked in accordance with directives on hazardous materials.*

· **Code letter and hazard designation of product:**

**Toxic**

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

*formaldehyde*

*Methyl Alcohol*

· **Risk phrases:**

*May cause cancer.*

*Flammable.*

*Also harmful if swallowed.*

*Irritating to eyes and skin.*

*May cause sensitisation by skin contact.*

*Also harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.*

· **Safety phrases:**

*Avoid exposure - obtain special instructions before use.*

*Avoid contact with skin.*

*Wear suitable gloves and eyeface protection.*

*In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).*

*This material and its container must be disposed of as hazardous waste.*

· **Hazard description:**

· **WHMIS-symbols:**

*B3 - Combustible liquid*

*D2A - Very toxic material causing other toxic effects*



· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



*Health = 1*

*Fire = 2*

*Reactivity = 0*

(Contd. on page 3)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 2)

· **HMIS-ratings (scale 0 - 4)**

HEALTH	1	Health = *1
FIRE	2	Fire = 2
REACTIVITY	0	Reactivity = 0

- **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	5-10%
64-19-7	Acetic Acid Glacial	1-5%
67-56-1	Methyl Alcohol	1-5%
88-89-1	2,4,6-trinitrophenol	≤ 1%

### 4 First-aid measures

- **Description of first aid measures**
- **General information:**  
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**  
Supply fresh air and to be sure call for a doctor.  
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 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:** No special measures required.

CA

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 3)

## 6 Accidental release measures

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

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

### 50-00-0 formaldehyde

EL	Long-term value: 0.3 ppm Ceiling limit value: 1 ppm ACGIH A2; IARC 1; S
EV	Short-term value: 1.0 ppm
Ceiling limit value	1.5 ppm

(Contd. on page 5)

CA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 4)

### 64-19-7 Acetic Acid Glacial

EL	Short-term value: 15 ppm Long-term value: 10 ppm
EV	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

EL	Short-term value: 250 ppm Long-term value: 200 ppm Skin
EV	Short-term value: 325 mg/m <sup>3</sup> , 250 ppm Long-term value: 260 mg/m <sup>3</sup> , 200 ppm Skin

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

EL	Long-term value: 0.1 mg/m <sup>3</sup> S
EV	Short-term value: 0.3 mg/m <sup>3</sup> Long-term value: 0.1 mg/m <sup>3</sup> 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 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.

· **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.

(Contd. on page 6)

CA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 5)

· **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>Odour threshold:</b>	Not determined.

· **pH-value:** Not determined.· **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:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.· **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>Vapour 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:**

· <b>Dynamic:</b>	Not determined.
· <b>Kinematic:</b>	Not determined.

· **Solvent content:**

· <b>Organic solvents:</b>	18.0 %
· <b>Water:</b>	81.0 %

· **Solids content:** 1.0 %

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 6)

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

## 10 Stability and reactivity

- **Reactivity**
- **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	5628 mg/kg (rat)
------	------	------------------

Dermal	LD50	15800 mg/kg (rabbit)
--------	------	----------------------

· **Primary irritant effect:**

- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** Sensitization possible through skin contact.

· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:  
 Harmful  
 Irritant  
 Carcinogenic.

· **Carcinogenic categories**

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

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

· **NTP (National Toxicology Program)**

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

· **OSHA-Ca (Occupational Safety Health Administration)**

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.

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**



(Contd. of page 7)

- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
*Water hazard class 2 (Self-assessment): hazardous for water*  
*Do not allow product to reach ground water, water course or sewage system.*  
*Danger to drinking water if even small quantities leak into the ground.*
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **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>  | UN1993  |
| <b>· DOT, TDG, IMDG, IATA</b>   |   |
| <b>· UN proper shipping name</b>  | Flammable liquids, n.o.s. (Methanol, Acetic acid, glacial)      |
| <b>· DOT</b>  | 1993 Flammable liquids, n.o.s. (Methanol, Acetic acid, glacial) |
| <b>· TDG</b>  | FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)       |
| <b>· IMDG, IATA</b>   |   |
| <b>· Transport hazard class(es)</b>   |   |
| <b>· DOT</b>  |   |
|  |   |
| <b>· Class</b>  | 3 Flammable liquids   |
| <b>· Label</b>  | 3   |
| <b>· TDG, IMDG, IATA</b>  |   |
|  |   |
| <b>· Class</b>  | 3 Flammable liquids   |
| <b>· Label</b>  | 3   |
| <b>· Packing group</b>  | III   |
| <b>· DOT, TDG, IMDG, IATA</b>   |   |

(Contd. on page 9)

CA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 8)

· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Warning: Flammable liquids
· <b>Danger code (Kemler):</b>	30
· <b>EMS Number:</b>	F-E,S-E
· <b>Segregation groups</b>	Acids
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>DOT</b>	
· <b>Quantity limitations</b>	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
· <b>TDG</b>	
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN1993, Flammable liquids, n.o.s. (Methanol, Acetic acid, glacial), 3, III

## 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 ingredients are listed.

### · 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.

(Contd. on page 10)

CA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 9)

· <b>Chemicals known to cause developmental toxicity:</b>	
67-56-1	Methyl Alcohol

· <b>Carcinogenic categories</b>		
· <b>EPA (Environmental Protection Agency)</b>		
50-00-0	formaldehyde	B1

· <b>TLV (Threshold Limit Value established by ACGIH)</b>		
50-00-0	formaldehyde	A2

· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>	
50-00-0	formaldehyde

· <b>Canadian substance listings:</b>	
· <b>Canadian Domestic Substances List (DSL)</b>	
All ingredients are listed.	

· <b>Canadian Ingredient Disclosure list (limit 0.1%)</b>	
50-00-0	formaldehyde

· <b>Canadian Ingredient Disclosure list (limit 1%)</b>	
64-19-7	Acetic Acid Glacial
67-56-1	Methyl Alcohol
88-89-1	2,4,6-trinitrophenol

· **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

· **Hazard symbols:**



Toxic

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

formaldehyde

Methyl Alcohol

· **Risk phrases:**

May cause cancer.

Flammable.

Also harmful if swallowed.

Irritating to eyes and skin.

May cause sensitisation by skin contact.

Also harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

· **Safety phrases:**

Avoid exposure - obtain special instructions before use.

Avoid contact with skin.

Wear suitable gloves and eyeface protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

· **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.

(Contd. on page 11)



# Safety Data Sheet

## acc. to OSHA HCS

Printing date 06/09/2015

Reviewed on 06/09/2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 10)

· **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.*

· **Date of preparation / last revision** 06/09/2015 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

WHMIS: Workplace Hazardous Materials Information System (Canada)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Flam. Liq. 3: Flammable liquids, Hazard Category 3

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

Muta. 2: Germ cell mutagenicity, Hazard Category 2

Carc. 1B: Carcinogenicity, Hazard Category 1B

STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2

CA

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

Printing date 09.06.2015

Revision: 09.06.2015

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

- **1.1 Product identifier**
- **Trade name:** BOUIN'S SOLUTION
- **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: sgkcck@aol.com  
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**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



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 organs.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.  
Skin Irrit. 2 H315 Causes skin irritation.  
Eye Irrit. 2 H319 Causes serious eye irritation.  
Skin Sens. 1 H317 May cause an allergic skin reaction.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**  
The product is classified and labelled according to the CLP regulation.

(Contd. on page 2)

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

Printing date 09.06.2015

Revision: 09.06.2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 1)

**· Hazard pictograms****· Signal word Danger****· Hazard-determining components of labelling:**

formaldehyde

Methyl Alcohol

2,4,6-trinitrophenol

**· Hazard statements**

H226 Flammable liquid and vapour.

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction.

H341 Suspected of causing genetic defects.

H350 May cause cancer.

H371 May cause damage to organs.

**· Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.

P321 Specific treatment (see on this label).

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.**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 EINECS: 200-001-8	formaldehyde 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	2.5-10%
CAS: 64-19-7 EINECS: 200-580-7	Acetic Acid Glacial Flam. Liq. 3, H226; Skin Corr. 1A, H314	2.5-10%
CAS: 67-56-1 EINECS: 200-659-6	Methyl Alcohol Flam. Liq. 2, H225; STOT SE 1, H370; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	2.5-10%

(Contd. on page 3)

# Safety data sheet



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

Printing date 09.06.2015

Revision: 09.06.2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 2)

CAS: 88-89-1	2,4,6-trinitrophenol	≤ 2.5%
EINECS: 201-865-9	 Expl. 1.1, H201;  Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331	

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

### SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· **General information:**

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

· **After inhalation:**

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

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

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

· **After eye contact:**

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

· **After swallowing:** 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.

· **5.3 Advice for firefighters**

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

### 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).

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.

GB

(Contd. on page 4)

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

Printing date 09.06.2015

Revision: 09.06.2015

Trade name: **BOUIN'S SOLUTION**

(Contd. of page 3)

### 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

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

· **8.1 Control parameters**

· **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

**67-56-1 Methyl Alcohol**

WEL Short-term value: 333 mg/m<sup>3</sup>, 250 ppm

Long-term value: 266 mg/m<sup>3</sup>, 200 ppm

Sk

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

WEL Short-term value: 0.3 mg/m<sup>3</sup>

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 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.

(Contd. on page 5)

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

Printing date 09.06.2015

Revision: 09.06.2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 4)

**· 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

## SECTION 9: Physical and chemical properties

**· 9.1 Information on basic physical and chemical properties****· General Information****· Appearance:**

<b>Form:</b>	Liquid
<b>Colour:</b>	Yellow
<b>· Odour:</b>	Pungent
<b>· Odour threshold:</b>	Not determined.

**· pH-value:** Not determined.

**· 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 applicable.

**· Ignition temperature:** 300 °C

**· Decomposition temperature:** Not determined.

**· Self-igniting:** Product is not selfigniting.

**· Danger of explosion:** Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

**· Explosion limits:**

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

**· Vapour pressure at 20 °C:** 23 hPa

(Contd. on page 6)

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

Printing date 09.06.2015

Revision: 09.06.2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 5)

· <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>	18.0 %
<b>Water:</b>	81.0 %
<b>VOC (EC)</b>	18.00 %
<b>Solids content:</b>	1.0 %
· <b>9.2 Other information</b>	No further relevant information available.

### SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **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**

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

**50-00-0 formaldehyde**

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

**67-56-1 Methyl Alcohol**

Oral	LD50	5628 mg/kg (rat)
Dermal	LD50	15800 mg/kg (rabbit)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.
- **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:

Harmful  
Irritant  
Carcinogenic.

(Contd. on page 7)

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

Printing date 09.06.2015

Revision: 09.06.2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 6)

- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**  
Muta. 2, Carc. 1B


### 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.  
Danger to drinking water if even small quantities leak into the ground.
- **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>                  |   |
| · <b>ADR, IMDG, IATA</b>                 | UN1993  |
| · <b>14.2 UN proper shipping name</b>    |   |
| · <b>ADR</b>                             | 1993 FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)                      |
| · <b>IMDG, IATA</b>                      | FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)                           |
| · <b>14.3 Transport hazard class(es)</b> |   |
| · <b>ADR, IMDG, IATA</b>                 |   |
|  |  |
| · <b>Class</b>                           | 3 Flammable liquids.  |
| · <b>Label</b>                           | 3   |

(Contd. on page 8)



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

Printing date 09.06.2015

Revision: 09.06.2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 7)

· <b>14.4 Packing group</b> · <b>ADR, IMDG, IATA</b>	<b>III</b>
· <b>14.5 Environmental hazards:</b> · <b>Marine pollutant:</b>	<b>No</b>
· <b>14.6 Special precautions for user</b> · <b>Danger code (Kemler):</b> · <b>EMS Number:</b> · <b>Segregation groups</b>	<b>Warning: Flammable liquids.</b> <b>30</b> <b>F-E,S-E</b> <b>Acids</b>
· <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	<b>Not applicable.</b>
· <b>Transport/Additional information:</b>	
· <b>ADR</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	<b>5L</b> <b>Code: E1</b> <b>Maximum net quantity per inner packaging: 30 ml</b> <b>Maximum net quantity per outer packaging: 1000 ml</b>
· <b>Transport category</b> · <b>Tunnel restriction code</b>	<b>3</b> <b>D/E</b>
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	<b>5L</b> <b>Code: E1</b> <b>Maximum net quantity per inner packaging: 30 ml</b> <b>Maximum net quantity per outer packaging: 1000 ml</b>
· <b>UN "Model Regulation":</b>	<b>UN1993, FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL), 3, III</b>

### 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.
- **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.
- **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.

(Contd. on page 9)

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

Printing date 09.06.2015

Revision: 09.06.2015

**Trade name: BOUIN'S SOLUTION**

(Contd. of page 8)

H302 Harmful if swallowed.  
 H311 Toxic in contact with skin.  
 H312 Harmful in contact with skin.  
 H314 Causes severe skin burns and eye damage.  
 H315 Causes skin irritation.  
 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 européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 IMDG: International Maritime Code for Dangerous Goods  
 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  
 Expl. 1.1: Explosives, Division 1.1  
 Flam. Liq. 2: Flammable liquids, Hazard Category 2  
 Flam. Liq. 3: Flammable liquids, Hazard Category 3  
 Acute Tox. 3: Acute toxicity, Hazard Category 3  
 Acute Tox. 4: Acute toxicity, Hazard Category 4  
 Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A  
 Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B  
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2  
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2  
 Skin Sens. 1: Sensitisation - Skin, Hazard Category 1  
 Muta. 2: Germ cell mutagenicity, Hazard Category 2  
 Carc. 1B: Carcinogenicity, Hazard Category 1B  
 STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1  
 STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2

GB

# Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 09.06.2015

Herziening van: 09.06.2015

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

- **1.1 Productidentificatie**
- **Handelsnaam:** BOUIN'S SOLUTION
- **Artikelnummer:** 26386-01
- **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: sgkcck@aol.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**



GHS02 vlam

Flam. Liq. 3 H226 Ontvlambare vloeistof en damp.



GHS08 gezondheidsgevaar

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

Carc. 1B H350 Kan kanker veroorzaken.

STOT SE 2 H371 Kan schade aan organen veroorzaken.



GHS07

Acute Tox. 4 H302 Schadelijk bij inslikken.

Skin Irrit. 2 H315 Veroorzaakt huidirritatie.

Eye Irrit. 2 H319 Veroorzaakt ernstige oogirritatie.

Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.

