

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/01/2015

Reviewed on 09/01/2015

1 Identification

- **Product identifier**
- **Trade name:** Butvar B-98 1% Solution (Butvar B-98 in Chloroform)
- **Article number:** 11860
- **CAS Number:**
67-66-3
- **EC number:**
200-663-8
- **Index number:**
602-006-00-4
- **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. 2 H225 Highly flammable liquid and vapor.

.....



GHS06 Skull and crossbones

Acute Tox. 2 H310 Fatal in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.

.....



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

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GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

· **Label elements**

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

· **Hazard pictograms**



GHS02 GHS06 GHS07 GHS08

· **Signal word** *Danger*

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

CHLOROFORM, GLASS DISTILLED

2-methylbut-2-ene

· **Hazard statements**

Highly flammable liquid and vapor.

Harmful if swallowed.

Fatal in contact with skin.

Toxic if inhaled.

Causes skin irritation.

Causes serious eye irritation.

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

Causes damage to organs through prolonged or repeated exposure.

· **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 protective gloves / protective clothing.

Wear eye protection / face protection.

Ground/bond container and receiving equipment.

Do not get in eyes, on skin, or on clothing.

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.

Use only outdoors or in a well-ventilated area.

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.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

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

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

IF exposed or concerned: Get medical advice/attention.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

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Rinse mouth.

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

Take off immediately all contaminated clothing and wash it before reuse.

Store locked up.

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

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)**



· **HMIS-ratings (scale 0 - 4)**

HEALTH	3	Health = *3
FIRE	3	Fire = 3
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: Substances**

· **CAS No. Description**

67-66-3 CHLOROFORM, GLASS DISTILLED

· **Identification number(s)**

· **EC number:** 200-663-8

· **Index number:** 602-006-00-4

· **Dangerous components:**

63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin	≤ 2.5%
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4 First-aid measures

· **Description of first aid measures**

· **General information:**

Immediately remove any clothing soiled by the product.

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

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

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

· **After inhalation:**

Supply fresh air or oxygen; call for doctor.

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

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

· **After eye contact:**

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

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

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- **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:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** 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.
Do not flush with water or aqueous cleansing agents
- **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:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.

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· **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:**

67-66-3 CHLOROFORM, GLASS DISTILLED

PEL Ceiling limit value: 240 mg/m³, 50 ppm

REL Short-term value: 9.78* mg/m³, 2* ppm
*60-min; See Pocket Guide App. A

TLV Long-term value: 49 mg/m³, 10 ppm

· **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.

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

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9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Ether-like
Odour threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range:	-63 °C (-81 °F)
Boiling point/Boiling range:	62 °C (144 °F)

- **Flash point:** 0 °C (32 °F)

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

- **Ignition temperature:** 982 °C (1800 °F)

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Not determined.

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

- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

- **Vapor pressure at 20 °C (68 °F):** 210 hPa (158 mm Hg)

- **Density at 20 °C (68 °F):** 1.47807 g/cm³ (12.334 lbs/gal)

- **Relative density** Not determined.

- **Vapour density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with**

- Water at 20 °C (68 °F): 8 g/l

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

- **Viscosity:**

Dynamic at 20 °C (68 °F):	0.56 mPas
Kinematic:	Not determined.

- Organic solvents: 0.0 %

- **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.

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· **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:**

67-66-3 CHLOROFORM, GLASS DISTILLED

Oral	LD50	908 mg/kg (rat)
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Dermal	LD50	75 mg/kg (rat)
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· **Primary irritant effect:**

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

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:** Danger through skin absorption.

· **Carcinogenic categories**

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

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· **NTP (National Toxicology Program)**

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

Substance is not listed.

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 3 (Assessment by list): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely 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.

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

14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA 	<p style="margin-left: 20px;">UN1888</p>
<ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG, IATA 	<p style="margin-left: 20px;">Chloroform 1888 Chloroform CHLOROFORM</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT 	<div style="text-align: center;">  </div> <p style="margin-left: 20px;">6.1 Toxic substances</p>
<ul style="list-style-type: none"> · Class · Label 	<p style="margin-left: 20px;">6.1 6.1</p>
<ul style="list-style-type: none"> · ADR, IMDG, IATA 	<div style="text-align: center;">  </div> <p style="margin-left: 20px;">6.1 Toxic substances 6.1</p>
<ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA 	<p style="margin-left: 20px;">III</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	<p style="margin-left: 20px;">No</p>
<ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups 	<p style="margin-left: 20px;">Warning: Toxic substances 60 F-A,S-A Liquid halogenated hydrocarbons</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	<p style="margin-left: 20px;">Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: · DOT · Quantity limitations · Hazardous substance: 	<p style="margin-left: 20px;">On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L 10 lbs, 4.54 kg</p>
<ul style="list-style-type: none"> · ADR · Excepted quantities (EQ) 	<p style="margin-left: 20px;">Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p>

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- | | |
|--|--|
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p>5L
Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml</p> |
| <ul style="list-style-type: none"> · UN "Model Regulation": | <p>UN1888, Chloroform, 6.1, III</p> |

15 Regulatory information

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

- **Sara**

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

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

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

Substance is listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

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

Substance is not listed.

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

Substance is not listed.

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

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- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

67-66-3	CHLOROFORM, GLASS DISTILLED						B2, L, NL
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- **TLV (Threshold Limit Value established by ACGIH)**

67-66-3	CHLOROFORM, GLASS DISTILLED						A3
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- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

67-66-3	CHLOROFORM, GLASS DISTILLED
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- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02 GHS06 GHS07 GHS08

- **Signal word** *Danger*

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

CHLOROFORM, GLASS DISTILLED

2-methylbut-2-ene

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US

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Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

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· **Hazard statements**

Highly flammable liquid and vapor.
 Harmful if swallowed.
 Fatal in contact with skin.
 Toxic if inhaled.
 Causes skin irritation.
 Causes serious eye irritation.
 Suspected of causing cancer.
 Suspected of damaging fertility or the unborn child.
 Causes damage to organs through prolonged or repeated exposure.

· **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 protective gloves / protective clothing.
 Wear eye protection / face protection.
 Ground/bond container and receiving equipment.
 Do not get in eyes, on skin, or on clothing.
 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.
 Use only outdoors or in a well-ventilated area.
 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.
 Immediately call a poison center/doctor.
 Specific treatment (see on this label).
 If swallowed: Call a poison center/doctor if you feel unwell.
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 IF exposed or concerned: Get medical advice/attention.
 If skin irritation occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
 Get medical advice/attention if you feel unwell.
 Rinse mouth.
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Take off immediately all contaminated clothing and wash it before reuse.
 Store locked up.
 Store in a well-ventilated place. Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **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** 09/01/2015 / -

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· 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

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

Acute Tox. 2: Acute toxicity, Hazard Category 2

Acute Tox. 3: Acute toxicity, Hazard Category 3

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

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

Carc. 2: Carcinogenicity, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

US

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

Printing date 01.09.2015

Revision: 01.09.2015

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

· **Product identifier**

· **Trade name:** Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

· **Article number:** 11860

· **CAS Number:**

67-66-3

· **EC number:**

200-663-8

· **Index number:**

602-006-00-4

· **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

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

· **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. 2 H225 Highly flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 2 H310 Fatal in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.

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

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Trade name: **Butvar B-98 1% Solution (Butvar B-98 in Chloroform)**

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GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.
 Repr. 2 H361 Suspected of damaging fertility or the unborn child.
 STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
 Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.

· **Label elements**

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**



GHS02



GHS06



GHS07



GHS08

· **Signal word** Danger

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

CHLOROFORM, GLASS DISTILLED
 2-methylbut-2-ene

· **Hazard statements**

Highly flammable liquid and vapour.
 Harmful if swallowed.
 Fatal in contact with skin.
 Toxic if inhaled.
 Causes skin irritation.
 Causes serious eye irritation.
 Suspected of causing cancer.
 Suspected of damaging fertility or the unborn child.
 Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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 protective gloves / protective clothing.
 Wear eye protection / face protection.
 Ground/bond container and receiving equipment.
 Do not get in eyes, on skin, or on clothing.
 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.

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Use only outdoors or in a well-ventilated area.

Obtain special instructions before use.

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

IF ON SKIN (or hair): 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.

Immediately call a POISON CENTER/doctor.

Specific treatment (see on this label).

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

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

IF exposed or concerned: Get medical advice/attention.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Rinse mouth.

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

Take off immediately all contaminated clothing and wash it before reuse.

Store locked up.

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

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: Substances**
- **CAS No. Description**
67-66-3 CHLOROFORM, GLASS DISTILLED
- **Identification number(s)**
- **EC number:** 200-663-8
- **Index number:** 602-006-00-4

· Dangerous components:

63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin	≤ 2.5%
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4 First aid measures

· Description of first aid measures

· General information:

Immediately remove any clothing soiled by the product.