(Vervolg op blz. 2)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 09.06.2015

Herziening van: 09.06.2015

**Handelsnaam: BOUIN'S SOLUTION**

(Vervolg van blz. 1)

- **2.2 Etiketteringselementen**
- **Etikettering overeenkomstig Verordening (EG) nr. 1272/2008**  
Het product is geclassificeerd en geëtiketteerd volgens de CLP-verordening.
- **Gevarenpictogrammen**



GHS02 GHS07 GHS08

- **Signaalwoord** Gevaar
- **Gevaaraanduidende componenten voor de etikettering:**  
formaldehyde  
methanol  
2,4,6-trinitrofenol
- **Gevaarenaanduidingen**  
H226 Ontvlambare vloeistof en damp.  
H302 Schadelijk bij inslikken.  
H315 Veroorzaakt huidirritatie.  
H319 Veroorzaakt ernstige oogirritatie.  
H317 Kan een allergische huidreactie veroorzaken.  
H341 Verdacht van het veroorzaken van genetische schade.  
H350 Kan kanker veroorzaken.  
H371 Kan schade aan organen veroorzaken.
- **Veiligheidsaanbevelingen**  
P210 Verwijderd houden van warmte/vonken/open vuur/hete oppervlakken. - Niet roken.  
P303+P361+P353 BIJ CONTACT MET DE HUID (of het haar): verontreinigde kleding onmiddellijk uittrekken - huid met water afspoelen/afdouchen.  
P305+P351+P338 BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.  
P321 Specifieke behandeling vereist (zie op dit etiket).  
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 onveerbarelijke bijmengingen.

- **Gevaarlijke inhoudstoffen:**

CAS: 50-00-0 EINECS: 200-001-8	formaldehyde ⚠ 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	2,5-10%
CAS: 64-19-7 EINECS: 200-580-7	azijnzuur ⚠ Flam. Liq. 3, H226; ⚠ Skin Corr. 1A, H314	2,5-10%

(Vervolg op blz. 3)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 09.06.2015

Herziening van: 09.06.2015

**Handelsnaam: BOUIN'S SOLUTION**

		(Vervolg van blz. 2)
CAS: 67-56-1 EINECS: 200-659-6	methanol 	2,5-10%
CAS: 88-89-1 EINECS: 201-865-9	2,4,6-trinitrofenol 	≤ 2,5%

**· 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:**

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

**· Na het inademen:**

Veel verse lucht toedienen en voor alle zekerheid een arts raadplegen.

Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

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

**· Na oogcontact:**

De ogen gedurende verscheidene minuten onder stromend water afspoelen terwijl de oogspleet geopend blijft. Bij aanhoudende klachten een dokter raadplegen.

**· Na inslikken:** Onmiddellijk arts raadplegen.

**· 4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.

**· 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 brandweelieden**

**· Speciale beschermende kleding:** Geen bijzondere maatregelen nodig.

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

**· 6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting 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.

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.

(Vervolg op blz. 4)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 09.06.2015

Herziening van: 09.06.2015

**Handelsnaam: BOUIN'S SOLUTION**

(Vervolg van blz. 3)

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

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

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

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

#### 50-00-0 formaldehyde

WGW	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

WGW	Lange termijn waarde: 25 mg/m <sup>3</sup> , 10 ppm
-----	---

#### 67-56-1 methanol

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

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

WGW	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 en de huid vermijden.

(Vervolg op blz. 5)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 09.06.2015

Herziening van: 09.06.2015

**Handelsnaam: BOUIN'S SOLUTION**

(Vervolg van blz. 4)

- **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.

- **Oogbescherming:**



Nauw aansluitende veiligheidsbril

### RUBRIEK 9: Fysische en chemische eigenschappen

- **9.1 Informatie over fysische en chemische basiseigenschappen**

- **Algemene gegevens**

- **Voorkomen:**

**Vorm:** Vloeistof

**Kleur:** Geel

- **Reuk:** Stekend

- **Geurdrempelwaarde:** Niet bepaald.

- **pH-waarde:** Niet bepaald.

- **Toestandsverandering**

**Smeltpunt/smeltbereik:** Niet bepaald.

**Kookpunt/kookpuntbereik:** 98 °C

- **Vlampunt:** 40 °C

- **Ontvlambaarheid (vast, gasvormig):** Niet bruikbaar.

- **Ontstekingstemperatuur:** 300 °C

- **Ontbindingstemperatuur:** Niet bepaald.

- **Zelfonsteking:** Het produkt ontbrandt niet uit zichzelf.

- **Ontploffingsgevaar:** Het produkt is niet ontploffingsgevaarlijk, maar de vorming van ontploffingsgevaarlijke damp-/luchtmengsels is mogelijk.

- **Ontploffingsgrenzen:**

**Onderste:** Niet bepaald.

(Vervolg op blz. 6)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 09.06.2015

Herziening van: 09.06.2015

**Handelsnaam: BOUIN'S SOLUTION**

(Vervolg van blz. 5)

<b>Bovenste:</b>	Niet bepaald.
· <b>Dampspanning bij 20 °C:</b>	23 hPa
· <b>Dichtheid bij 20 °C:</b>	1,11 g/cm <sup>3</sup>
· <b>Relatieve dichtheid</b>	Niet bepaald.
· <b>Dampdichtheid</b>	Niet bepaald.
· <b>Verdampingsnelheid</b>	Niet bepaald.
· <b>Oplosbaarheid in/mengbaarheid met Water:</b>	Volledig mengbaar.
· <b>Verdelingscoëfficiënt (n-octanol/water):</b>	Niet bepaald.
· <b>Viscositeit</b>	
<b>Dynamisch:</b>	Niet bepaald.
<b>Kinematisch:</b>	Niet bepaald.
· <b>Oplosmiddelgehalte:</b>	
<b>Organisch oplosmiddel:</b>	18,0 %
<b>Water:</b>	81,0 %
<b>VOC (EG)</b>	18,00 %
· <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**
- **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**

<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	5628 mg/kg (rat)
Dermaal	LD50	15800 mg/kg (rabbit)

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie** Prikkelde huid en de slijmvliezen.
- **Ernstig oogletsel/oogirritatie** Prikkeling
- **Sensibilisatie van de luchtwegen/de huid** Kan overgevoeligheid veroorzaken bij contact met de huid.
- **Aanvullende toxicologische informatie:**  
Het produkt vertoont op grond van het berekeningsprocédé van de algemene classificatie-richtlijnen van de EG voor toebereidingen in de laatste geldige redactie de volgende gevaren:

(Vervolg op blz. 7)



# Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 09.06.2015

Herziening van: 09.06.2015

**Handelsnaam: BOUIN'S SOLUTION**

(Vervolg van blz. 6)

Schadelijk  
 Irriterend  
 Kanker verwekkend.  
 · **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**  
 Muta. 2, Carc. 1B


## 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) 3: Kan kanker veroorzaken.  
 Gevaar voor water klasse 2 (D) (Zelfclassificatie): gevaar voor water  
 Niet lozen in grondwater, in oppervlaktewater of in riolering.  
 Gevaar voor drinkwater zelfs bij uitlopen van geringe hoeveelheden in de ondergrond.
- **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

- |   |   |
|---|---|
| · <b>14.1 VN-nummer</b>   |   |
| · <b>ADR, IMDG, IATA</b>  | UN1993  |
| · <b>14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN</b>        |   |
| · <b>ADR</b>  | 1993 BRANDBARE VLOEISTOF, N.E.G. (METHANOL, IJSAZIJN)     |
| · <b>IMDG, IATA</b>   | FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL) |
| · <b>14.3 Transportgevaarenklasse(n)</b>  |   |
| · <b>ADR, IMDG, IATA</b>  |   |
|  |   |
| · <b>klasse</b>   | 3 Brandbare vloeistoffen                                  |

(Vervolg op blz. 8)

**Veiligheidsinformatieblad**  
volgens 1907/2006/EG, Artikel 31

datum van de druk: 09.06.2015

Herziening van: 09.06.2015

**Handelsnaam: BOUIN'S SOLUTION**

(Vervolg van blz. 7)

· <b>Etiket</b>	3
· <b>14.4 Verpakkingsgroep:</b> · <b>ADR, IMDG, IATA</b>	III
· <b>14.5 Milieugevaren:</b> · <b>Marine pollutant:</b>	Neen
· <b>14.6 Bijzondere voorzorgen voor de gebruiker</b> · <b>Kemler-getal:</b> · <b>EMS-nummer:</b> · <b>Segregation groups</b>	Waarschuwing: Brandbare vloeistoffen 30 F-E,S-E Acids
· <b>14.7 Vervoer in bulk overeenkomstig bijlage II bij MARPOL 73/78 en de IBC-code</b>	Niet bruikbaar.
· <b>Transport/verdere gegevens:</b>	
· <b>ADR</b> · <b>Beperkte hoeveelheden (LQ)</b> · <b>Uitgezonderde hoeveelheden (EQ)</b>	5L Code: E1 Grootste netto hoeveelheid per binnenverpakking: 30 ml Grootste netto hoeveelheid per buitenverpakking: 1000 ml
· <b>Vervoerscategorie</b> · <b>Tunnelbeperkingscode</b>	3 D/E
· <b>IMDG</b> · <b>Limited quantities (LQ)</b> · <b>Excepted quantities (EQ)</b>	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>VN "Model Regulation":</b>	UN1993, BRANDBARE VLOEISTOF, N.E.G. (METHANOL, IJSAZIEN), 3, III

### RUBRIEK 15: Regelgeving

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

· **SZW-lijst van kankerverwekkende stoffen**

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

· **SZW-lijst van mutagene stoffen**

geen der bestanddelen staat op de lijst.

· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid**

geen der bestanddelen staat op de lijst.

· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling**

67-56-1	methanol	2
---------	----------	---

· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding**

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.

(Vervolg op blz. 9)

# Veiligheidsinformatieblad

## volgens 1907/2006/EG, Artikel 31

datum van de druk: 09.06.2015

Herziening van: 09.06.2015

**Handelsnaam: BOUIN'S SOLUTION**

(Vervolg van blz. 8)

- **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) 3: Saneringsinspanning A
- **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 Ontpofbare stof; gevaar voor massa-explosie.
- H225 Licht ontvlambare vloeistof en damp.
- H226 Ontvlambare vloeistof en damp.
- H301 Giftig bij inslikken.
- H302 Schadelijk bij inslikken.
- H311 Giftig bij contact met de huid.
- H312 Schadelijk bij contact met de huid.
- H314 Veroorzaakt ernstige brandwonden en oogletsel.
- H315 Veroorzaakt huidirritatie.
- 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 européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- 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
- Expl. 1.1: Explosives, Division 1.1
- Flam. Liq. 2: Flammable liquids, Hazard Category 2
- Flam. Liq. 3: Flammable liquids, Hazard Category 3
- Acute Tox. 3: Acute toxicity, Hazard Category 3
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
- Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
- Muta. 2: Germ cell mutagenicity, Hazard Category 2
- Carc. 1B: Carcinogenicity, Hazard Category 1B
- STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1
- STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 09.06.2015

Révision: 09.06.2015

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

- **1.1 Identificateur de produit**
- **Nom du produit:** BOUIN'S SOLUTION
- **Code du produit:** 26386-01
- **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: sgkcck@aol.com  
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

### SECTION 2: Identification des dangers

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



GHS02 flamme

Flam. Liq. 3 H226 Liquide et vapeurs inflammables.



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 les organes.



GHS07

Acute Tox. 4 H302 Nocif en cas d'ingestion.

Skin Irrit. 2 H315 Provoque une irritation cutanée.

Eye Irrit. 2 H319 Provoque une sévère irritation des yeux.

Skin Sens. 1 H317 Peut provoquer une allergie cutanée.

- **2.2 Éléments d'étiquetage**
- **Étiquetage selon le règlement (CE) n° 1272/2008** Le produit est classifié et étiqueté selon le règlement CLP.

(suite page 2)

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 09.06.2015

Révision: 09.06.2015

Nom du produit: **BOUIN'S SOLUTION**

(suite de la page 1)

· **Pictogrammes de danger**

GHS02    GHS07    GHS08

· **Mention d'avertissement** Danger· **Composants dangereux déterminants pour l'étiquetage:**

Formaldéhyde

méthanol

2,4,6-trinitrophénol

· **Mentions de danger**

H226 Liquide et vapeurs inflammables.

H302 Nocif en cas d'ingestion.

H315 Provoque une irritation cutanée.

H319 Provoque une sévère irritation 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 les organes.

· **Conseils de prudence**

P210 Tenir à l'écart de la chaleur/des étincelles/des flammes nues/des surfaces chaudes. - Ne pas fumer.

P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): enlever immédiatement les vêtements contaminés. Rincer la peau à l'eau/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.

P321 Traitement spécifique (voir sur cette étiquette).

P405 Garder sous clef.

P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

· **2.3 Autres dangers**· **Résultats des évaluations PBT et vPvB**· **PBT:** Non applicable.· **vPvB:** Non applicable.

### SECTION 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 EINECS: 200-001-8	Formaldéhyde 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	2,5-10%
CAS: 64-19-7 EINECS: 200-580-7	acide acétique Flam. Liq. 3, H226; Skin Corr. 1A, H314	2,5-10%

(suite page 3)

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 09.06.2015

Révision: 09.06.2015

**Nom du produit: BOUIN'S SOLUTION**

		(suite de la page 2)
CAS: 67-56-1 EINECS: 200-659-6	méthanol 	2,5-10%
CAS: 88-89-1 EINECS: 201-865-9	2,4,6-trinitrophénol 	≤ 2,5%

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

### SECTION 4: Premiers secours

#### · 4.1 Description des premiers secours

##### · Remarques générales:

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

##### · Après inhalation:

Donner de l'air frais en abondance et consulter un médecin pour plus de sécurité.

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. Si les troubles persistent, consulter un médecin.

##### · Après ingestion: 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.

### SECTION 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

#### · Equipement spécial de sécurité: Aucune mesure particulière n'est requise.

### SECTION 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).

Evacuer les matériaux contaminés en tant que déchets conformément au point 13.

Assurer une aération suffisante.

#### · 6.4 Référence à d'autres sections

Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.

(suite page 4)

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 09.06.2015

Révision: 09.06.2015

**Nom du produit: BOUIN'S SOLUTION**

(suite de la page 3)

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.

### SECTION 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.  
Eviter 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.