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

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

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

· After inhalation:

Supply fresh air or oxygen; call for doctor.

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

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

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Safety data sheet

according to 1907/2006/EC, Article 31

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Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 3)

- **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:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** 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.
Do not flush with water or aqueous cleansing agents
- **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:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 01.09.2015

Revision: 01.09.2015

Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 4)

- 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:**

67-66-3 CHLOROFORM, GLASS DISTILLED

NES	Long-term value: 10 mg/m ³ , 2 ppm
Sk	

- **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.
- **Penetration time of glove material**
 - The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

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(Contd. on page 6)

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

Printing date 01.09.2015

Revision: 01.09.2015

Trade name: **Butvar B-98 1% Solution (Butvar B-98 in Chloroform)**

(Contd. of page 5)

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

· Form:	Liquid
· Colour:	Colourless
· Odour:	Ether-like
· Odour threshold:	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

· Melting point/Melting range:	-63 °C
· Boiling point/Boiling range:	62 °C

· **Flash point:** 0 °C

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

· **Ignition temperature:** 982 °C

· **Decomposition temperature:** Not determined.

· **Self-igniting:** Not determined.

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

· **Explosion limits:**

· Lower:	Not determined.
· Upper:	Not determined.

· **Vapour pressure at 20 °C:** 210 hPa

· **Density at 20 °C:** 1.47807 g/cm³

· **Relative density** Not determined.

· **Vapour density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

· **water at 20 °C:** 8 g/l

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

· **Viscosity:**

· Dynamic at 20 °C:	0.56 mPas
· Kinematic:	Not determined.

· **Solvent content:**

· Organic solvents:	0.0 %
· VOC (EC)	0.00 %

· **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.

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

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Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 6)

- **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 relevant for classification:**

67-66-3 CHLOROFORM, GLASS DISTILLED

Oral	LD50	908 mg/kg (rat)
Dermal	LD50	75 mg/kg (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:** Danger through skin adsorption.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Carc. 2, Repr. 2

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 3 (German Regulation) (Assessment by list): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely 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.

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Safety data sheet
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Trade name: **Butvar B-98 1% Solution (Butvar B-98 in Chloroform)**

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14 Transport information

· UN-Number · ADG, IMDG, IATA	UN1888
· UN proper shipping name · ADG · IMDG, IATA	1888 CHLOROFORM CHLOROFORM
· Transport hazard class(es) · ADG, IMDG, IATA	
	
· Class · Label	6.1 Toxic substances. 6.1
· Packing group · ADG, IMDG, IATA	III
· Environmental hazards: · Marine pollutant:	No
· Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups	Warning: Toxic substances. 60 F-A,S-A Liquid halogenated hydrocarbons
· 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	2 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":	UN1888, CHLOROFORM, 6.1, III

15 Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
· Australian Inventory of Chemical Substances
Substance is listed.

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Trade name: **Butvar B-98 1% Solution (Butvar B-98 in Chloroform)**

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· Standard for the Uniform Scheduling of Medicines and Poisons		
67-66-3	CHLOROFORM, GLASS DISTILLED	S2, S4, S6

· **GHS label elements**

The substance is classified and labelled according to the Globally Harmonised System (GHS).

· **Hazard pictograms**

GHS02 GHS06 GHS07 GHS08

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

CHLOROFORM, GLASS DISTILLED

2-methylbut-2-ene

· **Hazard statements***Highly flammable liquid and vapour.**Harmful if swallowed.**Fatal in contact with skin.**Toxic if inhaled.**Causes skin irritation.**Causes serious eye irritation.**Suspected of causing cancer.**Suspected of damaging fertility or the unborn child.**Causes damage to organs through prolonged or repeated exposure.*· **Precautionary statements***Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. 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 protective gloves / protective clothing.**Wear eye protection / face protection.**Ground/bond container and receiving equipment.**Do not get in eyes, on skin, or on clothing.**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.**Use only outdoors or in a well-ventilated area.**Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**IF ON SKIN (or hair): 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.**Immediately call a POISON CENTER/doctor.**Specific treatment (see on this label).**IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**IF exposed or concerned: Get medical advice/attention.**If skin irritation occurs: Get medical advice/attention.**If eye irritation persists: Get medical advice/attention.**Get medical advice/attention if you feel unwell.*

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

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Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

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Rinse mouth.

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

Take off immediately all contaminated clothing and wash it before reuse.

Store locked up.

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

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 Substance is not listed.**
- **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. 2: Flammable liquids, Hazard Category 2

Acute Tox. 4: Acute toxicity, Hazard Category 4

Acute Tox. 2: Acute toxicity, Hazard Category 2

Acute Tox. 3: Acute toxicity, Hazard Category 3

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

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

Carc. 2: Carcinogenicity, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/01/2015

Reviewed on 09/01/2015

1 Identification

- **Product identifier**
- **Trade name:** Butvar B-98 1% Solution (Butvar B-98 in Chloroform)
- **Article number:** 11860
- **CAS Number:**
67-66-3
- **EC number:**
200-663-8
- **Index number:**
602-006-00-4
- **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. 2 H225 Highly flammable liquid and vapor.

.....



GHS06 Skull and crossbones

Acute Tox. 2 H310 Fatal in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.

.....



GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

.....



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 1)

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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

Not applicable.



Very toxic

Very toxic in contact with skin.



Toxic

Repr. Cat. 3

May cause harm to the unborn child. Toxic by inhalation. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.



Harmful

Harmful if swallowed. Limited evidence of a carcinogenic effect. Possible risk of impaired fertility.



Irritant

Irritating to eyes and skin.



Highly flammable

Highly flammable.

Carc. Cat. 3

· **Information concerning particular hazards for human and environment: Not applicable.**

· **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:**



Carc. Cat. 3, Repr. Cat. 3

Very toxic

Highly flammable

· **Risk phrases:**

May cause harm to the unborn child.

Highly flammable.

Also harmful if swallowed.

Also toxic by inhalation.

Also very toxic in contact with skin.

Irritating to eyes and skin.

Limited evidence of a carcinogenic effect.

Also toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

Possible risk of impaired fertility.

· **Safety phrases:**

Avoid exposure - obtain special instructions before use.

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.

Wear suitable protective clothing, gloves and eye/face 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.

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Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 2)

- **Hazard description:**

- **WHMIS-symbols:**

B2 - Flammable liquid

D1A - Very toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects



- **Classification system:**

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



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

HEALTH	3	Health = *3
FIRE	3	Fire = 3
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: Substances**

- **CAS No. Description**

67-66-3 CHLOROFORM, GLASS DISTILLED

- **Identification number(s)**

- **EC number:** 200-663-8

- **Index number:** 602-006-00-4

- **Dangerous components:**

63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin	≤ 1%
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4 First-aid measures

- **Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

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

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

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

- **After inhalation:**

Supply fresh air or oxygen; call for doctor.

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

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

(Contd. on page 4)

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Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 3)

- **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:** CO₂, sand, extinguishing powder. Do not use water.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** 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.
Do not flush with water or aqueous cleansing agents
- **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:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.

(Contd. on page 5)

Safety Data Sheet

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Reviewed on 09/01/2015

Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 4)

- 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:**

67-66-3 CHLOROFORM, GLASS DISTILLED

EL Long-term value: 2 ppm
IARC 2B; R

EV Long-term value: 49 mg/m³, 10 ppm

- **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.

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

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Reviewed on 09/01/2015

Trade name: **Butvar B-98 1% Solution (Butvar B-98 in Chloroform)**

(Contd. of page 5)

9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Ether-like
Odour threshold:	Not determined.

- **pH-value:** Not determined.

- **Change in condition**

Melting point/Melting range:	-63 °C
Boiling point/Boiling range:	62 °C

- **Flash point:** 0 °C

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

- **Ignition temperature:** 982 °C

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Not determined.

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

- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

- **Vapor pressure at 20 °C:** 210 hPa

Density at 20 °C:	1.47807 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

- **Solubility in / Miscibility with**

Water at 20 °C:	8 g/l
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- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

Dynamic at 20 °C:	0.56 mPas
Kinematic:	Not determined.
Organic solvents:	0.0 %

- **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.

(Contd. on page 7)

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Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 6)

· **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:**

67-66-3 CHLOROFORM, GLASS DISTILLED

Oral	LD50	908 mg/kg (rat)
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Dermal	LD50	75 mg/kg (rat)
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· **Primary irritant effect:**

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

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· **Additional toxicological information:** Danger through skin absorption.