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

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

#### · 8.1 Paramètres de contrôle

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

#### **50-00-0 Formaldéhyde**

VME	Valeur momentanée: 1 ppm Valeur à long terme: 0,5 ppm C2
-----	--

#### **64-19-7 acide acétique**

VME	Valeur momentanée: 25 mg/m <sup>3</sup> , 10 ppm
-----	--

#### **67-56-1 méthanol**

VME	Valeur momentanée: 1300 mg/m <sup>3</sup> , 1000 ppm Valeur à long terme: 260 mg/m <sup>3</sup> , 200 ppm risque de pénétration percutanée, (11)
-----	--

#### **88-89-1 2,4,6-trinitrophénol**

VME	Valeur à long terme: 0,1 mg/m <sup>3</sup> 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.

(suite page 5)

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 09.06.2015

Révision: 09.06.2015

**Nom du produit: BOUIN'S SOLUTION**

(suite de la page 4)

*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 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.*

**· Protection des yeux:**



Lunettes de protection hermétiques

### SECTION 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:** Non déterminé.

**· Changement d'état**

**Point de fusion:** Non déterminé.

**Point d'ébullition:** 98 °C

**· Point d'éclair** 40 °C

**· Inflammabilité (solide, gazeux):** Non applicable.

**· Température d'inflammation:** 300 °C

**· Température de décomposition:** Non déterminé.

(suite page 6)



# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 09.06.2015

Révision: 09.06.2015

Nom du produit: **BOUIN'S SOLUTION**

(suite de la page 5)

· <b>Auto-inflammation:</b>	Le produit ne s'enflamme pas spontanément.
· <b>Danger d'explosion:</b>	Le produit n'est pas explosif; toutefois, des mélanges explosifs vapeur-air peuvent se former.
· <b>Limites d'explosion:</b>	
<b>Inférieure:</b>	Non déterminé.
<b>Supérieure:</b>	Non déterminé.
· <b>Pression de vapeur à 20 °C:</b>	23 hPa
· <b>Densité à 20 °C:</b>	1,11 g/cm <sup>3</sup>
· <b>Densité relative</b>	Non déterminé.
· <b>Densité de vapeur.</b>	Non déterminé.
· <b>Vitesse d'évaporation</b>	Non déterminé.
· <b>Solubilité dans/miscibilité avec l'eau:</b>	Entièrement miscible
· <b>Coefficient de partage (n-octanol/eau):</b>	Non déterminé.
· <b>Viscosité:</b>	
<b>Dynamique:</b>	Non déterminé.
<b>Cinématique:</b>	Non déterminé.
· <b>Teneur en solvants:</b>	
<b>Solvants organiques:</b>	18,0 %
<b>Eau:</b>	81,0 %
<b>VOC (CE)</b>	18,00 %
<b>Teneur en substances solides:</b>	1,0 %
· <b>9.2 Autres informations</b>	Pas d'autres informations importantes disponibles.

### SECTION 10: Stabilité et réactivité

- **10.1 Réactivité**
- **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

### SECTION 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë**

· <b>Valeurs LD/LC50 déterminantes pour la classification:</b>		
<b>50-00-0 Formaldéhyde</b>		
Oral	LD50	>200 mg/kg (rat)
<b>67-56-1 méthanol</b>		
Oral	LD50	5628 mg/kg (rat)
Dermique	LD50	15800 mg/kg (lapin)

(suite page 7)

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 09.06.2015

Révision: 09.06.2015

**Nom du produit: BOUIN'S SOLUTION**

(suite de la page 6)

- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée** Irrite la peau et les muqueuses.
- **Lésions oculaires graves/irritation oculaire** Effet d'irritation.
- **Sensibilisation respiratoire ou cutanée** Sensibilisation possible par contact avec la peau.
- **Indications toxicologiques complémentaires:**  
Selon le procédé de calcul de la dernière version en vigueur de la directive générale CEE sur la classification des préparations, le produit présente les dangers suivants:  
Nocif  
Irritant  
Cancérogène.
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**  
Muta. 2, Carc. 1B

### SECTION 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.  
Danger pour l'eau potable dès fuite d'une petite quantité dans le sous-sol.
- **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.

### SECTION 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

### SECTION 14: Informations relatives au transport

- |  |   |
|--|---|
| · <b>14.1 No ONU</b>                             |   |
| · <b>ADR, IMDG, IATA</b>                         | UN1993  |
| · <b>14.2 Nom d'expédition des Nations unies</b> |   |
| · <b>ADR</b>                                     | 1993 LIQUIDE INFLAMMABLE, N.S.A. (MÉTHANOL, ACIDE ACÉTIQUE GLACIAL) |
| · <b>IMDG, IATA</b>                              | FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)           |

(suite page 8)

FR

**Fiche de données de sécurité**  
selon 1907/2006/CE, Article 31

Date d'impression : 09.06.2015

Révision: 09.06.2015

Nom du produit: **BOUIN'S SOLUTION**

(suite de la page 7)

## · 14.3 Classe(s) de danger pour le transport

· ADR, IMDG, IATA



· Classe 3 Liquides inflammables.  
· Étiquette 3

## · 14.4 Groupe d'emballage

· ADR, IMDG, IATA III

## · 14.5 Dangers pour l'environnement:

· Marine Pollutant: Non

## · 14.6 Précautions particulières à prendre par l'utilisateur

Attention: Liquides inflammables.

· Indice Kemler: 30

· No EMS: F-E,S-E

· Segregation groups Acids

## · 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol 73/78 et au recueil IBC

Non applicable.

## · Indications complémentaires de transport:

## · ADR

· Quantités limitées (LQ) 5L

· Quantités exceptées (EQ) Code: E1

Quantité maximale nette par emballage intérieur: 30 ml

Quantité maximale nette par emballage extérieur: 1000 ml

· Catégorie de transport 3

· Code de restriction en tunnels D/E

## · IMDG

· Limited quantities (LQ) 5L

· Excepted quantities (EQ) Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

## · "Règlement type" de l'ONU:

UN1993, LIQUIDE INFLAMMABLE, N.S.A.  
(MÉTHANOL, ACIDE ACÉTIQUE GLACIAL), 3, III

### SECTION 15: Informations réglementaires

## · 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.

(suite page 9)

# Fiche de données de sécurité

## selon 1907/2006/CE, Article 31

Date d'impression : 09.06.2015

Révision: 09.06.2015

**Nom du produit: BOUIN'S SOLUTION**

(suite de la page 8)

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

### SECTION 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 des brûlures de la peau et des lésions oculaires graves.
- H315 Provoque une irritation cutanée.
- 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 européen sur le transport 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
- Expl. 1.1: Explosives, Division 1.1
- Flam. Liq. 2: Flammable liquids, Hazard Category 2
- Flam. Liq. 3: Flammable liquids, Hazard Category 3
- Acute Tox. 3: Acute toxicity, Hazard Category 3
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
- Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
- Muta. 2: Germ cell mutagenicity, Hazard Category 2
- Carc. 1B: Carcinogenicity, Hazard Category 1B
- STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1
- STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 09.06.2015

überarbeitet am: 09.06.2015

### ABSCHNITT 1: Bezeichnung des Stoffs bzw. des Gemischs und des Unternehmens

- **1.1 Produktidentifikator**
- **Handelsname:** BOUIN'S SOLUTION
- **Artikelnummer:** 26386-01
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**  
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffs / 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: sgkcck@aol.com  
www.emsdiasum.com  
  
Science Services GmbH  
Unterhachinger Str. 75  
81737 München Germany  
Tel: +49(0)89 18 93 668-0  
safety@scienceservices.de  
  
24h Giftnotruf Munchen: +49 (0)89 19240  
Toxikologische Abteilung der II. Medizinischen Klinik  
rechts der Isar, Munchen. - www.toxinfo.org
- **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**



GHS02 Flamme

Flam. Liq. 3 H226 Flüssigkeit und Dampf entzündbar.



GHS08 Gesundheitsgefahr

Muta. 2 H341 Kann vermutlich genetische Defekte verursachen.

Carc. 1B H350 Kann Krebs erzeugen.

STOT SE 2 H371 Kann die Organe schädigen.



GHS07

Acute Tox. 4 H302 Gesundheitsschädlich bei Verschlucken.

Skin Irrit. 2 H315 Verursacht Hautreizungen.

(Fortsetzung auf Seite 2)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 09.06.2015

überarbeitet am: 09.06.2015

**Handelsname: BOUIN'S SOLUTION**

(Fortsetzung von Seite 1)

Eye Irrit. 2 H319 Verursacht schwere Augenreizung.

Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.

### · 2.2 Kennzeichnungselemente

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

Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

#### · Gefahrenpiktogramme



GHS02 GHS07 GHS08

#### · Signalwort Gefahr

#### · Gefahrbestimmende Komponenten zur Etikettierung:

Formaldehyd

Methanol

2,4,6-Trinitrophenol

#### · Gefahrenhinweise

H226 Flüssigkeit und Dampf entzündbar.

H302 Gesundheitsschädlich bei Verschlucken.

H315 Verursacht Hautreizungen.

H319 Verursacht schwere Augenreizung.

H317 Kann allergische Hautreaktionen verursachen.

H341 Kann vermutlich genetische Defekte verursachen.

H350 Kann Krebs erzeugen.

H371 Kann die Organe schädigen.

#### · Sicherheitshinweise

P210 Von Hitze/Funken/offener Flamme/heißen Oberflächen fernhalten. Nicht rauchen.

P303+P361+P353 BEI KONTAKT MIT DER HAUT (oder dem Haar): Alle beschmutzten, getränkten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen/duschen.

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

P321 Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).

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.

(Fortsetzung auf Seite 3)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 09.06.2015

überarbeitet am: 09.06.2015

**Handelsname: BOUIN'S SOLUTION**

(Fortsetzung von Seite 2)

· <b>Gefährliche Inhaltsstoffe:</b>		
CAS: 50-00-0 EINECS: 200-001-8	Formaldehyd ⚠ 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	2,5-10%
CAS: 64-19-7 EINECS: 200-580-7	Essigsäure ⚠ Flam. Liq. 3, H226; ⚠ Skin Corr. 1A, H314	2,5-10%
CAS: 67-56-1 EINECS: 200-659-6	Methanol ⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	2,5-10%
CAS: 88-89-1 EINECS: 201-865-9	2,4,6-Trinitrophenol ⚠ Expl. 1.1, H201; ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331	≤ 2,5%

· **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:

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

##### · Nach Einatmen:

Reichlich Frischluftzufuhr und sicherheitshalber Arzt aufsuchen.

Bei Bewußtlosigkeit Lagerung und Transport in stabiler Seitenlage.

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

##### · Nach Augenkontakt:

Augen mehrere Minuten bei geöffnetem Lidspalt unter fließendem Wasser spülen. Bei anhaltenden Beschwerden Arzt konsultieren.

##### · Nach Verschlucken: Sofort Arzt aufsuchen.

#### · 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:** Keine besonderen Maßnahmen erforderlich.

### 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.

(Fortsetzung auf Seite 4)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 09.06.2015

überarbeitet am: 09.06.2015

**Handelsname: BOUIN'S SOLUTION**

(Fortsetzung von Seite 3)

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.

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.

· **Lagerklasse:**

· **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** Entzündlich

· **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

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

· **Zusätzliche Hinweise zur Gestaltung technischer Anlagen:** Keine weiteren Angaben, siehe Abschnitt 7.

· **8.1 Zu überwachende Parameter**

· **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> 2(I);X, Y, Sh, AGS
-----	--

**64-19-7 Essigsäure**

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

**67-56-1 Methanol**

AGW	Langzeitwert: 270 mg/m <sup>3</sup> , 200 ml/m <sup>3</sup> 4(II);DFG, EU, H, Y
-----	--

(Fortsetzung auf Seite 5)



# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 09.06.2015

überarbeitet am: 09.06.2015

**Handelsname: BOUIN'S SOLUTION**

(Fortsetzung von Seite 4)

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

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

**· Bestandteile mit biologischen Grenzwerten:**
**67-56-1 Methanol**

 BGW 30 mg/l  
 Untersuchungsmaterial: Urin  
 Probennahmezeitpunkt: bei Langzeitexposition: Nach mehreren vorangegangenen Schichten,  
 Expositionsende bzw. Schichtende  
 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 und der Haut vermeiden.

 · **Atemschutz:**

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

 · **Handschutz:**


Schutzhandschuhe

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

DE

(Fortsetzung auf Seite 6)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 09.06.2015

überarbeitet am: 09.06.2015

Handelsname: **BOUIN'S SOLUTION**

(Fortsetzung von Seite 5)

### 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:** Nicht bestimmt.

##### · Zustandsänderung

**Schmelzpunkt/Schmelzbereich:** Nicht bestimmt.

**Siedepunkt/Siedebereich:** 98 °C

· **Flammpunkt:** 40 °C

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

· **Zündtemperatur:** 300 °C

· **Zersetzungstemperatur:** Nicht bestimmt.

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

· **Explosionsgefahr:** Das Produkt ist nicht explosionsgefährlich, jedoch ist die Bildung explosionsgefährlicher Dampf-/Luftgemische möglich.

##### · 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.

##### · Löslichkeit in / Mischbarkeit mit

**Wasser:** Vollständig mischbar.

· **Verteilungskoeffizient (n-Octanol/Wasser):** Nicht bestimmt.

##### · Viskosität:

**Dynamisch:** Nicht bestimmt.

**Kinematisch:** Nicht bestimmt.

##### · Lösemittelgehalt:

**Organische Lösemittel:** 18,0 %

**Wasser:** 81,0 %

**VOC (EU)** 18,00 %

**Festkörpergehalt:** 1,0 %

· **9.2 Sonstige Angaben:** Keine weiteren relevanten Informationen verfügbar.

DE

(Fortsetzung auf Seite 7)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 09.06.2015

überarbeitet am: 09.06.2015

Handelsname: **BOUIN'S SOLUTION**

(Fortsetzung von Seite 6)

### ABSCHNITT 10: Stabilität und Reaktivität

- **10.1 Reaktivität**
- **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**

- **Einstufungsrelevante LD/LC50-Werte:**

#### 50-00-0 Formaldehyd

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

#### 67-56-1 Methanol

Oral	LD50	5628 mg/kg (rat)
Dermal	LD50	15800 mg/kg (rabbit)

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut** Reizt die Haut und die Schleimhäute.
- **Schwere Augenschädigung/-reizung** Reizwirkung.
- **Sensibilisierung der Atemwege/Haut** Durch Hautkontakt Sensibilisierung möglich.
- **Zusätzliche toxikologische Hinweise:**  
Das Produkt weist aufgrund des Berechnungsverfahrens der Allgemeinen Einstufungsrichtlinie der EG für Zubereitungen in der letztgültigen Fassung folgende Gefahren auf:  
Gesundheitsschädlich  
Reizend  
Krebserzeugend.
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**  
Muta. 2, Carc. 1B

### 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): wassergefährdend  
Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.  
Trinkwassergefährdung bereits beim Auslaufen geringer Mengen in den Untergrund.
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.