· **Carcinogenic categories**

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

67-66-3	CHLOROFORM, GLASS DISTILLED	2B
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· **NTP (National Toxicology Program)**

67-66-3	CHLOROFORM, GLASS DISTILLED	R
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· **OSHA-Ca (Occupational Safety Health Administration)**

Substance is not listed.

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 3 (Assessment by list): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

Danger to drinking water if even extremely 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.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 09/01/2015



Reviewed on 09/01/2015

Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 7)

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

14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT, TDG, IMDG, IATA 	<p style="margin-left: 20px;">UN1888</p>
<ul style="list-style-type: none"> · UN proper shipping name · DOT · TDG · IMDG, IATA 	<p style="margin-left: 20px;">Chloroform 1888 Chloroform CHLOROFORM</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT 	<div style="text-align: center;">  </div> <p style="margin-left: 20px;">6.1 Toxic substances</p>
<ul style="list-style-type: none"> · Class · Label · TDG, IMDG, IATA 	<p style="margin-left: 20px;">6.1 6.1</p>
<ul style="list-style-type: none"> · Class · Label 	<div style="text-align: center;">  </div> <p style="margin-left: 20px;">6.1 Toxic substances 6.1</p>
<ul style="list-style-type: none"> · Packing group · DOT, TDG, IMDG, IATA 	<p style="margin-left: 20px;">III</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: 	<p style="margin-left: 20px;">No</p>
<ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Segregation groups 	<p style="margin-left: 20px;">Warning: Toxic substances 60 F-A,S-A Liquid halogenated hydrocarbons</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	<p style="margin-left: 20px;">Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: · DOT · Quantity limitations · Hazardous substance: 	<p style="margin-left: 20px;">On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L 10 lbs, 4.54 kg</p>
<ul style="list-style-type: none"> · TDG · Excepted quantities (EQ) 	<p style="margin-left: 20px;">Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p>

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CA

Safety Data Sheet

acc. to OSHA HCS

Printing date 09/01/2015

Reviewed on 09/01/2015

Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 8)

- | | |
|--|--|
| <ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) | <p>5L
Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml</p> |
| <ul style="list-style-type: none"> · UN "Model Regulation": | <p>UN1888, Chloroform, 6.1, III</p> |

15 Regulatory information

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

- **Sara**

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

67-66-3	CHLOROFORM, GLASS DISTILLED
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- **Section 313 (Specific toxic chemical listings):**

67-66-3	CHLOROFORM, GLASS DISTILLED
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- **TSCA (Toxic Substances Control Act):**

Substance is listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

67-66-3	CHLOROFORM, GLASS DISTILLED
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- **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

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

Substance is not listed.

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

67-66-3	CHLOROFORM, GLASS DISTILLED
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- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

67-66-3	CHLOROFORM, GLASS DISTILLED			B2, L, NL
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- **TLV (Threshold Limit Value established by ACGIH)**

67-66-3	CHLOROFORM, GLASS DISTILLED			A3
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- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

67-66-3	CHLOROFORM, GLASS DISTILLED
---------	-----------------------------

- **Canadian substance listings:**

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

Substance is listed.

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

67-66-3	CHLOROFORM, GLASS DISTILLED
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- **Canadian Ingredient Disclosure list (limit 1%)**

Substance is not listed.

- **Product related hazard informations:**

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

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Safety Data Sheet

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Reviewed on 09/01/2015

Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 9)

· **Hazard symbols:**



Carc. Cat. 3, Repr. Cat. 3
 Very toxic
 Highly flammable

· **Risk phrases:**

May cause harm to the unborn child.
 Highly flammable.
 Also harmful if swallowed.
 Also toxic by inhalation.
 Also very toxic in contact with skin.
 Irritating to eyes and skin.
 Limited evidence of a carcinogenic effect.
 Also toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
 Possible risk of impaired fertility.

· **Safety phrases:**

Avoid exposure - obtain special instructions before use.
 After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water.
 Wear suitable protective clothing, gloves and eye/face 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.

· **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** 09/01/2015 / -

· **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. 2: Flammable liquids, Hazard Category 2
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Acute Tox. 2: Acute toxicity, Hazard Category 2
 Acute Tox. 3: Acute toxicity, Hazard Category 3
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A
 Carc. 2: Carcinogenicity, Hazard Category 2
 Repr. 2: Reproductive toxicity, Hazard Category 2
 STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

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

Printing date 01.09.2015

Revision: 01.09.2015

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

· **1.1 Product identifier**

· **Trade name:** Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

· **Article number:** 11860

· **CAS Number:**

67-66-3

· **EC number:**

200-663-8

· **Index number:**

602-006-00-4

· **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. 2 H225 Highly flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 2 H310 Fatal in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.

Repr. 2 H361d Suspected of damaging the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS07

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GB

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Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 1)

Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



· **Signal word** *Danger*

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

CHLOROFORM, GLASS DISTILLED

· **Hazard statements**

H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H310 Fatal in contact with skin.
H331 Toxic if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H351 Suspected of causing cancer.
H361d Suspected of damaging the unborn child.
H372 Causes damage to organs through prolonged or repeated exposure.

· **Precautionary statements**

P303+P361+P353 IF ON SKIN (or hair): 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.
P310 Immediately call a POISON CENTER/doctor.
P321 Specific treatment (see on this label).
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Additional information:**

For use in industrial installations only.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· **3.1 Chemical characterisation: Substances**

· **CAS No. Description**

67-66-3 CHLOROFORM, GLASS DISTILLED

· **Identification number(s)**

· **EC number:** 200-663-8

· **Index number:** 602-006-00-4

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Trade name: **Butvar B-98 1% Solution (Butvar B-98 in Chloroform)**

(Contd. of page 2)

· Dangerous components:

63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin	≤ 2.5%
	⚠ Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	

SECTION 4: First aid measures**· 4.1 Description of first aid measures****· General information:**

Immediately remove any clothing soiled by the product.

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

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

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

· After inhalation:

Supply fresh air or oxygen; call for doctor.

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

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

Rinse opened eye for several minutes under running water. 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: CO₂, sand, extinguishing powder. Do not use water.

· For safety reasons unsuitable extinguishing agents: Water with full jet

· 5.2 Special hazards arising from the substance or mixture No further relevant information available.

· 5.3 Advice for firefighters

· Protective equipment: Mouth respiratory protective device.

SECTION 6: Accidental release measures**· 6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· 6.2 Environmental precautions: 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.

Do not flush with water or aqueous cleansing agents

· 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.

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Trade name: **Butvar B-98 1% Solution (Butvar B-98 in Chloroform)**

(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: Store in a cool location.

· Information about storage in one common storage facility: Not required.

· Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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:

67-66-3 CHLOROFORM, GLASS DISTILLED

WEL	Long-term value: 9.9 mg/m ³ , 2 ppm
Sk	

· 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.

· 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

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Trade name: **Butvar B-98 1% Solution (Butvar B-98 in Chloroform)**

(Contd. of page 4)

· **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.

· **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:**

· Form:	Liquid
· Colour:	Colourless
· Odour:	Ether-like
· Odour threshold:	Not determined.

· **pH-value:** Not determined.· **Change in condition**

· Melting point/Melting range:	-63 °C
· Boiling point/Boiling range:	62 °C

· **Flash point:** 0 °C· **Flammability (solid, gaseous):** Not applicable.· **Ignition temperature:** 982 °C· **Decomposition temperature:** Not determined.· **Self-igniting:** Not determined.

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

· **Explosion limits:**

· Lower:	Not determined.
· Upper:	Not determined.

· **Vapour pressure at 20 °C:** 210 hPa

· Density at 20 °C:	1.47807 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.

· **Solubility in / Miscibility with water at 20 °C:** 8 g/l

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

· **Dynamic at 20 °C:** 0.56 mPas

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Safety data sheet
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Trade name: **Butvar B-98 1% Solution (Butvar B-98 in Chloroform)**

(Contd. of page 5)

Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
VOC (EC)	0.00 %
· 9.2 Other information	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:**

67-66-3 CHLOROFORM, GLASS DISTILLED

Oral	LD50	908 mg/kg (rat)
Dermal	LD50	75 mg/kg (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** Irritant to skin and mucous membranes.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:** Danger through skin adsorption.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Carc. 2, Repr. 2

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 3 (German Regulation) (Assessment by list): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

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Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Contd. of page 6)

· **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.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN1888

· **14.2 UN proper shipping name**

· **ADR**

1888 CHLOROFORM

· **IMDG, IATA**

CHLOROFORM

· **14.3 Transport hazard class(es)**

· **ADR, IMDG, IATA**



· **Class**

6.1 Toxic substances.

· **Label**

6.1

· **14.4 Packing group**

· **ADR, IMDG, IATA**

III

· **14.5 Environmental hazards:**

· **Marine pollutant:**

No

· **14.6 Special precautions for user**

Warning: Toxic substances.

· **Danger code (Kemler):**

60

· **EMS Number:**

F-A,S-A

· **Segregation groups**

Liquid halogenated hydrocarbons

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

Not applicable.

· **Transport/Additional information:**

· **ADR**

· **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

· **Transport category**

2

· **Tunnel restriction code**

E

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Trade name: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

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<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p>UN1888, CHLOROFORM, 6.1, III</p>

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 Substance is not listed.**
- **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**

H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.

- **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
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Acute Tox. 2: Acute toxicity, Hazard Category 2
Acute Tox. 3: Acute toxicity, Hazard Category 3
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Carc. 2: Carcinogenicity, Hazard Category 2
Repr. 2: Reproductive toxicity, Hazard Category 2
STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

Veiligheidsinformatieblad volgens 1907/2006/EG, Artikel 31

datum van de druk: 01.09.2015

Herziening van: 01.09.2015

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

- **1.1 Productidentificatie**
- **Handelsnaam:** Butvar B-98 1% Solution (Butvar B-98 in Chloroform)
- **Artikelnummer:** 11860
- **CAS-nummer:**
67-66-3
- **EC-nummer:**
200-663-8
- **Catalogusnummer:**
602-006-00-4
- **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. 2 H225 Licht ontvlambare vloeistof en damp.



GHS06 doodshoofd met gekruiste beenderen

Acute Tox. 2 H310 Dodelijk bij contact met de huid.

Acute Tox. 3 H331 Giftig bij inademing.



GHS08 gezondheidsgevaar

(Vervolg op blz. 2)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 01.09.2015

Herziening van: 01.09.2015

Handelsnaam: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Vervolg van blz. 1)

Carc. 2 H351 Verdacht van het veroorzaken van kanker.
 Repr. 2 H361d Wordt ervan verdacht het ongeboren kind te schaden.
 STOT RE 1 H372 Veroorzaakt schade aan organen bij langdurige of herhaalde blootstelling.



GHS07

Acute Tox. 4 H302 Schadelijk bij inslikken.
 Skin Irrit. 2 H315 Veroorzaakt huidirritatie.
 Eye Irrit. 2 H319 Veroorzaakt ernstige oogirritatie.

· 2.2 Etiketteringselementen

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

De stof/product is geclassificeerd en geëtiketteerd volgens de CLP-verordening.

· Gevarenpictogrammen



GHS02

GHS06

GHS08

· Signaalwoord Gevaar

· Gevaaraanduidende componenten voor de etikettering:

trichloormethaan

· Gevarenaanduidingen

H225 Licht ontvlambare vloeistof en damp.
 H302 Schadelijk bij inslikken.
 H310 Dodelijk bij contact met de huid.
 H331 Giftig bij inademing.
 H315 Veroorzaakt huidirritatie.
 H319 Veroorzaakt ernstige oogirritatie.
 H351 Verdacht van het veroorzaken van kanker.
 H361d Wordt ervan verdacht het ongeboren kind te schaden.
 H372 Veroorzaakt schade aan organen bij langdurige of herhaalde blootstelling.

· Veiligheidsaanbevelingen

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.
 P310 Onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.
 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.

· Aanvullende gegevens:

Uitsluitend bestemd voor gebruik in industriële installaties.

· 2.3 Andere gevaren

· Resultaten van PBT- en zPzB-beoordeling

- PBT: Niet bruikbaar.
- zPzB: Niet bruikbaar.

NL

(Vervolg op blz. 3)

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Herziening van: 01.09.2015


Handelsnaam: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Vervolg van blz. 2)

RUBRIEK 3: Samenstelling en informatie over de bestanddelen

- **3.1 Chemische karakterisering: Stoffen**
- **CAS-Nr. omschrijving**
67-66-3 trichloormethaan
- **Identificatienummer(s)**
- **EC-nummer:** 200-663-8
- **Catalogusnummer:** 602-006-00-4

- **Gevaarlijke inhoudstoffen:**

63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin	≤ 2,5%
	 Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	

RUBRIEK 4: Eerstehulpmaatregelen

- **4.1 Beschrijving van de eerstehulpmaatregelen**
- **Algemene informatie:**
Verontreinigde kleding onmiddellijk uittrekken.
Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.
Ademhalingstoestel pas afnemen nadat de verontreinigde kleding verwijderd is.
Bij onregelmatige ademhaling of ademstilstand kunstmatige ademhaling toepassen.
- **Na het inademen:**
Verse lucht of zuurstof toedienen; deskundige medische hulp inroepen.
Bij bewusteloosheid ligging en vervoer in stabiele zijligging.
- **Na huidcontact:** Onmiddellijk met water en zeep afwassen en goed naspoelen.
- **Na oogcontact:**
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:** CO₂, zand, bluspoeder. Geen water gebruiken.
- **Blusmiddelen die uit veiligheidsoogpunt niet geschikt zijn:** Krachtige waterstraal
- **5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**
Geen verdere relevante informatie verkrijgbaar.
- **5.3 Advies voor brandweerlieden**
- **Speciale beschermende kleding:** Ademhalingstoestel aantrekken.

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:** Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.

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- **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.
Niet met water of waterachtige reinigingsmiddelen wegspoelen.
- **6.4 Verwijzing naar andere rubrieken**
Informatie inzake veilig gebruik - zie hoofdstuk 7.
Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.
Informatie inzake berging - zie hoofdstuk 13.

RUBRIEK 7: Hantering en opslag

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

67-66-3 trichloormethaan

WGW	Korte termijn waarde: 25 mg/m ³ , 5 ppm
	Lange termijn waarde: 5 mg/m ³ , 1 ppm

- **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)

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(Vervolg van blz. 4)

· Ademhalingsbescherming:

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

· 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:	Kleurloos
Reuk:	Etherachtig
Geurdrempelwaarde:	Niet bepaald.

· pH-waarde: Niet bepaald.

· Toestandsverandering

Smeltpunt/smeltbereik:	-63 °C
Kookpunt/kookpuntbereik:	62 °C

· Vlampunt: 0 °C

· Ontvlambaarheid (vast, gasvormig): Niet bruikbaar.

· Ontstekingsstemperatuur: 982 °C

· Ontbindingstemperatuur: Niet bepaald.

· Zelfontsteking: Niet bepaald.

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

· Ontploffingsgrenzen:

Onderste:	Niet bepaald.
Bovenste:	Niet bepaald.

(Vervolg op blz. 6)

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(Vervolg van blz. 5)

· Dampspanning bij 20 °C:	210 hPa
· Dichtheid bij 20 °C:	1,47807 g/cm ³
· Relatieve dichtheid	Niet bepaald.
· Dampdichtheid	Niet bepaald.
· Verdampingssnelheid	Niet bepaald.
· Oplosbaarheid in/mengbaarheid met Water bij 20 °C:	8 g/l
· Verdelingscoëfficiënt (n-octanol/water):	Niet bepaald.
· Viscositeit	
Dynamisch bij 20 °C:	0,56 mPas
Kinematisch:	Niet bepaald.
· Oplosmiddelgehalte:	
Organisch oplosmiddel:	0,0 %
VOC (EG)	0,00 %
· 9.2 Overige informatie	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**

· Indelingsrelevantie LD/LC50-waarden:

67-66-3 trichloormethaan

Oraal	LD50	908 mg/kg (rat)
Dermaal	LD50	75 mg/kg (rat)

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie** Prikkelde de huid en de slijmvliezen.
- **Ernstig oogletsel/oogirritatie** Prikkeling
- **Sensibilisatie van de luchtwegen/de huid** Geen effect van overgevoeligheid bekend.
- **Aanvullende toxicologische informatie:** Gevaar voor huisresorptie.
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
Carc. 2, Repr. 2

RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.

(Vervolg op blz. 7)

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(Vervolg van blz. 6)

- **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) 10: Kan in het aquatisch milieu op lange termijn schadelijke effecten veroorzaken.
Gevaar voor water klasse 3 (D) (Lijstclassificatie): gevaar voor water groot
Niet lozen in grondwater, oppervlaktewater of riolering, ook niet in kleine hoeveelheden.
Gevaar voor drinkwater zelfs bij het uitlopen van zeer 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 terechtkomen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.