(Fortsetzung auf Seite 8)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 09.06.2015

überarbeitet am: 09.06.2015

Handelsname: **BOUIN'S SOLUTION**


(Fortsetzung von Seite 7)

· **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

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>· <b>14.1 UN-Nummer</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>  | UN1993  |
| <ul style="list-style-type: none"> <li>· <b>14.2 Ordnungsgemäße UN-Versandbezeichnung</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul>  | 1993 ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G. (METHANOL, EISESSIG)<br>FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL) |
| <ul style="list-style-type: none"> <li>· <b>14.3 Transportgefahrenklassen</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul> <div style="text-align: center; margin: 10px 0;">  </div> <ul style="list-style-type: none"> <li>· <b>Klasse</b></li> <li>· <b>Gefahrzettel</b></li> </ul> | 3 Entzündbare flüssige Stoffe<br>3  |
| <ul style="list-style-type: none"> <li>· <b>14.4 Verpackungsgruppe</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>  | III   |
| <ul style="list-style-type: none"> <li>· <b>14.5 Umweltgefahren:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>  | Nein  |
| <ul style="list-style-type: none"> <li>· <b>14.6 Besondere Vorsichtsmaßnahmen für den Verwender</b></li> <li>· <b>Kemler-Zahl:</b></li> <li>· <b>EMS-Nummer:</b></li> <li>· <b>Segregation groups</b></li> </ul>   | Achtung: Entzündbare flüssige Stoffe<br>30<br>F-E,S-E<br>Acids  |
| <ul style="list-style-type: none"> <li>· <b>14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens 73/78 und gemäß IBC-Code</b></li> </ul>  | Nicht anwendbar.  |
| <ul style="list-style-type: none"> <li>· <b>Transport/weitere Angaben:</b></li> </ul> <hr style="border-top: 1px dashed black;"/> <ul style="list-style-type: none"> <li>· <b>ADR</b></li> <li>· <b>Begrenzte Menge (LQ)</b></li> <li>· <b>Freigestellte Mengen (EQ)</b></li> <li>· <b>Beförderungskategorie</b></li> </ul>  |   |

(Fortsetzung auf Seite 9)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 09.06.2015

überarbeitet am: 09.06.2015

**Handelsname: BOUIN'S SOLUTION**

(Fortsetzung von Seite 8)

· <b>Tunnelbeschränkungscode</b>	D/E
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	5L
· <b>Excepted quantities (EQ)</b>	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· <b>UN "Model Regulation":</b>	UN1993, ENTZÜNDBARER FLÜSSIGER STOFF, N.A.G. (METHANOL, EISESSIG), 3, 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.**
- **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	81,0
I	14,0
II	5,0

- **Wassergefährdungsklasse: WGK 2 (Selbsteinstufung): wassergefährdend.**
- **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.
- H302 Gesundheitsschädlich bei Verschlucken.
- H311 Giftig bei Hautkontakt.
- H312 Gesundheitsschädlich bei Hautkontakt.
- H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
- H315 Verursacht Hautreizungen.
- 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.

(Fortsetzung auf Seite 10)

# Sicherheitsdatenblatt

## gemäß 1907/2006/EG, Artikel 31

Druckdatum: 09.06.2015

überarbeitet am: 09.06.2015

**Handelsname: BOUIN'S SOLUTION**

(Fortsetzung von Seite 9)

**· Abkürzungen und Akronyme:**

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

*IMDG: International Maritime Code for Dangerous Goods*

*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*

*Expl. 1.1: Explosives, Division 1.1*

*Flam. Liq. 2: Flammable liquids, Hazard Category 2*

*Flam. Liq. 3: Flammable liquids, Hazard Category 3*

*Acute Tox. 3: Acute toxicity, Hazard Category 3*

*Acute Tox. 4: Acute toxicity, Hazard Category 4*

*Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A*

*Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B*

*Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*

*Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2*

*Skin Sens. 1: Sensitisation - Skin, Hazard Category 1*

*Muta. 2: Germ cell mutagenicity, Hazard Category 2*

*Carc. 1B: Carcinogenicity, Hazard Category 1B*

*STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1*

*STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2*

DE

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

Stampato il: 09.06.2015

Revisione: 09.06.2015

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

- **1.1 Identificatore del prodotto**
- **Denominazione commerciale:** BOUIN'S SOLUTION
- **Articolo numero:** 26386-01
- **1.2 Usi pertinenti identificati della sostanza o 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: sgkcck@aol.com  
www.emsdiasum.com
- **Società Italiana Chimici**  
Via Rio Nell Ellba 140  
00138 Rome, Italy  
Tel: 39 06 8800211  
Fax: 39 30 06 8815313  
Web: 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**



GHS02 fiamma

Flam. Liq. 3 H226 Liquido e vapori infiammabili.



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 agli organi.



GHS07

Acute Tox. 4 H302 Nocivo se ingerito.

Skin Irrit. 2 H315 Provoca irritazione cutanea.

Eye Irrit. 2 H319 Provoca grave irritazione oculare.

Skin Sens. 1 H317 Può provocare una reazione allergica cutanea.

(continua a pagina 2)

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

Stampato il: 09.06.2015

Revisione: 09.06.2015

**Denominazione commerciale: BOUIN'S SOLUTION**

(Segue da pagina 1)

**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**

GHS02 GHS07 GHS08

**Avvertenza Pericolo****Componenti pericolosi che ne determinano l'etichettatura:**

formaldeide

metanolo

2,4,6-trinitrofenolo

**Indicazioni di pericolo**

H226 Liquido e vapori infiammabili.

H302 Nocivo se ingerito.

H315 Provoca irritazione cutanea.

H319 Provoca grave irritazione oculare.

H317 Può provocare una reazione allergica cutanea.

H341 Sospettato di provocare alterazioni genetiche.

H350 Può provocare il cancro.

H371 Può provocare danni agli organi.

**Consigli di prudenza**

P210 Tenere lontano da fonti di calore/scintille/fiamme libere/superfici riscaldate. - Non fumare.

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/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.

P321 Trattamento specifico (vedere su questa etichetta).

P405 Conservare sotto chiave.

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 EINECS: 200-001-8	formaldeide 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	2,5-10%
CAS: 64-19-7 EINECS: 200-580-7	acido acetico Flam. Liq. 3, H226; Skin Corr. 1A, H314	2,5-10%

(continua a pagina 3)



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

Stampato il: 09.06.2015

Revisione: 09.06.2015

**Denominazione commerciale: BOUIN'S SOLUTION**

(Segue da pagina 2)

CAS: 67-56-1 EINECS: 200-659-6	metanolo Flam. Liq. 2, H225; STOT SE 1, H370; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	2,5-10%
CAS: 88-89-1 EINECS: 201-865-9	2,4,6-trinitrofenolo Expl. 1.1, H201; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331	≤ 2,5%

· **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:**

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.

· **Inalazione:**

Portare il soggetto in zona molto ben areata e per sicurezza consultare 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. Se persiste il dolore consultare il medico.

· **Ingestione:** Chiamare subito il medico.

· **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.

· **4.3 Indicazione della eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**

Non sono disponibili altre informazioni.

#### 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:** Non sono richiesti provvedimenti particolari.

#### 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).

Smaltimento del materiale contaminato conformemente al punto 13.

Provvedere ad una sufficiente areazione.

· **6.4 Riferimento ad altre sezioni**

Per informazioni relative ad una manipolazione sicura, vedere capitolo 7.

Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.

(continua a pagina 4)

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

Stampato il: 09.06.2015

Revisione: 09.06.2015

**Denominazione commerciale: BOUIN'S SOLUTION**

(Segue da pagina 3)

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 l'immagazzinamento 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 specifici** Non sono disponibili altre informazioni.

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

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

· **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

**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  
Pelle

**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

(continua a pagina 5)

IT

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

Stampato il: 09.06.2015

Revisione: 09.06.2015

**Denominazione commerciale: BOUIN'S SOLUTION**

(Segue da pagina 4)

· **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 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.

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:** Non definito.

· **Cambiamento di stato**

**Temperatura di fusione/ambito di fusione:** Non definito.

**Temperatura di ebollizione/ambito di ebollizione:** 98 °C

· **Punto di infiammabilità:** 40 °C

(continua a pagina 6)

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

Stampato il: 09.06.2015

Revisione: 09.06.2015

**Denominazione commerciale: BOUIN'S SOLUTION**

(Segue da pagina 5)

· <b>Infiammabilità (solido, gassoso):</b>	<i>Non applicabile.</i>
· <b>Temperatura di accensione:</b>	300 °C
· <b>Temperatura di decomposizione:</b>	<i>Non definito.</i>
· <b>Autoaccensione:</b>	<i>Prodotto non autoinfiammabile.</i>
· <b>Pericolo di esplosione:</b>	<i>Prodotto non è esplosivo, è tuttavia possibile la formazione di miscele di vapori/aria esplosive.</i>
· <b>Limiti di infiammabilità:</b>	
<b>Inferiore:</b>	<i>Non definito.</i>
<b>Superiore:</b>	<i>Non definito.</i>
· <b>Tensione di vapore a 20 °C:</b>	23 hPa
· <b>Densità a 20 °C:</b>	1,11 g/cm <sup>3</sup>
· <b>Densità relativa</b>	<i>Non definito.</i>
· <b>Densità del vapore</b>	<i>Non definito.</i>
· <b>Velocità di evaporazione</b>	<i>Non definito.</i>
· <b>Solubilità in/Miscibilità con acqua:</b>	<i>Completamente miscibile.</i>
· <b>Coefficiente di distribuzione (n-Octanol/acqua):</b>	<i>Non definito.</i>
· <b>Viscosità:</b>	
<b>Dinamica:</b>	<i>Non definito.</i>
<b>Cinematica:</b>	<i>Non definito.</i>
· <b>Tenore del solvente:</b>	
<b>Solventi organici:</b>	18,0 %
<b>Acqua:</b>	81,0 %
<b>VOC (CE)</b>	18,00 %
<b>Contenuto solido:</b>	1,0 %
· <b>9.2 Altre informazioni</b>	<i>Non sono disponibili altre informazioni.</i>

### SEZIONE 10: Stabilità e reattività

- **10.1 Reattività**
- **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**

· <b>Valori LD/LC50 rilevanti per la classificazione:</b>	
<b>50-00-0 formaldeide</b>	
Orale	LD50 >200 mg/kg (rat)

(continua a pagina 7)

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

Stampato il: 09.06.2015

Revisione: 09.06.2015

**Denominazione commerciale: BOUIN'S SOLUTION**

(Segue da pagina 6)

**67-56-1 metanolo**

Orale	LD50	5628 mg/kg (rat)
Cutaneo	LD50	15800 mg/kg (rabbit)

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea** Irrita la pelle e le mucose.
- **Lesioni oculari gravi/irritazioni oculari gravi** Irritante.
- **Sensibilizzazione respiratoria o cutanea** Può provocare sensibilizzazione a contatto con la pelle.
- **Ulteriori dati tossicologici:**  
Il prodotto, in base al metodo di calcolo della direttiva generale della Comunità sulla classificazione dei preparati nella sua ultima versione valida, presenta i seguenti rischi:  
Nocivo  
Irritante  
Cancerogeno.
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**  
Muta. 2, Carc. 1B

**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.  
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di piccole quantità di prodotto.
- **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**

- **14.1 Numero ONU**
- **ADR, IMDG, IATA** UN1993

(continua a pagina 8)

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

Stampato il: 09.06.2015

Revisione: 09.06.2015

**Denominazione commerciale: BOUIN'S SOLUTION**

(Segue da pagina 7)

<ul style="list-style-type: none"> <li>· <b>14.2 Nome di spedizione dell'ONU</b></li> <li>· <b>ADR</b></li> <li>· <b>IMDG, IATA</b></li> </ul>	<p>1993 LIQUIDO INFIAMMABILE, N.A.S. (METANOLO, ACIDO ACETICO GLACIALE)</p> <p>FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)</p>
<ul style="list-style-type: none"> <li>· <b>14.3 Classi di pericolo connesso al trasporto</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	
	
<ul style="list-style-type: none"> <li>· <b>Classe</b></li> <li>· <b>Etichetta</b></li> </ul>	<p>3 Liquidi infiammabili</p> <p>3</p>
<ul style="list-style-type: none"> <li>· <b>14.4 Gruppo di imballaggio</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	III
<ul style="list-style-type: none"> <li>· <b>14.5 Pericoli per l'ambiente:</b></li> <li>· <b>Marine pollutant:</b></li> </ul>	No
<ul style="list-style-type: none"> <li>· <b>14.6 Precauzioni speciali per gli utilizzatori</b></li> <li>· <b>Numero Kemler:</b></li> <li>· <b>Numero EMS:</b></li> <li>· <b>Segregation groups</b></li> </ul>	<p>Attenzione: Liquidi infiammabili</p> <p>30</p> <p>F-E, S-E</p> <p>Acids</p>
<ul style="list-style-type: none"> <li>· <b>14.7 Trasporto di rifiuti secondo l'allegato II di MARPOL 73/78 ed il codice IBC</b></li> </ul>	Non applicabile.
<ul style="list-style-type: none"> <li>· <b>Trasporto/ulteriori indicazioni:</b></li> </ul>	
<ul style="list-style-type: none"> <li>· <b>ADR</b></li> <li>· <b>Quantità limitate (LQ)</b></li> <li>· <b>Quantità esenti (EQ)</b></li> <li>· <b>Categoria di trasporto</b></li> <li>· <b>Codice di restrizione in galleria</b></li> </ul>	<p>5L</p> <p>Codice: E1</p> <p>Quantità massima netta per imballaggio interno: 30 ml</p> <p>Quantità massima netta per imballaggio esterno: 1000 ml</p> <p>3</p> <p>D/E</p>
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	<p>5L</p> <p>Code: E1</p> <p>Maximum net quantity per inner packaging: 30 ml</p> <p>Maximum net quantity per outer packaging: 1000 ml</p>
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	UN1993, LIQUIDO INFIAMMABILE, N.A.S. (METANOLO, ACIDO ACETICO GLACIALE), 3, III

### SEZIONE 15: Informazioni sulla regolamentazione

- **15.1 Norme e legislazione 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.