RUBRIEK 14: Informatie met betrekking tot het vervoer

- | | |
|---|---------------------------------|
| · 14.1 VN-nummer | |
| · ADR, IMDG, IATA | UN1888 |
| · 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN | |
| · ADR | 1888 CHLOROFORM |
| · IMDG, IATA | CHLOROFORM |
| · 14.3 Transportgevaarenklasse(n) | |
| · ADR, IMDG, IATA | |
|  | |
| · klasse | 6.1 Giftige stoffen |
| · Etiket | 6.1 |
| · 14.4 Verpakkingsgroep: | |
| · ADR, IMDG, IATA | III |
| · 14.5 Milieugevaren: | |
| · Marine pollutant: | Neen |
| · 14.6 Bijzondere voorzorgen voor de gebruiker | Waarschuwing: Giftige stoffen |
| · Kemler-getal: | 60 |
| · EMS-nummer: | F-A,S-A |
| · Segregation groups | Liquid halogenated hydrocarbons |
| · 14.7 Vervoer in bulk overeenkomstig bijlage II bij MARPOL 73/78 en de IBC-code | Niet bruikbaar. |

(Vervolg op blz. 8)

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· **Transport/verdere gegevens:**

· **ADR**

· **Beperkte hoeveelheden (LQ)**

5L

· **Uitgezonderde hoeveelheden (EQ)**

Code: E1

Grootste netto hoeveelheid per binnenverpakking: 30 ml

Grootste netto hoeveelheid per buitenverpakking: 1000 ml

· **Vervoerscategorie**

2

· **Tunnelbeperkingscode**

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

· **VN "Model Regulation":**

UN1888, CHLOROFORM, 6.1, III

RUBRIEK 15: Regelgeving

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

· **SZW-lijst van kankerverwekkende stoffen**

De stof is niet aanwezig.

· **SZW-lijst van mutagene stoffen**

De stof is niet aanwezig.

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

De stof is niet aanwezig.

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

67-66-3 trichloormethaan

3

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

De stof is niet aanwezig.

· **Richtlijn 2012/18/EU**

· **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** De stof is niet aanwezig.

· **Nationale voorschriften:**

· **Gevaarklasse v. water:** Waterbezwaarlijkheid (NL) 10: 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**

H302 Schadelijk bij inslikken.

H315 Veroorzaakt huidirritatie.

H319 Veroorzaakt ernstige oogirritatie.

H332 Schadelijk bij inademing.

· **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)

(Vervolg op blz. 9)

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(Vervolg van blz. 8)

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
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Acute Tox. 2: Acute toxicity, Hazard Category 2
Acute Tox. 3: Acute toxicity, Hazard Category 3
Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
Carc. 2: Carcinogenicity, Hazard Category 2
Repr. 2: Reproductive toxicity, Hazard Category 2
STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

NL

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 01.09.2015

Révision: 01.09.2015

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

· **1.1 Identificateur de produit**

· **Nom du produit:** Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

· **Code du produit:** 11860

· **No CAS:**

67-66-3

· **Numéro CE:**

200-663-8

· **Numéro index:**

602-006-00-4

· **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. 2 H225 Liquide et vapeurs très inflammables.



GHS06 tête de mort sur deux tibias

Acute Tox. 2 H310 Mortel par contact cutané.

Acute Tox. 3 H331 Toxique par inhalation.



GHS08 danger pour la santé

Carc. 2 H351 Susceptible de provoquer le cancer.

Repr. 2 H361d Susceptible de nuire au fœtus.

STOT RE 1 H372 Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

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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.

- 2.2 Éléments d'étiquetage
- Etiquetage selon le règlement (CE) n° 1272/2008 La substance est classifiée et étiquetée selon le règlement CLP.
- Pictogrammes de danger



GHS02 GHS06 GHS08

- **Mention d'avertissement** Danger
- **Composants dangereux déterminants pour l'étiquetage:**
trichlorométhane
- **Mentions de danger**
 H225 Liquide et vapeurs très inflammables.
 H302 Nocif en cas d'ingestion.
 H310 Mortel par contact cutané.
 H331 Toxique par inhalation.
 H315 Provoque une irritation cutanée.
 H319 Provoque une sévère irritation des yeux.
 H351 Susceptible de provoquer le cancer.
 H361d Susceptible de nuire au fœtus.
 H372 Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.
- **Conseils de prudence**
 P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau/Se doucher.
 P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
 P310 Appeler immédiatement un CENTRE ANTIPOISON/un médecin.
 P321 Traitement spécifique (voir sur cette étiquette).
 P405 Garder sous clef.
 P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.
- **Indications complémentaires:**
Réservé aux installations industrielles.
- 2.3 Autres dangers
- **Résultats des évaluations PBT et vPvB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.

FR

(suite page 3)

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Nom du produit: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(suite de la page 2)

SECTION 3: Composition/informations sur les composants

- **3.1 Caractérisation chimique: Substances**
- **No CAS Désignation**
67-66-3 trichlorométhane
- **Code(s) d'identification**
- **Numéro CE:** 200-663-8
- **Numéro index:** 602-006-00-4

· **Composants dangereux:**

63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin	≤ 2,5%
	⚠ Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	

SECTION 4: Premiers secours

- **4.1 Description des premiers secours**
- **Remarques générales:**
Enlever immédiatement les vêtements contaminés par le produit.
Les symptômes d'intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.
Ne retirer la protection respiratoire qu'après avoir retiré les vêtements contaminés.
Respiration artificielle dans le cas d'une respiration irrégulière ou d'un arrêt respiratoire.
- **Après inhalation:**
Donner de l'air frais ou de l'oxygène; demander d'urgence une assistance médicale.
En cas d'inconscience, coucher et transporter la personne en position latérale stable.
- **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.
- **Après contact avec les yeux:**
Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières. 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:** CO₂, sable, poudre d'extinction. Ne pas utiliser d'eau.
- **Produits extincteurs déconseillés pour des raisons de sécurité:** Jet d'eau à grand débit
- **5.2 Dangers particuliers résultant de la substance ou du mélange**
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Porter un appareil de protection respiratoire.

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:**
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.

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- **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.
Ne pas rincer à l'eau ou aux produits nettoyants aqueux.
- **6.4 Référence à d'autres sections**
Afin d'obtenir des informations pour une manipulation sûre, consulter le chapitre 7.
Afin d'obtenir des informations sur les équipements de protection personnels, consulter le chapitre 8.
Afin d'obtenir des informations sur l'élimination, consulter le chapitre 13.

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:** Stocker dans un endroit frais.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:**
Tenir les emballages hermétiquement fermés.
Stocker au frais et au sec dans des fûts bien 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:**

67-66-3 trichlorométhane

VME	Valeur momentanée: 250 mg/m ³ , 50 ppm
	Valeur à long terme: 10 mg/m ³ , 2 ppm
	C2, (11), risque de pénétration percutanée

- **Remarques supplémentaires:**
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
- **8.2 Contrôles de l'exposition**
- **Equipement de protection individuel:**
- **Mesures générales de protection et d'hygiène:**
Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.
Retirer immédiatement les vêtements souillés ou humectés.
Se laver les mains avant les pauses et en fin de travail.

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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 ne dépend pas seulement du matériau, mais également d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre.

· **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:	Incolore
Odeur:	Genre éther
Seuil olfactif:	Non déterminé.

· **valeur du pH:** Non déterminé.

· **Changement d'état**

Point de fusion:	-63 °C
Point d'ébullition:	62 °C

· **Point d'éclair** 0 °C

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

· **Température d'inflammation:** 982 °C

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

· **Auto-inflammation:** Non déterminé.

· **Danger d'explosion:** Le produit n'est pas explosif; toutefois, des mélanges explosifs vapeur-air peuvent se former.

· **Limites d'explosion:**

Inférieure: Non déterminé.

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Supérieure:	Non déterminé.
· Pression de vapeur à 20 °C:	210 hPa
· Densité à 20 °C:	1,47807 g/cm ³
· Densité relative	Non déterminé.
· Densité de vapeur.	Non déterminé.
· Vitesse d'évaporation	Non déterminé.
· Solubilité dans/miscibilité avec l'eau à 20 °C:	8 g/l
· Coefficient de partage (n-octanol/eau):	Non déterminé.
· Viscosité:	
Dynamique à 20 °C:	0,56 mPas
Cinématique:	Non déterminé.
· Teneur en solvants:	
Solvants organiques:	0,0 %
VOC (CE)	0,00 %
· 9.2 Autres informations	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**

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

67-66-3 trichlorométhane

Oral	LD50	908 mg/kg (rat)
Dermique	LD50	75 mg/kg (rat)

- **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** Aucun effet de sensibilisation connu.
- **Indications toxicologiques complémentaires:** Danger par résorption dermique.
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
Carc. 2, Repr. 2

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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 3 (D) (classification selon liste): très polluant
 Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations, même pas en petite quantité.
 Danger pour l'eau potable dès fuite d'une quantité minimale 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.

SECTION 14: Informations relatives au transport

· 14.1 No ONU · ADR, IMDG, IATA	UN1888
· 14.2 Nom d'expédition des Nations unies · ADR · IMDG, IATA	1888 CHLOROFORME CHLOROFORM
· 14.3 Classe(s) de danger pour le transport · ADR, IMDG, IATA	
	
· Classe · Étiquette	6.1 Matières toxiques. 6.1
· 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 · Indice Kemler: · No EMS:	Attention: Matières toxiques. 60 F-A,S-A

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· Segregation groups	Liquid halogenated hydrocarbons
· 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	2
· Code de restriction en tunnels	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:	UN1888, CHLOROFORME, 6.1, 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** la substance n'est pas comprise
- **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**
H302 Nocif en cas d'ingestion.
H315 Provoque une irritation cutanée.
H319 Provoque une sévère irritation des yeux.
H332 Nocif par inhalation.
- **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
Flam. Liq. 2: Flammable liquids, Hazard Category 2
Acute Tox. 4: Acute toxicity, Hazard Category 4
Acute Tox. 2: Acute toxicity, Hazard Category 2
Acute Tox. 3: Acute toxicity, Hazard Category 3

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

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

Carc. 2: Carcinogenicity, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

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Sicherheitsdatenblatt

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

- **1.1 Produktidentifikator**
- **Handelsname:** Butvar B-98 1% Solution (Butvar B-98 in Chloroform)
- **Artikelnummer:** 11860
- **CAS-Nummer:**
67-66-3
- **EG-Nummer:**
200-663-8
- **Indexnummer:**
602-006-00-4
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** Laborchemikalien
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: 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. 2 H225 Flüssigkeit und Dampf leicht entzündbar.



GHS06 Totenkopf mit gekreuzten Knochen

Acute Tox. 2 H310 Lebensgefahr bei Hautkontakt.

Acute Tox. 3 H331 Giftig bei Einatmen.

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GHS08 Gesundheitsgefahr

- Carc. 2 H351 Kann vermutlich Krebs erzeugen.
 Repr. 2 H361d Kann vermutlich das Kind im Mutterleib schädigen.
 STOT RE 1 H372 Schädigt die Organe bei längerer oder wiederholter Exposition.



GHS07

- Acute Tox. 4 H302 Gesundheitsschädlich bei Verschlucken.
 Skin Irrit. 2 H315 Verursacht Hautreizungen.
 Eye Irrit. 2 H319 Verursacht schwere Augenreizung.

· 2.2 Kennzeichnungselemente

- **Kennzeichnung gemäß Verordnung (EG) Nr. 1272/2008**
 Der Stoff ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.
- **Gefahrenpiktogramme**



GHS02



GHS06



GHS08

· Signalwort Gefahr

· Gefahrbestimmende Komponenten zur Etikettierung:

Trichlormethan

· Gefahrenhinweise

- H225 Flüssigkeit und Dampf leicht entzündbar.
 H302 Gesundheitsschädlich bei Verschlucken.
 H310 Lebensgefahr bei Hautkontakt.
 H331 Giftig bei Einatmen.
 H315 Verursacht Hautreizungen.
 H319 Verursacht schwere Augenreizung.
 H351 Kann vermutlich Krebs erzeugen.
 H361d Kann vermutlich das Kind im Mutterleib schädigen.
 H372 Schädigt die Organe bei längerer oder wiederholter Exposition.

· Sicherheitshinweise

- P303+P361+P353 BEI BERÜHRUNG MIT DER HAUT (oder dem Haar): Alle kontaminierten 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.
 P310 Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.
 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 zur Verwendung in Industrieanlagen.

· 2.3 Sonstige Gefahren

· Ergebnisse der PBT- und vPvB-Beurteilung

- **PBT:** Nicht anwendbar.

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· **vPvB:** Nicht anwendbar.

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ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

- **3.1 Chemische Charakterisierung: Stoffe**
- **CAS-Nr. Bezeichnung**
67-66-3 Trichlormethan
- **Identifikationsnummer(n)**
- **EG-Nummer:** 200-663-8
- **Indexnummer:** 602-006-00-4

· Gefährliche Inhaltsstoffe:

63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin	≤ 2,5%
	⚠ Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	

ABSCHNITT 4: Erste-Hilfe-Maßnahmen

- **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**
- **Allgemeine Hinweise:**
Mit Produkt verunreinigte Kleidungsstücke unverzüglich entfernen.
Vergiftungssymptome können erst nach vielen Stunden auftreten, deshalb ärztliche Überwachung mindestens 48 Stunden nach einem Unfall.
Atemschutz erst nach Entfernen verunreinigter Kleidungsstücke abnehmen.
Bei unregelmäßiger Atmung oder Atemstillstand künstliche Beatmung.
- **Nach Einatmen:**
Frischlucht- oder Sauerstoffzufuhr; ärztliche Hilfe in Anspruch nehmen.
Bei Bewußtlosigkeit Lagerung und Transport in stabiler Seitenlage.
- **Nach Hautkontakt:** Sofort mit Wasser und Seife abwaschen und gut nachspülen.
- **Nach Augenkontakt:**
Augen 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:** CO₂, Sand, Löschpulver. Kein Wasser verwenden.
- **Aus Sicherheitsgründen ungeeignete Löschmittel:** Wasser im Vollstrahl
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**
Keine weiteren relevanten Informationen verfügbar.
- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** Atemschutzgerät anlegen.

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ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**
Schutzausrüstung tragen. Ungeschützte Personen fernhalten.
- **6.2 Umweltschutzmaßnahmen:** 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.
Nicht mit Wasser oder wässrigen Reinigungsmitteln wegspülen.
- **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:** An einem kühlen Ort lagern.
- **Zusammenlagerungshinweise:** Nicht erforderlich.
- **Weitere Angaben zu den Lagerbedingungen:**
Behälter dicht geschlossen halten.
In gut verschlossenen Gebinden kühl und trocken lagern.
Vor Hitze und direkter Sonnenbestrahlung schützen.
- **Lagerklasse:**
- **Klassifizierung nach Betriebsicherheitsverordnung (BetrSichV):** Leichtentzündlich
- **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:**

67-66-3 Trichlormethan

AGW	Langzeitwert: 2,5 mg/m ³ , 0,5 ml/m ³
	2(II);DFG, EU, Y, H

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

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- **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.
- **Durchdringungszeit des Handschuhmaterials**
 Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.
- **Augenschutz:**



Dichtschließende Schutzbrille

ABSCHNITT 9: Physikalische und chemische Eigenschaften

· 9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften

· Allgemeine Angaben

· Aussehen:

Form: Flüssigkeit

Farbe: Farblos

· **Geruch:** Etherartig

· **Geruchsschwelle:** Nicht bestimmt.

· **pH-Wert:** Nicht bestimmt.

· Zustandsänderung

Schmelzpunkt/Schmelzbereich: -63 °C

Siedepunkt/Siedebereich: 62 °C

· **Flammpunkt:** 0 °C

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

· **Zündtemperatur:** 982 °C

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· Zersetzungstemperatur:	Nicht bestimmt.
· Selbstentzündlichkeit:	Nicht bestimmt.
· 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:	210 hPa
· Dichte bei 20 °C:	1,47807 g/cm ³
· Relative Dichte	Nicht bestimmt.
· Dampfdichte	Nicht bestimmt.
· Verdampfungsgeschwindigkeit	Nicht bestimmt.
· Löslichkeit in / Mischbarkeit mit Wasser bei 20 °C:	8 g/l
· Verteilungskoeffizient (n-Octanol/Wasser):	Nicht bestimmt.
· Viskosität:	
Dynamisch bei 20 °C:	0,56 mPas
Kinematisch:	Nicht bestimmt.
· Lösemittelgehalt:	
Organische Lösemittel:	0,0 %
VOC (EU)	0,00 %
· 9.2 Sonstige Angaben	Keine weiteren relevanten Informationen verfügbar.

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:		
67-66-3 Trichlormethan		
Oral	LD50	908 mg/kg (rat)
Dermal	LD50	75 mg/kg (rat)

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut** Reizt die Haut und die Schleimhäute.
- **Schwere Augenschädigung/-reizung** Reizwirkung.

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- **Sensibilisierung der Atemwege/Haut** Keine sensibilisierende Wirkung bekannt.
- **Zusätzliche toxikologische Hinweise:** Gefahr durch Hautresorption.
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
Carc. 2, Repr. 2


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 3 (Listeneinstufung): stark wassergefährdend
Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen, auch nicht in kleinen Mengen.
Trinkwassergefährdung bereits beim Auslaufen geringster Mengen in den Untergrund.
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 13: Hinweise zur Entsorgung

- **13.1 Verfahren der Abfallbehandlung**
- **Empfehlung:** Darf nicht zusammen mit Hausmüll entsorgt werden. Nicht in die Kanalisation gelangen lassen.
- **Ungereinigte Verpackungen:**
- **Empfehlung:** Entsorgung gemäß den behördlichen Vorschriften.