(continua a pagina 9)

IT

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

Stampato il: 09.06.2015

Revisione: 09.06.2015

**Denominazione commerciale: BOUIN'S SOLUTION**

(Segue da pagina 8)

· **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	18,0

· **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.*

*H315 Provoca irritazione cutanea.*

*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.*

· **Abbreviazioni e acronimi:**

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

*IMDG: International Maritime Code for Dangerous Goods*

*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*

*Expl. 1.1: Explosives, Division 1.1*

*Flam. Liq. 2: Flammable liquids, Hazard Category 2*

*Flam. Liq. 3: Flammable liquids, Hazard Category 3*

*Acute Tox. 3: Acute toxicity, Hazard Category 3*

*Acute Tox. 4: Acute toxicity, Hazard Category 4*

*Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A*

*Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B*

*Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2*

*Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2*

*Skin Sens. 1: Sensitisation - Skin, Hazard Category 1*

*Muta. 2: Germ cell mutagenicity, Hazard Category 2*

*Carc. 1B: Carcinogenicity, Hazard Category 1B*

*STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1*

*STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2*

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.09

개정: 2015.06.09

### 1 화학제품과 회사에 관한 정보

- 제품 식별자
- 제품명: **BOUIN'S SOLUTION**
- 상품번호: 26386-01
- 해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.
- 제품의 권고 용도와 사용상의 제한: 실험실화학품
- 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: sgkck@aol.com  
www.emsdiasum.com
- Samchang Commercial Co., Ltd.  
Yeo Eui Do  
PO Box 1110  
Seoul, Korea  
Tel: 82 2 703 3040  
Fax: 82 2 717 3298
- 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



화염

인화성 액체 구분3          H226 인화성 액체 및 증기



건강에 위험

생식세포 변이원성 구분2    H341 유전적인 결함을 일으킬 것으로 의심됨  
 발암성 구분1B                H350 암을 일으킬 수 있음  
 표적장기-1회노출 구분2    H371 신체 중에 손상을 일으킬 수 있음



급성 독성(경구) 구분4        H302 삼키면 유해함  
 피부 부식성/자극성 구분2    H315 피부에 자극을 일으킴  
 심한 눈 손상/자극성 구분2    H319 눈에 심한 자극을 일으킴  
 피부과민성 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.

(2 쪽에 계속)



# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.09

개정: 2015.06.09

**제품명: BOUIN'S SOLUTION**

(1 쪽부터계속)

**· 그림문자**



GHS02    GHS07    GHS08

**· 신호어 위험**

**· 상표상에명확히위험성이표시된성분:**

formaldehyde  
Methyl Alcohol  
2,4,6-trinitrophenol

**· 유해.위험 문구**

인화성 액체 및 증기  
삼키면 유해함  
피부에 자극을 일으킴  
눈에 심한 자극을 일으킴  
알레르기성 피부 반응을 일으킬 수 있음  
유전적인 결함을 일으킬 것으로 의심됨  
암을 일으킬 수 있음  
신체 중에 손상을 일으킬 수 있음

**· 예방조치 문구**

열스파크.화염.고열로부터 멀리하십시오 - 금연  
피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나제거하십시오. 피부를 물로 씻으시오/샤워하십시오.  
눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으시오.  
(라벨 참조) 처치를 하시오.  
잠금장치가 있는 저장장소에 저장하십시오.  
현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

**· 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	formaldehyde ⚠ 급성 독성(경구) 구분3, H301; ⚠ 급성 독성(경피) 구분3, H311; ⚠ 급성 독성(흡입) 구분3, H331; ⚠ 생식세포 변이원성 구분2, H341; ⚠ 발암성 구분1B, H350; ⚠ 피부 부식성/자극성 구분1, H314; ⚠ 피부과민성 구분1, H317	2.5-10%
64-19-7	Acetic Acid Glacial ⚠ 인화성 액체 구분3, H226; ⚠ 피부 부식성/자극성 구분1, H314	2.5-10%
67-56-1	Methyl Alcohol ⚠ 인화성 액체 구분2, H225; ⚠ 표적장기-1회노출 구분1, H370; ⚠ 급성 독성(경구) 구분4, H302; ⚠ 급성 독성(경피) 구분4, H312; ⚠ 급성 독성(흡입) 구분4, H332; ⚠ 심한 눈 손상/자극성 구분2, H319	2.5-10%

(3 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.09

개정: 2015.06.09

**제품명: BOUIN'S SOLUTION**

88-89-1	2,4,6-trinitrophenol ⚠️ 화약류 등급 1.1, H201; ⚠️ 급성 독성(경구) 구분 3, H301; 급성 독성(경피) 구분 3, H311; 급성 독성(흡입) 구분 3, H331	(2 쪽부터 계속) ≤ 2.5%
---------	--	----------------------

### 4 응급조치 요령

- **응급조치요령 내용**
- **일반적 정보:**  
중독 증상은 몇 시간 간지 지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48 시간 동안은 의료진의 관찰을 받아야 한다.
- **흡입했을 때:**  
신선한 공기를 쐬고 나서 반드시 의료진의 도움을 구한다.  
환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.
- **피부에 접촉했을 때:** 즉시 물과 비누로 씻고 잘 행군다.
- **눈에 들어갔을 때:** 흐르는 물에 눈을 몇 분 동안 씻어내고 나서, 증상이 지속될 경우에는 의사와 상담한다.
- **먹었을 때:** 즉시 의사의 도움을 구한다.
- **기타 의사의 주의사항:**
- **가장 중요한 급·만성 증상 및 영향** 추가적인 정보가 존재하지 않습니다.
- **즉각적인 의료 처치 및 특별 치료가 필요함을 시사하는 징후** 추가적인 정보가 존재하지 않습니다.

### 5 폭발·화재시 대처방법

- **소화제**
- **적절한 소화제:**  
이산화탄소, 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:** 특별한 조치가 필요없음.

### 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.  
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**  
작업장에서는 통풍이 잘 되고/습기 제거가 잘 되게 주의한다.

(4 쪽에 계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.09

개정: 2015.06.09

**제품명: BOUIN'S SOLUTION**

(3 쪽부터계속)

조심스럽게용기를 개봉하거나취급한다.  
연무질이형성되는것을피한다.

**· 화재 및 폭발 사고 예방대책에 관한 정보:**

발 화 요소는 멀리 둔 다-금 연.

열로부터보호한다.

정 전 기 의 충 전 으로부터 보호한다.

호흡보호장비를항상비치한다.

**· 혼합위험성 등 안전 저장 조건**

**· 보관:**

· **안전한 저장 방법:** 특 별 한 요구사항이 없음.

· **하나의 공동 보관 시설에 대한 보관 관련 정보:** 필 요없음

**· 보 관 조 건 에 관 한 추가적인 정보:**

용기를새지않게밀폐한채보관한다.

열이나직사광선으로부터보호한다.

· **구체적 최종 사용자** 추가적인 정보가 존재하지 않습니다.

### 8 노출방지 및 개인보호구

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

**· 통제 변수**

· **화학물질의 노출기준, 생물학적 노출기준 등:**

**50-00-0 formaldehyde**

TLV (ROK)	단기간의값: 1.5 mg/m <sup>3</sup> , 1 ppm 장기간의값: 0.75 mg/m <sup>3</sup> , 0.5 ppm
PEL (USA)	단기간의값: 2 ppm 장기간의값: 0.75 ppm see 29 CFR 1910.1048(c)
REL (USA)	장기간의값: 0.016 ppm 최고노출기준: 0.1* ppm *15-min; See Pocket Guide App. A
TLV (USA)	최고노출기준: 0.37 mg/m <sup>3</sup> , 0.3 ppm (SEN) NIC-DSEN; RSEN

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

TLV (ROK)	단기간의값: 37 mg/m <sup>3</sup> , 15 ppm 장기간의값: 25 mg/m <sup>3</sup> , 10 ppm
IOELV (EU)	장기간의값: 25 mg/m <sup>3</sup> , 10 ppm
PEL (USA)	장기간의값: 25 mg/m <sup>3</sup> , 10 ppm
REL (USA)	단기간의값: 37 mg/m <sup>3</sup> , 15 ppm 장기간의값: 25 mg/m <sup>3</sup> , 10 ppm
TLV (USA)	단기간의값: 37 mg/m <sup>3</sup> , 15 ppm 장기간의값: 25 mg/m <sup>3</sup> , 10 ppm

**67-56-1 Methyl Alcohol**

TLV (ROK)	단기간의값: 310 mg/m <sup>3</sup> , 250 ppm 장기간의값: 260 mg/m <sup>3</sup> , 200 ppm Skin
IOELV (EU)	장기간의값: 260 mg/m <sup>3</sup> , 200 ppm Skin

(5 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.09

개정: 2015.06.09

**제품명: BOUIN'S SOLUTION**

(4 쪽부터계속)

PEL (USA)	장기간의값: 260 mg/m <sup>3</sup> , 200 ppm
REL (USA)	단기간의값: 325 mg/m <sup>3</sup> , 250 ppm 장기간의값: 260 mg/m <sup>3</sup> , 200 ppm Skin
TLV (USA)	단기간의값: 328 mg/m <sup>3</sup> , 250 ppm 장기간의값: 262 mg/m <sup>3</sup> , 200 ppm Skin; BEI
<b>88-89-1 2,4,6-trinitrophenol</b>	
TLV (ROK)	단기간의값: 0.3 mg/m <sup>3</sup> 장기간의값: 0.1 mg/m <sup>3</sup> Skin
IOELV (EU)	장기간의값: 0.1 mg/m <sup>3</sup>
PEL (USA)	장기간의값: 0.1 mg/m <sup>3</sup> Skin
REL (USA)	단기간의값: 0.3 mg/m <sup>3</sup> 장기간의값: 0.1 mg/m <sup>3</sup> Skin
TLV (USA)	장기간의값: 0.1 mg/m <sup>3</sup>

· **추가 정보:** 제 조 할 당 시 에 유 효 한 목 록 을 기 초 로 사 용 했 다.

· **노출 통제**

· **개인 보호구**

· **일반적보호조치및위생조치:**

- 식료품, 음료수와 사료로부터 멀리떨어뜨려 놓는다.
- 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.
- 휴식전이나 작업이 끝날때마다 손을 씻는다.
- 방호복은 따로보관한다.
- 눈과 피부와의 접촉은 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.  
테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합물에 적합한 장갑재질에 대한 추천이 없다.  
투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

· **장갑의재료**

· 적합한장갑의선정은재질차이뿐만아니라품질기준의차이도고려하여이루어져야하고제조업종에따라서도 다르게선정되어야한다. 제품은다양한재료로부터의조제로이루어지는것이기때문에, 장갑재질의안정성은사전에예측되어질수있는것이아니고, 반드시사용전에 (그안전성이) 체크되어야한다.

· **장갑재료의투과시간** 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

(6 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.09

개정: 2015.06.09

**제품명: BOUIN'S SOLUTION**

· 눈 보호:

(5 쪽부터계속)



· 팍조이는보안경

### 9 물리화학적 특성

· 기본 물리 및 화학적 특성에 대한 정보	
· 일반정보	
· 외형	
· 물리적 상태:	액체
· 색:	노랑
· 냄새:	찌르는 듯한
· 후각역치	알맞지않다.
· pH:	알맞지않다.
· 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:	이제품은폭발위험성이없지만, 폭발가능성이있는증기화합물/공기화합물의형성가능성이있다.
· 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:	18.0 %
· 물:	81.0 %
· VOC (EU)	18.00 %

(7 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.09

개정: 2015.06.09

**제품명: BOUIN'S SOLUTION**

(6 쪽부터계속)

**고체의 함량:** 1.0 %  
**기타 정보** 추가적인 정보가 존재하지 않습니다.

### 10 안정성 및 반응성

- 반응성
- 화학적 안정성
- 화학적 안정성 및 유해 반응의 가능성 / 피해야 할 조건: 규정에따라사용할경우해체는없다
- 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 formaldehyde**

구강의 LD50 >200 mg/kg (rat)

**67-56-1 Methyl Alcohol**

구강의 LD50 5628 mg/kg (rat)

피부의 LD50 15800 mg/kg (rabbit)

- 일차적 자극 효과:
- 피부 부식성 또는 자극성: 피부와점막을자극한다.
- 심한 눈 손상 또는 자극성: 자극
- 감각화: 피부접촉을통하여감각화가가능성이있다.
- 추가적인 독성에 관한 정보:  
 이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전준비에대하여제시하고있다.  
 건강에해로운  
 자극적인  
 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

(8 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.09

개정: 2015.06.09

**제품명: BOUIN'S SOLUTION**


(7 쪽부터계속)

- 지하수나, 하천으로또는하수도망에도달하지않게한다.
- 지하수로경미한양이유입되었을경우엔이미식수오염상태이다
- 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.
- 추천 세정제: 경우에따라서세제가첨가된물

### 14 운송에 필요한 정보

· 유엔 번호 · ADR, IMDG, IATA	UN1993
· UN 적정 선적명 · ADR · IMDG, IATA	1993 FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL) FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)
· 교통 위험 클래스 · ADR, IMDG, IATA	
	
· 등급 · 위험물 라벨	3 발화성용액 3
· 용기등급 · ADR, IMDG, IATA	III
· 환경적 유해물질: · 해양오염물질:	아니오
· 이용자 특별 예방조치 · 위험 코드: · EMS-번호: · Segregation groups	경고: 발화성용액 30 F-E,S-E Acids
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송	해당사항 없음.