ABSCHNITT 14: Angaben zum Transport

- | | |
|---|--------------------|
| · 14.1 UN-Nummer | |
| · ADR, IMDG, IATA | UN1888 |
| · 14.2 Ordnungsgemäße UN-Versandbezeichnung | |
| · ADR | 1888 CHLOROFORM |
| · IMDG, IATA | CHLOROFORM |
| · 14.3 Transportgefahrenklassen | |
| · ADR, IMDG, IATA | |
|  | |
| · Klasse | 6.1 Giftige Stoffe |
| · Gefahrzettel | 6.1 |
| · 14.4 Verpackungsgruppe | |
| · ADR, IMDG, IATA | III |

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· 14.5 Umweltgefahren:	
· Marine pollutant:	Nein
· 14.6 Besondere Vorsichtsmaßnahmen für den Verwender	Achtung: Giftige Stoffe
· Kemler-Zahl:	60
· EMS-Nummer:	F-A,S-A
· Segregation groups	Liquid halogenated hydrocarbons
· 14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens 73/78 und gemäß IBC-Code	Nicht anwendbar.
· Transport/weitere Angaben:	
· ADR	
· Begrenzte Menge (LQ)	5L
· Freigestellte Mengen (EQ)	Code: E1 Höchste Nettomenge je Innenverpackung: 30 ml Höchste Nettomenge je Außenverpackung: 1000 ml
· Beförderungskategorie	2
· Tunnelbeschränkungscode	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
· UN "Model Regulation":	UN1888, CHLOROFORM, 6.1, 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** Der Stoff ist nicht enthalten.
 - **Nationale Vorschriften:**
 - **Technische Anleitung Luft:**
- | Klasse | Anteil in % |
|--------|-------------|
| I | 98,9 |
- **Wassergefährdungsklasse: WGK 3 (Listeneinstufung):** stark 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**
- H302 Gesundheitsschädlich bei Verschlucken.
- H315 Verursacht Hautreizungen.

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H319 Verursacht schwere Augenreizung.

H332 Gesundheitsschädlich bei Einatmen.

· 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

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

Acute Tox. 2: Acute toxicity, Hazard Category 2

Acute Tox. 3: Acute toxicity, Hazard Category 3

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

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

Carc. 2: Carcinogenicity, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

DE

Scheda di dati di sicurezza
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SEZIONE 1: Identificazione della sostanza o della miscela e della società/impresa

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

· **Articolo numero:** 11860

· **Numero CAS:**

67-66-3

· **Numeri CE:**

200-663-8

· **Numero indice:**

602-006-00-4

· **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

Societa 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. 2 H225 Liquido e vapori facilmente infiammabili.



GHS06 teschio e tibie incrociate

Acute Tox. 2 H310 Letale per contatto con la pelle.

Acute Tox. 3 H331 Tossico se inalato.



GHS08 pericolo per la salute

Carc. 2 H351 Sospettato di provocare il cancro.

Repr. 2 H361d Sospettato di nuocere al feto.

STOT RE 1 H372 Provoca danni agli organi in caso di esposizione prolungata o ripetuta.

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GHS07

Acute Tox. 4 H302 Nocivo se ingerito.
Skin Irrit. 2 H315 Provoca irritazione cutanea.
Eye Irrit. 2 H319 Provoca grave irritazione oculare.

· **2.2 Elementi dell'etichetta**

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

La sostanza è classificata ed etichettata conformemente al regolamento CLP.

· **Pittogrammi di pericolo**



GHS02 GHS06 GHS08

· **Avvertenza Pericolo**

· **Componenti pericolosi che ne determinano l'etichettatura:**

triclorometano

· **Indicazioni di pericolo**

H225 Liquido e vapori facilmente infiammabili.
H302 Nocivo se ingerito.
H310 Letale per contatto con la pelle.
H331 Tossico se inalato.
H315 Provoca irritazione cutanea.
H319 Provoca grave irritazione oculare.
H351 Sospettato di provocare il cancro.
H361d Sospettato di nuocere al feto.
H372 Provoca danni agli organi in caso di esposizione prolungata o ripetuta.

· **Consigli di prudenza**

P303+P361+P353 IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliere 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.

P310 Contattare immediatamente un CENTRO ANTIVELENI/un medico.

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.

· **Ulteriori dati:**

Unicamente per uso in impianti industriali.

· **2.3 Altri pericoli**

· **Risultati della valutazione PBT e vPvB**

· **PBT:** Non applicabile.

· **vPvB:** Non applicabile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

· **3.1 Caratteristiche chimiche: Sostanze**

· **Numero CAS**

67-66-3 triclorometano

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- **Numeri di identificazione**
- **Numeri CE:** 200-663-8
- **Numero indice:** 602-006-00-4

· **Sostanze pericolose:**

63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin	≤ 2,5%
	⚠ Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	

SEZIONE 4: Misure di primo soccorso

- **4.1 Descrizione delle misure di primo soccorso**
- **Indicazioni generali:**
Allontanare immediatamente gli abiti contaminati dal prodotto.
I sintomi di avvelenamento possono comparire dopo molte ore, per tale motivo è necessaria la sorveglianza di un medico nelle 48 ore successive all'incidente.
Levarsi la maschera protettiva solamente dopo aver tolto gli abiti contaminati.
In caso di respirazione irregolare o di blocco respiratorio praticare la respirazione artificiale.
- **Inalazione:**
Portare il soggetto in zona ben areata o somministrare ossigeno; chiedere l'intervento di un medico.
Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.
- **Contatto con la pelle:** Lavare immediatamente con acqua e sapone sciacquando accuratamente.
- **Contatto con gli occhi:**
Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte. 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:** CO₂, sabbia, polvere. Non usare acqua.
- **Mezzi di estinzione inadatti per motivi di sicurezza:** Getti d'acqua
- **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.
- **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**
- **Mezzi protettivi specifici:** Indossare il respiratore.

SEZIONE 6: Misure in caso di rilascio accidentale

- **6.1 Precauzioni personali, dispositivi di protezione e procedure in caso di emergenza**
Indossare equipaggiamento protettivo. Allontanare le persone non equipaggiate.
- **6.2 Precauzioni ambientali:** 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.
Non dilavare con acqua o detergenti liquidi.
- **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.

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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:** Conservare in ambiente fresco.
- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:**
 Mantenere i recipienti ermeticamente chiusi.
 Conservare in luogo fresco e asciutto in fusti ben 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:**

67-66-3 triclorometano

TWA	Valore a lungo termine: 49 mg/m ³ , 10 ppm
A3	
VL	Valore a lungo termine: 10 mg/m ³ , 2 ppm
Pelle	

- **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.

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· **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.

· **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:	Incolore
· Odore:	Simile all'etere
· Soglia olfattiva:	Non definito.

· **valori di pH:** Non definito.

· **Cambiamento di stato**

· Temperatura di fusione/ambito di fusione:	-63 °C
· Temperatura di ebollizione/ambito di ebollizione:	62 °C

· **Punto di infiammabilità:** 0 °C

· **Infiammabilità (solido, gassoso):** Non applicabile.

· **Temperatura di accensione:** 982 °C

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

· **Autoaccensione:** Non definito.

· **Pericolo di esplosione:** Prodotto non è esplosivo, è tuttavia possibile la formazione di miscele di vapori/aria esplosive.

· **Limiti di infiammabilità:**

· Inferiore:	Non definito.
· Superiore:	Non definito.

· **Tensione di vapore a 20 °C:** 210 hPa

· **Densità a 20 °C:** 1,47807 g/cm³

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

Stampato il: 01.09.2015

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Denominazione commerciale: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(Segue da pagina 5)

· Densità relativa	Non definito.
· Densità del vapore	Non definito.
· Velocità di evaporazione	Non definito.
· Solubilità in/Miscibilità con acqua a 20 °C:	8 g/l
· Coefficiente di distribuzione (n-Octanol/acqua):	Non definito.
· Viscosità:	
Dinamica a 20 °C:	0,56 mPas
Cinematica:	Non definito.
· Tenore del solvente:	
Solventi organici:	0,0 %
VOC (CE)	0,00 %
· 9.2 Altre informazioni	Non sono disponibili altre informazioni.

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**

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

67-66-3 triclorometano

Orale	LD50	908 mg/kg (rat)
-------	------	-----------------

Cutaneo	LD50	75 mg/kg (rat)
---------	------	----------------

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea** Irrita la pelle e le mucose.
- **Lesioni oculari gravi/irritazioni oculari gravi** Irritante.
- **Sensibilizzazione respiratoria o cutanea** Non si conoscono effetti sensibilizzanti.
- **Ulteriori dati tossicologici:** Rischio generato dall'assorbimento cutaneo.
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
Carc. 2, Repr. 2

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.