(9 쪽에계속)

# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.09

개정: 2015.06.09

**제품명: BOUIN'S SOLUTION**

(8 쪽부터계속)

**· 운 송/추가 정보:**

<p>· <b>ADR</b></p> <p>· <b>한정 수량 (LQ)</b></p> <p>· <b>Excepted quantities (EQ)</b></p> <p>· <b>운송 구분</b></p> <p>· <b>터널 제한 코드</b></p>	<p>5L</p> <p>Code: E1</p> <p>Maximum net quantity per inner packaging: 30 ml</p> <p>Maximum net quantity per outer packaging: 1000 ml</p> <p>3</p> <p>D/E</p>
<p>· <b>IMDG</b></p> <p>· <b>Limited quantities (LQ)</b></p> <p>· <b>Excepted quantities (EQ)</b></p>	<p>5L</p> <p>Code: E1</p> <p>Maximum net quantity per inner packaging: 30 ml</p> <p>Maximum net quantity per outer packaging: 1000 ml</p>
<p>· <b>UN "모범 규제":</b></p>	<p>UN1993, FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL), 3, III</p>

### 15 법적 규제현황

**· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률**

· <b>Korean Existing Chemical Inventory</b>		
50-00-0	formaldehyde	KE-17074
64-19-7	Acetic Acid Glacial	KE-00013
67-56-1	Methyl Alcohol	KE-23193
88-89-1	2,4,6-trinitrophenol	KE-34715
7732-18-5	water, distilled, conductivity or of similar purity	KE-35400

**· GHS 라벨 요소**

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

**· 위험 도표**



GHS02    GHS07    GHS08

**· 표지어 위험**

**· 상표상에명확히위험성이표시된성분:**

formaldehyde  
Methyl Alcohol  
2,4,6-trinitrophenol

**· 위험 문구**

인화성 액체 및 증기  
삼키면 유해함  
피부에 자극을 일으킴  
눈에 심한 자극을 일으킴  
알레르기성 피부 반응을 일으킬 수 있음  
유전적인 결함을 일으킬 것으로 의심됨  
압을 일으킬 수 있음  
신체 중에 손상을 일으킬 수 있음

(10 쪽에계속)



# 안전지침서

## 제31조의 1907/2006/EC에 따라

기압점: 2015.06.09

개정: 2015.06.09

**제품명: BOUIN'S SOLUTION**

(9 쪽부터계속)

**주의 문구**

열, 스파크, 화염, 고열로부터 멀리하십시오 - 금연  
 피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으십시오/샤워하십시오.  
 눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으십시오.  
 (라벨 참조) 처치를 하십시오.  
 잠금장치가 있는 저장장소에 저장하십시오.  
 현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

**국내규정:****사용제한에 대한 정보:**

노동자들은 이러한 예방준비하에 암을 유발시키는 성분을 함유한 위험물을 버리지 말아야 한다. 개별적인 경우  
 에 관청은 예외를 허가할 수 있다.

**화학물질 안전성 평가:** 화학물질 안전성 평가가 수행되지 않음**16 그 밖의 참고사항**

이 보고서는 우리 지식에 대한 오늘날의 상태에 대하여 평가하고 있다, 하지만 이 보고서는 생산 특성에 관한 보증은  
 기술하지 않았으며 계약적인 법률 관계에 기반을 두고 있지 않다

**최초 작성일자:** 2015.06.09**개정 횟수 및 최종 개정일자:** 1 / 2015.06.09**약어와 두문자어:**

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

IMDG: International Maritime Code for Dangerous Goods

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

화약류 등급 1.1: Explosives, Division 1.1

인화성 액체 구분2: Flammable liquids, Hazard Category 2

인화성 액체 구분3: Flammable liquids, Hazard Category 3

급성 독성(경구) 구분3: Acute toxicity, Hazard Category 3

급성 독성(경구) 구분4: Acute toxicity, Hazard Category 4

피부 부식성/자극성 구분1: Skin corrosion/irritation, Hazard Category 1

피부 부식성/자극성 구분2: Skin corrosion/irritation, Hazard Category 2

심한 눈 손상/자극성 구분2: Serious eye damage/eye irritation, Hazard Category 2

피부과민성 구분1: Sensitisation - Skin, Hazard Category 1

생식세포 변이원성 구분2: Germ cell mutagenicity, Hazard Category 2

발암성 구분1B: Carcinogenicity, Hazard Category 1B

표적장기-1회노출 구분1: Specific target organ toxicity - Single exposure, Hazard Category 1

표적장기-1회노출 구분2: Specific target organ toxicity - Single exposure, Hazard Category 2

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 09.06.2015

Revisión: 09.06.2015

### 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 SOLUTION

· **Número del artículo:** 26386-01

#### · 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: sgkcck@aol.com

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

· **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**



GHS02 llama

Flam. Liq. 3 H226 Líquidos y vapores inflamables.



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 los órganos.



GHS07

Acute Tox. 4 H302 Nocivo en caso de ingestión.

Skin Irrit. 2 H315 Provoca irritación cutánea.

Eye Irrit. 2 H319 Provoca irritación ocular grave.

Skin Sens. 1 H317 Puede provocar una reacción alérgica en la piel.

( se continua en página 2 )

# Ficha de datos de seguridad según 1907/2006/CE, Artículo 31

fecha de impresión 09.06.2015

Revisión: 09.06.2015

**Nombre comercial: BOUIN'S SOLUTION**

( se continua en página 1 )

- **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**



GHS02 GHS07 GHS08

- **Palabra de advertencia Peligro**
- **Componentes peligrosos a indicar en el etiquetaje:**

formaldehído  
metanol

2,4,6-trinitrofenol

- **Indicaciones de peligro**  
H226 Líquidos y vapores inflamables.  
H302 Nocivo en caso de ingestión.  
H315 Provoca irritación cutánea.  
H319 Provoca irritación ocular grave.  
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 los órganos.

- **Consejos de prudencia**

- P210 Mantener alejado de fuentes de calor, chispas, llama abierta o superficies calientes. - No fumar.
- P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitarse inmediatamente las prendas contaminadas. Aclararse la piel con agua o ducharse.
- P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.
- P321 Se necesita un tratamiento específico (ver en esta etiqueta).
- 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	formaldehído	2,5-10%
EINECS: 200-001-8	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	

( se continua en página 3 )

# Ficha de datos de seguridad según 1907/2006/CE, Artículo 31

fecha de impresión 09.06.2015

Revisión: 09.06.2015

**Nombre comercial: BOUIN'S SOLUTION**

( se continua en página 2 )

CAS: 64-19-7 EINECS: 200-580-7	ácido acético Flam. Liq. 3, H226; Skin Corr. 1A, H314	2,5-10%
CAS: 67-56-1 EINECS: 200-659-6	metanol Flam. Liq. 2, H225; STOT SE 1, H370; Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	2,5-10%
CAS: 88-89-1 EINECS: 201-865-9	2,4,6-trinitrofenol Expl. 1.1, H201; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331	≤ 2,5%

· **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:**

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.

· **En caso de inhalación del producto:**

Suministrar suficiente aire fresco y, para mayor seguridad, consultar el médico.

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. En caso de trastornos persistentes consultar un médico.

· **En caso de ingestión:** Consultar inmediatamente un médico.

· **4.2 Principales síntomas y efectos, agudos y retardados** No existen más datos relevantes disponibles.

· **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:**

CO2, 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:** No se requieren medidas especiales.

## 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).

Desechar el material contaminado como vertido según ítem 13.

Asegurar suficiente ventilación.

( se continua en página 4 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 09.06.2015

Revisión: 09.06.2015

Nombre comercial: **BOUIN'S SOLUTION**

( se continua en página 3 )

### · 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.

## SECCIÓN 8: Controles de exposición/protección individual

### · Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:

Sin datos adicionales, ver punto 7.

### · 8.1 Parámetros de control

#### · Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:

##### 50-00-0 formaldehído

LEP	Valor de corta duración: 0,37 mg/m <sup>3</sup> , 0,3 ppm
	Sen, s

##### 64-19-7 ácido acético

LEP	Valor de corta duración: 37 mg/m <sup>3</sup> , 15 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

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

LEP	Valor de larga duración: 0,1 mg/m <sup>3</sup>
	VLI

( se continua en página 5 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 09.06.2015

Revisión: 09.06.2015

Nombre comercial: **BOUIN'S SOLUTION**

( se continua en página 4 )

· **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 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 / sustancia / preparado.

Ante la ausencia de tests específicos, no se puede recomendar ningún material específico para guantes de protección contra el producto / preparado / mezcla de sustancias químicas.

Selección del material de los guantes en función de los tiempos de rotura, grado de permeabilidad y degradación.

· **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:**

**Forma:**

Líquido

**Color:**

Amarillo

· **Olor:**

Penetrante

( se continua en página 6 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 09.06.2015

Revisión: 09.06.2015

Nombre comercial: **BOUIN'S SOLUTION**

( se continua en página 5 )

· <b>Umbral olfativo:</b>	No determinado.
· <b>valor pH:</b>	No determinado.
· <b>Cambio de estado</b> Punto de fusión /campo de fusión:	Indeterminado.
Punto de ebullición /campo de ebullición:	98 °C
· <b>Punto de inflamación:</b>	40 °C
· <b>Inflamabilidad (sólido, gaseiforme):</b>	No aplicable.
· <b>Temperatura de ignición:</b>	300 °C
· <b>Temperatura de descomposición:</b>	No determinado.
· <b>Autoinflamabilidad:</b>	El producto no es autoinflamable.
· <b>Peligro de explosión:</b>	El producto no es explosivo; sin embargo, pueden formarse mezclas explosivas de vapor / aire.
· <b>Límites de explosión:</b> Inferior:	No determinado.
Superior:	No determinado.
· <b>Presión de vapor a 20 °C:</b>	23 hPa
· <b>Densidad a 20 °C:</b>	1,11 g/cm <sup>3</sup>
· <b>Densidad relativa</b>	No determinado.
· <b>Densidad de vapor</b>	No determinado.
· <b>Velocidad de evaporación</b>	No determinado.
· <b>Solubilidad en / miscibilidad con agua:</b>	Completamente mezclable.
· <b>Coefficiente de reparto (n-octanol/agua):</b>	No determinado.
· <b>Viscosidad:</b> Dinámica:	No determinado.
Cinemática:	No determinado.
· <b>Concentración del disolvente:</b> Disolventes orgánicos:	18,0 %
Agua:	81,0 %
VOC (CE)	18,00 %
· <b>Contenido de cuerpos sólidos:</b>	1,0 %
· <b>9.2 Información adicional</b>	No existen más datos relevantes disponibles.

### SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad**
- **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.

( se continua en página 7 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 09.06.2015

Revisión: 09.06.2015

Nombre comercial: **BOUIN'S SOLUTION**

( se continua en página 6 )

### SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda**

· **Valores LD/LC50 (dosis letal /dosis letal = 50%) relevantes para la clasificación:**

#### 50-00-0 formaldehído

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

#### 67-56-1 metanol

Oral	LD50	5628 mg/kg (rat)
------	------	------------------

Dermal	LD50	15800 mg/kg (rabbit)
--------	------	----------------------

- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas** Irrita la piel y las mucosas.
- **Lesiones o irritación ocular graves** Produce irritaciones.
- **Sensibilización respiratoria o cutánea** Posible sensibilización al entrar en contacto con la piel.
- **Indicaciones toxicológicas adicionales:**  
En conformidad con el procedimiento de cálculo contenido en la última versión de la Normativa General de Clasificación de la CE para Preparados, el producto tiene los siguientes riesgos:  
Nocivo  
Irritante  
Cancerígeno.
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**  
Muta. 2, Carc. 1B

### 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 (autoclasificación): peligroso para el agua  
No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.  
Una cantidad mínima vertida en el subsuelo ya representa un peligro para el agua potable.
- **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.

( se continua en página 8 )



**Ficha de datos de seguridad**  
según 1907/2006/CE, Artículo 31

fecha de impresión 09.06.2015


Revisión: 09.06.2015

**Nombre comercial: BOUIN'S SOLUTION**

( se continua en página 7 )

· **Producto de limpieza recomendado:** Agua, eventualmente añadiendo productos de limpieza.

**SECCIÓN 14: Información relativa al transporte**

· 14.1 Número UN · ADR, IMDG, IATA	UN1993
· 14.2 Designación oficial de transporte de las Naciones Unidas · ADR · IMDG, IATA	1993 LÍQUIDO INFLAMABLE, N.E.P. (METANOL, ÁCIDO ACÉTICO GLACIAL) FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)
· 14.3 Clase(s) de peligro para el transporte · ADR, IMDG, IATA	
	
· Clase · Etiqueta	3 Líquidos inflamables 3
· 14.4 Grupo de embalaje · ADR, IMDG, IATA	III
· 14.5 Peligros para el medio ambiente: · Contaminante marino:	No
· 14.6 Precauciones particulares para los usuarios · Número Kemler: · Número EMS: · Segregation groups	Atención: Líquidos inflamables 30 F-E,S-E Acids
· 14.7 Transporte a granel con arreglo al anexo II del Convenio Marpol 73/78 y del Código IBC	No aplicable.
· Transporte/datos adicionales:	
· ADR · Cantidades limitadas (LQ) · Cantidades exceptuadas (EQ)	5L Código: E1 Cantidad neta máxima por envase interior: 30 ml Cantidad neta máxima por embalaje exterior: 1000 ml
· Categoría de transporte · Código de restricción del túnel	3 D/E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· "Reglamentación Modelo" de la UNECE:	UN1993, LÍQUIDO INFLAMABLE, N.E.P. (METANOL, ÁCIDO ACÉTICO GLACIAL), 3, III

ES

( se continua en página 9 )

# Ficha de datos de seguridad

## según 1907/2006/CE, Artículo 31

fecha de impresión 09.06.2015

Revisión: 09.06.2015

Nombre comercial: **BOUIN'S SOLUTION**

( se continua en página 8 )

### 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
- **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.
- **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.
- H315 Provoca irritación cutánea.
- 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 européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- 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
- Expl. 1.1: Explosives, Division 1.1
- Flam. Liq. 2: Flammable liquids, Hazard Category 2
- Flam. Liq. 3: Flammable liquids, Hazard Category 3
- Acute Tox. 3: Acute toxicity, Hazard Category 3
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A
- Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
- Muta. 2: Germ cell mutagenicity, Hazard Category 2
- Carc. 1B: Carcinogenicity, Hazard Category 1B

( se continua en página 10 )

**Ficha de datos de seguridad**  
**según 1907/2006/CE, Artículo 31**

fecha de impresión 09.06.2015

Revisión: 09.06.2015

**Nombre comercial: BOUIN'S SOLUTION**

*STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1*  
*STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2*

( se continua en página 9 )

ES

# แผ่นข้อมูลความปลอดภัย

## ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2015.06.09

การปรับปรุงใหม่ : 2015.06.09

### 1: การระบุสาร/ การทำ/ และของบริษัท / บริษัทที่เข้าถือครอง

- 1.1 ลักษณะเฉพาะของผลิตภัณฑ์
- ชื่อทางการค้า **BOUIN'S SOLUTION**
- เลขที่รายชื่อ 26386-01
- 1.2 สารหรือสารผสมที่เกี่ยวข้องที่ระบุให้ใช้และไม่ควรรให้ใช้ 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: sgkcck@aol.com  
www.emsdiasum.com
- ข้อมูลรายละเอียดเพิ่มเติมหาได้จาก Product safety department
- 1.4 หมายเลขโทรศัพท์ฉุกเฉิน:  
ChemTrec 1-800-424-9300 Contract CCN7661  
1-703-527-3887

### 2: การระบุสิ่งที่เป็นอันตราย

- 2.1 การจำแนกประเภทของสารหรือสารผสม
- การแบ่งประเภทตามข้อมบังคับ (จีซี) เลขที่ 1272/2008



เปลวไฟ

Flam. Liq. 3 H226 ของเหลวและไอที่ไวไฟ



สิ่งอันตรายต่อสุขภาพ

Muta. 2 H341 สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม

Carc. 1B H350 อาจเป็นเหตุให้เกิดมะเร็ง

STOT SE 2 H371 อาจเป็นสาเหตุทำให้อวัยวะเสียหาย



Acute Tox. 4 H302 เป็นอันตรายหากกลืนเข้าไป

Skin Irrit. 2 H315 เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง

Eye Irrit. 2 H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา

Skin Sens. 1 H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้

- 2.2 องค์ประกอบของฉลาก
- ฉลากตามระเบียบ (EC) เลขที่ 1272/2008 ผลิตภัณฑ์ได้รับการจัดประเภทและติดฉลากตามข้อมบังคับของ CLP
- ภาพสัญลักษณ์สิ่งที่เป็นอันตราย



GHS02



GHS07



GHS08

(ต่อที่หน้า 2)

TH

# แผ่นข้อมูลความปลอดภัย

## ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2015.06.09

การปรับปรุงใหม่ : 2015.06.09

### ชื่อทางการค้า BOUIN'S SOLUTION

(ต่อที่หน้า 1)

- **สัญญาณคำ อันตราย**
- **ส่วนประกอบที่ระบุอันตรายบนฉลาก**  
formaldehyde  
Methyl Alcohol  
2,4,6-trinitrophenol
- **ประกาศสิ่งที่อันตราย**  
H226 ของเหลวและไอที่ไวไฟ  
H302 เป็นอันตรายหากกลืนเข้าไป  
H315 เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง  
H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างรุนแรงที่ตา  
H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้  
H341 สงสัยว่าจะเป็นสาเหตุให้เกิดขอบกพร่องทางพันธุกรรม  
H350 อาจเป็นเหตุให้เกิดมะเร็ง  
H371 อาจเป็นสาเหตุทำให้อวัยวะเสียหาย
- **ประกาศการป้องกันระดับระวังภัย**  
P210 หนีห่างจากความร้อน/ประกายไฟ/เปลวไฟ/ผิวที่ร้อน - ห้ามสูบบุหรี่  
P303+P361+P353 หากอยู่บนผิวหนัง : (หรือผม): ยาย/ถอดเสื้อผ้าที่เปื้อนออกทั้งหมดโดยทันทีชะผิวหนังด้วยน้ำ/ฟักบัว  
P305+P351+P338 หากเข้าตา : ชะด้วยน้ำอย่างระมัดระวังเป็นเวลาหลายๆนาทีถอดคอนแทกซ์เลนซ์ถ้ายังอยู่ที่ตมและสะตวที่จะทำทำให้ชะล้างต่อไป  
P321 การบำบัดรักษาเฉพาะ (ดูฉลาก)  
P405 เก็บในที่ใส่กุญแจมิด  
P501 ทิ้งสิ่งที่บรรจุ/ภาชนะที่บรรจุตามกฎหมายของท้องถิ่น/แคว้น/ในประเทศ/ระหว่างประเทศ
- **2.3 อันตรายอื่นๆ**
- **ผลของ PBT และการประเมิน vPvB**
- **PBT:** ไม่สามารถใช้ได้
- **vPvB:** ไม่สามารถใช้ได้

### 3: ส่วนประกอบ/ ข้อมูลรายละเอียดของส่วนผสมต่างๆ

- **3.2 คุณลักษณะทางเคมี: ส่วนผสม**
- **คำอธิบาย** ส่วนผสมของสารในรายการข้างล่างพร้อมสารเติมแต่งที่ไม่เป็นอันตราย

#### · ส่วนประกอบที่มีอันตราย

CAS: 50-00-0 EINECS: 200-001-8	formaldehyde ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; ⚠ Muta. 2, H341; Carc. 1B, H350; ⚠ H314; ⚠ Skin Sens. 1, H317	2.5-10%
CAS: 64-19-7 EINECS: 200-580-7	Acetic Acid Glacial ⚠ Flam. Liq. 3, H226; ⚠ H314	2.5-10%
CAS: 67-56-1 EINECS: 200-659-6	Methyl Alcohol ⚠ Flam. Liq. 2, H225; ⚠ STOT SE 1, H370; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	2.5-10%
CAS: 88-89-1 EINECS: 201-865-9	2,4,6-trinitrophenol ⚠ Expl. 1.1, H201; ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331	≤ 2.5%

- **ข้อมูลรายละเอียดเสริม** สำหรับข้อความที่ระบุในรายการความเสี่ยงที่อ้างอิงถึงในส่วนที่ 16

TH

(ต่อที่หน้า 3)

# แผ่นข้อมูลความปลอดภัย

## ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2015.06.09

การปรับปรุงใหม่ : 2015.06.09

### ชื่อทางการค้า BOUIN'S SOLUTION

(ต่อที่หน้า 2)

#### 4: มาตรการการปฐมพยาบาลเบื้องต้น

- 4.1 คำอธิบายถึงมาตรการปฐมพยาบาล
  - ข้อมูลรายละเอียดทั่วไป
    - อาการจากพิษอาจเกิดขึ้นหลังจากนั้นหลายชั่วโมงดังนั้นจะต้องเฝ้าติดตามอาการทางการแพทย์อย่างน้อย 48 ชั่วโมงหลังจากอุบัติเหตุ
  - หลังจากการสูดหายใจเข้าไป
    - หาบริเวณที่มีอากาศบริสุทธิ์และเพื่อให้มั่นใจติดต่อแพทย์
    - ในกรณีที่คนไข้มือรู้สึกตัวให้ขนย้ายคนไข้อย่างมั่นคงในท่าตะแคงด้านข้าง
  - หลังจากการสัมผัสผิวหนัง
    - ล้างด้วยน้ำและสบู่แล้วฟอกให้ทั่วทันที
  - หลังจากการสัมผัสดวงตา
    - ชะตาที่เปิดอยู่ใตุน้ำที่กำลังไหลเป็นเวลาหลายนาทีถ้าอาการไม่ดีขึ้นให้ปรึกษาแพทย์
  - หลังจากการกลืนเข้าไป: พบแพทย์โดยทันที
- 4.2 อาการสำคัญส่วนใหญ่และผลกระทบ ทั้งชนิดเฉียบพลันและค่อยๆ แสดงอาการ
  - ไม่มีข้อมูลที่เกี่ยวข้องของนอกเหนือจากนี้
- 4.3 ขอบเขตข้อมูลอาการที่ต้องเข้ารับการรักษาจากแพทย์ทันทีและการบำบัดพิเศษที่จำเป็น
  - ไม่มีข้อมูลที่เกี่ยวข้องของนอกเหนือจากนี้

#### 5: มาตรการการดับเพลิง

- 5.1 สารที่ใช้ดับเพลิง
- สารดับเพลิงที่เหมาะสม
  - คาร์บอนไดออกไซด์สเปรย์ผงหรือน้ำดับเพลิงขนาดใหญ่ด้วยการฉีดน้ำหรือโฟมแอลกอฮอล์ที่ทนทาน
- 5.2 อันตรายเฉพาะอย่างที่เกิดจากสารหรือส่วนผสม
  - ไม่มีข้อมูลที่เกี่ยวข้องของนอกเหนือจากนี้
- 5.3 คำแนะนำสำหรับพนักงานดับเพลิง
- อุปกรณ์ป้องกันภัย
  - ไม่ต้องมีมาตรการพิเศษ

#### 6: มาตรการลดอุบัติเหตุ

- 6.1 การป้องกันส่วนบุคคล อุปกรณ์ป้องกัน และขั้นตอนดำเนินการเมื่อเกิดกรณีฉุกเฉิน
  - สวมอุปกรณ์ป้องกันภัยกันคนที่ไม่ใช้อุปกรณ์ป้องกันออกไป
- 6.2 การให้ความคุ้มครองสิ่งแวดล้อมทางน้ำ:
  - ทำให้เจือจางด้วยน้ำมากๆ
  - อย่าปล่อยให้เขาไปในท่อน้ำทิ้ง/ น้ำบนดินหรือใต้ดิน
- 6.3 วิธีดำเนินการและวัสดุสำหรับการบรรจุและการทำความสะอาด:
  - ดูดซับด้วยวัสดุที่สามารถยึดของเหลวไว้ (ทรายไดอะโตไมท์ตัวยึดเกาะกรดตัวยึดทั่วไปขี้เถ้า)
  - ทิ้งวัสดุที่ปนเปื้อนเป็นของเสียตามรายการในบัญชี 13
  - ตรวจให้แน่ใจว่ามีภาระระบายอากาศที่ดีพอ
- 6.4 การอ้างอิงถึงส่วนอื่น
  - ดูข้อมูลรายละเอียดเรื่องความปลอดภัยในการขนถ่ายจากส่วนที่ 7
  - ดูข้อมูลรายละเอียดเรื่องอุปกรณ์ป้องกันส่วนบุคคลจากส่วนที่ 8
  - ดูข้อมูลรายละเอียดเรื่องการจัดจากส่วนที่ 13

#### 7: การขนถ่ายและการจัดเก็บ

- 7.1 การป้องกันล่วงหน้าสำหรับการจัดการด้านความปลอดภัย
  - ทำให้แน่ใจว่าสถานที่ทำงานมีการระบายอากาศ/ ระบายที่ดี
  - เปิดและถือภาชนะรองรับอยู่ระมัดระวัง
  - ป้องกันการเกิดละอองสารฟุ้ง
- ข้อมูลรายละเอียดเกี่ยวกับการป้องกันอัคคีภัยและการระเบิด
  - ออกห่างจากแหล่งที่ติดไฟอย่าสูบบุหรี่

(ต่อที่หน้า 4)

# แผ่นข้อมูลความปลอดภัย

## ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2015.06.09

การปรับปรุงใหม่ : 2015.06.09

### ชื่อทางการค้า BOUIN'S SOLUTION

(ต่อที่หน้า 3)

ป้องกันให้พ้นจากความร้อน  
ป้องกันให้พ้นจากประกายไฟฟาสถิตย์  
เก็บอุปกรณ์ป้องกันสำหรับการช่วยหายใจให้มีพร้อมใช้งาน

- 7.2 เจือจางในการเก็บรักษาอย่างปลอดภัย, รวมถึงสิ่งที่เข้ากันไม่ได้ใดๆ
  - การจัดเก็บ
  - ข้อกำหนดที่ต้องปฏิบัติตามสำหรับห้องเก็บและภาชนะบรรจุ ไม่มีข้อกำหนดพิเศษ
  - ข้อมูลรายละเอียดด้านการจัดเก็บในสถานที่จัดเก็บรวม ไม่ได้กำหนด
  - ข้อมูลรายละเอียดเพิ่มเติมด้านสภาพการจัดเก็บ
- เก็บโดยปิดผนึกอย่างแน่นหนา  
ป้องกันให้พ้นจากความร้อนและแสงแดดส่อง
- 7.3 การระบุถึงการสิ้นสุดการใช้ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

### 8: การควบคุมการทิ้งในลักษณะเปิด / การป้องกันภัยสำหรับบุคคล

- ข้อมูลรายละเอียดเสริมสำหรับการออกแบบสิ่งอำนวยความสะดวกทางเทคนิค ไม่มีข้อมูลนอกเหนือจากนี้ดูรายการ 7
- 8.1 การควบคุมตัวแปร

· ส่วนผสมพร้อมคาบอบเขตที่ต้องเฝ้าดูในสถานที่ปฏิบัติงาน

#### 50-00-0 formaldehyde

PEL (USA)	ค่าระยะสั้น: 2 ppm ค่าระยะยาว: 0.75 ppm see 29 CFR 1910.1048(c)
REL (USA)	ค่าระยะยาว: 0.016 ppm Ceiling limit value: 0.1* ppm *15-min; See Pocket Guide App. A
TLV (USA)	Ceiling limit value: 0.37 mg/m <sup>3</sup> , 0.3 ppm (SEN) NIC-DSEN; RSEN

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

PEL (USA)	ค่าระยะยาว: 25 mg/m <sup>3</sup> , 10 ppm
REL (USA)	ค่าระยะสั้น: 37 mg/m <sup>3</sup> , 15 ppm ค่าระยะยาว: 25 mg/m <sup>3</sup> , 10 ppm
TLV (USA)	ค่าระยะสั้น: 37 mg/m <sup>3</sup> , 15 ppm ค่าระยะยาว: 25 mg/m <sup>3</sup> , 10 ppm

#### 67-56-1 Methyl Alcohol

PEL (USA)	ค่าระยะยาว: 260 mg/m <sup>3</sup> , 200 ppm
REL (USA)	ค่าระยะสั้น: 325 mg/m <sup>3</sup> , 250 ppm ค่าระยะยาว: 260 mg/m <sup>3</sup> , 200 ppm Skin
TLV (USA)	ค่าระยะสั้น: 328 mg/m <sup>3</sup> , 250 ppm ค่าระยะยาว: 262 mg/m <sup>3</sup> , 200 ppm Skin; BEI

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

PEL (USA)	ค่าระยะยาว: 0.1 mg/m <sup>3</sup> Skin
REL (USA)	ค่าระยะสั้น: 0.3 mg/m <sup>3</sup> ค่าระยะยาว: 0.1 mg/m <sup>3</sup> Skin
TLV (USA)	ค่าระยะยาว: 0.1 mg/m <sup>3</sup>

(ต่อที่หน้า 5)

-TH-

# แผ่นข้อมูลความปลอดภัย

## ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2015.06.09

การปรับปรุงใหม่ : 2015.06.09

### ชื่อทางการค้า BOUIN'S SOLUTION

(ต่อที่หน้า 4)

- **ข้อมูลรายละเอียดเสริม** รายการถูกต้องระหว่างที่จัดทำโดยอาศัยการใช้งานเป็นหลัก
- **8.2 การควบคุมการสัมผัส**
- **อุปกรณ์ป้องกันส่วนบุคคล**
- **มาตรการการป้องกันและสุขอนามัยทั่วไป**  
เก็บให้ห่างจากสิ่งของที่เป็นอาหาร เครื่องดื่ม และอาหารสัตว์  
ให้ถอดเสื้อผ้าที่เปื้อนและเจือปนออกทันที  
ล้างมือก่อนที่จะหยุดพักและเมื่อสิ้นสุดเวลาทำงาน  
เก็บชุดป้องกันแยกต่างหาก  
หลีกเลี่ยงการสัมผัสลูกตาและผิวหนัง
- **การป้องกันการสูดหายใจเข้าไป**  
ในกรณีที่อยู่เป็นเวลาสั้นหรืออากาศเป็นพิษระดับต่ำ ใช้หน้ากากกรองเพื่อช่วยหายใจในกรณีที่มีความเข้มข้นสูงหรืออยู่เป็นเวลานาน ให้ใช้เครื่องป้องกันที่มีอุปกรณ์ช่วยหายใจในตัว
- **การป้องกันมือ**



ถุงมือป้องกัน

วัสดุของถุงมือจะต้องไม่ให้อากาศผ่านเข้าออกและทนทานต่อผลิตภัณฑ์/ สาร/ การผลิต เนื่องจากขาดการทดสอบจึงไม่มีคำแนะนำสำหรับวัสดุที่ใช้ทำถุงมือสำหรับผลิตภัณฑ์ / การผลิต / ของผสมเคมี

เลือกวัสดุสำหรับถุงมือโดยพิจารณาจากเวลาที่ใช้ในการซึมผ่านอัตราการแพร่และการเสื่อม

- **วัสดุที่ใช้ทำถุงมือ**  
การเลือกใช้ถุงมือที่เหมาะสมไม่เพียงแต่ขึ้นอยู่กับวัสดุแต่ยังขึ้นกับมาตรฐานด้านคุณภาพ และขอแตกต่างระหว่างผู้ผลิตแต่ละแห่งโดยที่ผลิตภัณฑ์เตรียมมาจากสารหลายชนิดความทนทานของวัสดุถุงมือไม่สามารถที่จะคำนวณล่วงหน้าดังนั้นจึงต้องตรวจสอบกับการใช้งาน
- **เวลาที่ใช้ในการทะลุผ่านวัสดุที่ใช้ทำถุงมือ**  
ผู้ผลิตถุงมือป้องกันจะต้องทดสอบหาเวลาแน่นอนที่ใช้ในการทะลุผ่านและจะต้องมีการตรวจสอบติดตาม
- **การป้องกันตา**



แว่นตาที่ขอบปิดสนิท

### 9: คุณสมบัติทางกายภาพและเคมี

- **9.1 ข้อมูลคุณสมบัติพื้นฐานทางกายภาพและเคมี**

- **ข้อมูลรายละเอียดทั่วไป**

- **ลักษณะ :**

รูปลักษณ์  
สี

ของเหลว  
สีเหลือง

- **กลิ่น**

กลิ่นฉุน

- **เกณฑ์กลิ่น :**

ไม่ได้กำหนดไว้.

- **ค่า pH**

ไม่ได้กำหนดไว้.

- **การเปลี่ยนสภาวะ**

จุดหลอมเหลว/ ขอบเขตการหลอมละลาย  
จุดเดือด/ ขอบเขตการเดือด

ไม่ได้กำหนด  
98 °C

- **จุดวาบไฟ**

40 °C

(ต่อที่หน้า 6)



# แผ่นข้อมูลความปลอดภัย

## ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2015.06.09

การปรับปรุงใหม่ : 2015.06.09

### ชื่อทางการค้า BOUIN'S SOLUTION

(ต่อที่หน้า 5)

· ความสามารถติดไฟ (ของแข็งแกส)	ไม่สามารถใช้ได้
· อุณหภูมิจุดระเบิด	300 °C
· อุณหภูมิสลายตัว	ไม่ได้กำหนดไว้.
· การเผาไหม้ด้วยตัวเอง	ผลิตภัณฑ์ไม่เป็นสารจุดไฟติดด้วยตัวเอง
· อันตรายจากการระเบิด	ผลิตภัณฑ์ไม่ได้เป็นสารระเบิดอย่างไรก็ตามอาจเป็นไปได้ที่การผสมของอากาศ/ ไอจะทำให้เกิดการ
· ขอบเขตการระเบิด ชั้นต่ำ ชั้นสูง	ไม่ได้กำหนดไว้. 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 / ความสามารถผสมเป็นสารละลายเนื้อเดียวทุกส่วนผสมกับน้ำ	ผสมกันได้เต็มที่
· สัมประสิทธิ์การแยกตัว (เฮน-ออกทานอล/น้ำ)	ไม่ได้กำหนดไว้.
· ความหนืด (ไดนามิค) พลศาสตร์ (คิเนเมติก) จลนศาสตร์	ไม่ได้กำหนดไว้. ไม่ได้กำหนดไว้.
· ปริมาณส่วนประกอบตัวทำละลาย ตัวทำละลายอินทรีย์ น้ำ VOC (EC)	18.0 % 81.0 % 18.00 %
· ส่วนประกอบที่เป็นของแข็ง · 9.2 ข้อมูลอื่นๆ	1.0 % ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

## 10: ความเสถียรและความสามารถในการทำปฏิกิริยา

- 10.1 ปฏิกิริยาโต้ตอบ
- 10.2 เสถียรภาพทางเคมี
- การสลายตัวด้วยความร้อน / เงื่อนไขที่ต้องหลีกเลี่ยง ไม่มีการสลายตัวถ้าใช้ตามรายละเอียดที่ระบุไว้
- 10.3 ความเป็นไปได้ของการเกิดปฏิกิริยาอันตราย ไม่มีปฏิกิริยาเป็นอันตรายที่รู้จัก
- 10.4 เงื่อนไขเพื่อการหลีกเลี่ยง ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.5 วัสดุที่เข้ากันไม่ได้: ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 10.6 อันตรายจากการสลายตัวของผลิตภัณฑ์: ไม่มีสารจากการสลายตัวที่เป็นอันตรายที่รู้จัก

TH

(ต่อที่หน้า 7)

# แผ่นข้อมูลความปลอดภัย

## ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2015.06.09

การปรับปรุงใหม่ : 2015.06.09

### ชื่อทางการค้า BOUIN'S SOLUTION

(ต่อที่หน้า 6)

#### 11: ข้อมูลรายละเอียดเกี่ยวกับพิษวิทยา

- 11.1 ข้อมูลเกี่ยวกับผลกระทบทางพิษวิทยา
- ความเป็นพิษอย่างสาหัส:

- การจัดแบ่งตามค่า LD/LC50

50-00-0 formaldehyde

ทางปาก LD50 &gt;200 mg/kg (rat)

67-56-1 Methyl Alcohol

ทางปาก LD50 5628 mg/kg (rat)

ทางผิวหนัง LD50 15800 mg/kg (rabbit)

- อาการระคายเคืองเบื้องต้น
- บนผิวหนัง ทำให้ระคายเคืองต่อผิวหนังและเยื่อผิวหนังในช่องจมูกและปากที่สร้างน้ำเมือกหล่อลื่น
- ที่ดวงตา ทำให้ระคายเคือง
- การทำไให้แพ้ อาจจะทำให้แพ้โดยการสัมผัสกับผิวหนัง
- ข้อมูลรายละเอียดเสริมเกี่ยวกับพิษวิทยา
  - ผลิตภัณฑ์จะระบุถึงอันตรายต่างๆตามวิธีการที่กำหนดไว้ในต้นแบบการจัดแบ่งประเภททั่วไปสำหรับการผลิตของ EU ที่ออกฉบับล่าสุด
  - เป็นอันตราย
  - ทำให้ระคายเคือง
  - ทำให้เกิดมะเร็ง
- ผลกระทบ CMR (การทำให้เกิดมะเร็งการผ่าเหล่าและพิษต่อการสืบพันธุ์)
  - Muta. 2, Carc. 1B

#### 12: ข้อมูลรายละเอียดเกี่ยวกับนิเวศวิทยา

- 12.1 ความเป็นพิษ
- ความเป็นพิษที่เกี่ยวกับน้ำ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.2 การคงอยู่และการย่อยสลาย ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.3 การสะสมทางชีวภาพที่อาจเกิดขึ้น ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.4 การเปลี่ยนแปลงในดิน ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- ข้อมูลรายละเอียดเสริมเกี่ยวกับนิเวศวิทยา
- หมายเหตุทั่วไป
  - เป็นอันตรายต่อน้ำชั้น 2 ( กฏข้อบังคับของเยอรมัน ) ( การประเมินค่าด้วยตัวเอง ) : เป็นอันตรายกับน้ำ
  - อย่าปล่อยให้ผลิตภัณฑ์ไปถึงน้ำผิวดินเส้นทางน้ำหรือระบบระบายน้ำเสีย
  - เป็นอันตรายต่อน้ำดื่มแม่จะร่วงลงในพื้นดินเป็นปริมาณน้อย
- 12.5 ผลของ PBT และการประเมิน vPvB
- PBT: ไม่สามารถใช้ได้
- vPvB: ไม่สามารถใช้ได้
- 12.6 ผลข้างเคียงอื่นๆ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

#### 13: การพิจารณาการจัด

- 13.1 วิธีการกำจัดของเสีย
- คำแนะนำ ต้องไม่ทิ้งไปพร้อมกับขยะจากบ้านเรือนอย่าปล่อยให้ผลิตภัณฑ์เข้าถึงระบบระบายน้ำเสีย
- ภาชนะบรรจุที่ยังไม่ได้ล้างทำความสะอาด
- คำแนะนำ การกำจัดจะต้องทำตามกฎระเบียบที่เป็นทางการ

(ต่อที่หน้า 8)

TH

# แผ่นข้อมูลความปลอดภัย

## ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2015.06.09

การปรับปรุงใหม่ : 2015.06.09

### ชื่อทางการค้า BOUIN'S SOLUTION

· สารทำความสะอาดที่แนะนำ น้ำถ้าจำเป็นใช้คู่กับสารทำความสะอาด

(ต่อที่หน้า 7)

#### 14: ข้อมูลรายละเอียดในการขนส่ง

· 14.1 เลขที่ UN

· ADR, IMDG, IATA

UN1993

· 14.2 ชื่อการจัดส่งสินค้าที่เหมาะสมของ UN

· ADR

1993 FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)

· IMDG, IATA

FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL)

· 14.3 ชั้นเรียนอันตรายจากการขนส่ง

· ADR, IMDG, IATA



· ประเภท

3 ของเหลวติดไฟได้

· ฉลากสิ่งที่เป็นอันตราย

3

· 14.4 กลุ่มของภาชนะบรรจุ

· ADR, IMDG, IATA

III

· 14.5 สิ่งที่เป็นอันตรายต่อสภาพแวดล้อม

· สารที่เป็นพิษต่อทะเล

ไม่ใช่

· 14.6 การป้องกันพิเศษล่วงหน้าสำหรับผู้ใช้

· รหัสความอันตราย:

คำเตือน !: ของเหลวติดไฟได้

· หมายเลข EMS

30

· Segregation groups

F-E,S-E

Acids

· 14.7 การขนส่งขนาดใหญ่ตามภาคผนวก 2 ของ MARPOL73/78 และรหัส IBC

ไม่สามารถใช้ได้

· การขนส่ง/ข้อมูลรายละเอียดเสริม

· ADR

· ปริมาณที่จำกัด (LQ)

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· หมวดหมู่การขนส่ง

3

· รหัสควบคุมการผ่านอุโมงค์

D/E

· IMDG

· Limited quantities (LQ)

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· “□□□□□□□□□□□□□□□□” ของ UN

UN1993, FLAMMABLE LIQUID, N.O.S. (METHANOL, ACETIC ACID, GLACIAL), 3, III

TH  
(ต่อที่หน้า 9)

# แผ่นข้อมูลความปลอดภัย

## ตาม 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2015.06.09

การปรับปรุงใหม่ : 2015.06.09

### ชื่อทางการค้า BOUIN'S SOLUTION

(ต่อที่หน้า 8)

#### 15: ข้อมูลรายละเอียดของกฎระเบียบ

- 15.1 ความปลอดภัย สุขภาพและระเบียบ/กฎหมายสิ่งแวดล้อมโดยเฉพาะของสารหรือสารผสม
- กฎหมายของประเทศ
- ข้อมูลรายละเอียดเกี่ยวกับขอบเขตการใช้งาน  
ไม่อนุญาตให้คนงานเข้าไปสัมผัสกับวัตถุอันตรายที่ทำให้เกิดมะเร็งซึ่งมีอยู่ในการผลิตของกเว้นอาจทำได้เมื่อได้รับอนุญาตจากผู้มีอำนาจในบางกรณี
- 15.2 การประเมินความปลอดภัยของสารเคมี: ไม่ได้ดำเนินการตามการประเมินความปลอดภัยของสารเคมี

#### 16: ข้อมูลรายละเอียดอื่นๆ

ข้อมูลรายละเอียดนี้ใช้ความรู้ปัจจุบันของเราเป็นหลักอย่างไรก็ตามข้อมูลนี้ไม่ใช่การรับประกันจากสถาบันต่อคุณสมบัติเฉพาะของผลิตภัณฑ์และไม่สามารถยืนยันการบังคับใช้ตามกฎหมายที่เกี่ยวข้องกับสัญญา

##### · วลีที่เกี่ยวข้องกับ

- H201 ระเบิดอันตรายจากการระเบิดขนาดใหญ่
- H225 ของเหลวและไอที่ไวไฟสูง
- H226 ของเหลวและไอที่ไวไฟ
- H301 มีพิษหากกลืนเข้าไป
- H302 เป็นอันตรายหากกลืนเข้าไป
- H311 มีพิษโดยการสัมผัสกับผิวหนัง
- H312 เป็นอันตรายหากสัมผัสกับผิวหนัง
- H314 เป็นสาเหตุให้ผิวหนังไหม้อย่างสาหัสและทำอันตรายต่อดวงตา
- H315 เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง
- H317 อาจเป็นสาเหตุให้ผิวหนังแสดงอาการแพ้
- H331 มีพิษหากสูดหายใจเข้า
- H332 ให้โทษหากสูดหายใจเข้า
- H341 สงสัยว่าจะเป็นสาเหตุให้เกิดข้อบกพร่องทางพันธุกรรม
- H350 อาจเป็นเหตุให้เกิดมะเร็ง
- H370 เป็นสาเหตุทำให้อวัยวะเสียหาย

##### · คำย่อและชื่อย่อที่ผสมขึ้น

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- 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
- Expl. 1.1: Explosives, Division 1.1
- Flam. Liq. 2: Flammable liquids, Hazard Category 2
- Flam. Liq. 3: Flammable liquids, Hazard Category 3
- Acute Tox. 3: Acute toxicity, Hazard Category 3
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- : Skin corrosion/irritation, Hazard Category 1
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- Skin Sens. 1: Sensitisation - Skin, Hazard Category 1
- Muta. 2: Germ cell mutagenicity, Hazard Category 2
- Carc. 1B: Carcinogenicity, Hazard Category 1B
- STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1
- STOT SE 2: Specific target organ toxicity - Single exposure, Hazard Category 2