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- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**
Pericolosità per le acque classe 3 (D) (Classif. secondo le liste): molto pericoloso
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature, anche in piccole dosi.
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di quantità minime 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.

SEZIONE 14: Informazioni sul trasporto

· 14.1 Numero ONU · ADR, IMDG, IATA	UN1888
· 14.2 Nome di spedizione dell'ONU · ADR · IMDG, IATA	1888 CLOROFORMIO CHLOROFORM
· 14.3 Classi di pericolo connesso al trasporto · ADR, IMDG, IATA	
	
· Classe · Etichetta	6.1 Materie tossiche 6.1
· 14.4 Gruppo di imballaggio · ADR, IMDG, IATA	III
· 14.5 Pericoli per l'ambiente: · Marine pollutant:	No
· 14.6 Precauzioni speciali per gli utilizzatori · Numero Kemler: · Numero EMS: · Segregation groups	Attenzione: Materie tossiche 60 F-A,S-A Liquid halogenated hydrocarbons
· 14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL 73/78 ed il codice IBC	Non applicabile.

(continua a pagina 8)

Scheda di dati di sicurezza
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· Trasporto/ulteriori indicazioni:

· ADR

· **Quantità limitate (LQ)**

5L

· **Quantità esenti (EQ)**

Codice: E1

Quantità massima netta per imballaggio interno: 30 ml

Quantità massima netta per imballaggio esterno: 1000 ml

· **Categoria di trasporto**

2

· **Codice di restrizione in galleria**

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

· **UN "Model Regulation":**

UN1888, CLOROFORMIO, 6.1, 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** La sostanza non è contenuta

· **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.

· Frasi rilevanti

H302 Nocivo se ingerito.

H315 Provoca irritazione cutanea.

H319 Provoca grave irritazione oculare.

H332 Nocivo se inalato.

· 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

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

Acute Tox. 2: Acute toxicity, Hazard Category 2

Acute Tox. 3: Acute toxicity, Hazard Category 3

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

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

Carc. 2: Carcinogenicity, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

안전지침서

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기압점: 2015.09.01

개정: 2015.09.01

1 화학제품과 회사에 관한 정보

- **제품 식별자**
- **제품명: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)**
- **상품번호:** 11860
- **CAS-번호:** 67-66-3
- **EC 의번호:** 200-663-8
- **색인 번호:** 602-006-00-4
- **해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도** 추가적인 정보가 존재하지 않습니다.
- **제품의 권고 용도와 사용상의 제한:** 실험실 화학품
- **안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보**
- **제조사/수입자/유통업자 정보:**
 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
- **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 구분2 H225 고인화성 액체 및 증기



두개골과 대퇴골

급성 독성(경피) 구분2 H310 피부와 접촉하면 치명적임
 급성 독성(흡입) 구분3 H331 흡입하면 유독함



건강에 위험

발암성 구분2 H351 암을 일으킬 것으로 의심됨
 생식 독성 구분2 H361 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨
 표적장기-반복노출 구분1 H372 장기간 또는 반복노출 되면 신체 중에 손상을 일으킴

(2 쪽에 계속)

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제품명: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(1 쪽부터계속)



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

· **라벨표기 요소**

· **GHS 라벨 요소**

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

· **그림문자**



GHS02 GHS06 GHS08

· **신호어 위험**

· **상표상에명확히위험성이표시된성분:**

CHLOROFORM, GLASS DISTILLED
 2-methylbut-2-ene

· **유해.위험 문구**

고인화성 액체 및 증기
 삼키면 유해함
 피부와 접촉하면 치명적임
 흡입하면 유독함
 피부에 자극을 일으킴
 눈에 심한 자극을 일으킴
 암을 일으킬 것으로 의심됨
 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨
 장기간 또는 반복노출 되면 신체 중에 손상을 일으킴

· **예방조치 문구**

피부(모발)에 접촉 시: 모든 오염된 옷을 즉시 벗으시오 피부를 물/샤워로 행구시오.
 눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하시오. 계속 씻으시오.
 즉시 독성물질센터/병원 연락 필요.
 (라벨 참조) 처치를 하시오.
 잠금장치가 있는 저장장소에 저장 하시오.
 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

- **화 학 적 특 성:** 화학물질
- **CAS-번호표시**
67-66-3 CHLOROFORM, GLASS DISTILLED
- **식별 번호**
- **EC 의번호:** 200-663-8
- **색인 번호:** 602-006-00-4

(3 쪽에계속)

안전지침서

제31조의 1907/2006/EC에 따라

기압점: 2015.09.01

개정: 2015.09.01

제품명: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(2 쪽부터계속)

· 위험 요소:

63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin ⚠ 피부 부식성/자극성 구분2, H315; 심한 눈 손상/자극성 구분2, H319	≤ 2.5%
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4 응급조치 요령

· 응급조치요령 내용

· 일반적 정보:

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

· 흡입했을 때:

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

· 피부에 접촉했을 때: 즉시 물과 비누로 씻고 잘 행군다.

· 눈에 들어갔을 때: 흐르는 물에 눈을 몇분동안 씻어내고나서, 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 의료처리 및 특별치료가 필요함을 시사하는 징후 추가적인 정보가 존재하지 않습니다.

5 폭발·화재시 대처방법

· 소화제

· 적절한 소화제: 이산화탄소, 모래, 석회가루를 사용하고, 물을 사용하지 않는다.

· 부적절한 소화제: 플레트용 물

· 본 화학물질이나 혼합물에서 발생하는 특별 유해성 추가적인 정보가 존재하지 않습니다.

· 소방관에 대한 권고사항

· 화재 진압 시 착용할 보호구 및 예방조치: 호흡보호장비설치.

6 누출 사고 시 대처방법

· 개인적 예방조치, 보호장비 및 응급처리 절차 안전장비 착용하고, 무방비의 사람은 격리시킨다.

· 환경 관련 예방조치: 하수도망/해수면위의물/지하수로도달하지않게한다.

· 밀폐 및 정화 방법과 소재:

액체가 혼합된 물질(모래, 규조토, 산성결합물, 일반결합물, 톱밥)에 흡입되도록 한다.

항목 13에 따라 오염된 물질을 쓰레기로 처분한다.

충분한 환기가 되도록 한다.

물이나 묽은 세척제로 씻어내지 마시오

· 타 섹션 참조

안전관리에 대한 정보는 제7장을 참고하십시오.

개인보호장비에 대한 정보는 제8장을 참고하십시오.

쓰레기처리에 대한 정보는 제13장을 참고하십시오.

KR

(4 쪽에계속)

안전지침서

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기압점: 2015.09.01

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제품명: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

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7 취급 및 저장방법

- **취급:**
- **안전 취급을 위한 예방조치**
 작업장에서는통풍이잘되고/습기제거가잘 되게주의한다.
 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:** 차 가 운 장 소 에 보 관 한 다.
- **하나의 공동 보관 시설에 대한 보관 관련 정보:** 필 요 없 음
- **보 관 조 건 에 관 한 추 가 적 인 정 보:**
 용기를새지않게밀폐한채보관한다.
 밀폐된 용기속에서늘 하고 건 조 하 게 보 관 한 다.
 열이나직사광선으로부터보호한다.
- **구체적 최종 사용자** 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

- **첨단시설 디자인에 대한 추가정보:** 더 이 상 의 자 료 는 없 음. 항 목 7 을 참 고 하 시 오.

· **통제 변수**

· **화학물질의 노출기준, 생물학적 노출기준 등:**

67-66-3 CHLOROFORM, GLASS DISTILLED

TLV (ROK)	장기간의값: 50 mg/m ³ , 10 ppm
IOELV (EU)	장기간의값: 10 mg/m ³ , 2 ppm Skin
PEL (USA)	최고노출기준: 240 mg/m ³ , 50 ppm
REL (USA)	단기간의값: 9.78* mg/m ³ , 2* ppm *60-min; See Pocket Guide App. A
TLV (USA)	장기간의값: 49 mg/m ³ , 10 ppm

- **추 가 정 보:** 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 멀리 떨어져뜨려 놓는다.
- 더러워지거나음료수가물은즉시탈의한다.
- 휴식전이나작업이끝날때마다 손을 씻는다.
- 방호복은따로보관한다.
- 눈과 피부와의접촉은 피한다.

· **호흡기 보호:**

- 단 시간 또는 경 미 한 오 염 의 경 우 에 는 호 흡 여 과 기 를 사 용 한 다. 심 각 한 또 는 장 기 간 노 출 시 에 는 호 흡 보호 장 비 를 사 용 한 다.

(5 쪽에계속)

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기압점: 2015.09.01

개정: 2015.09.01

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(4 쪽부터계속)

· 손 보호:



보호용 장갑

장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.
테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합 물에 적합한 장갑재질에 대한 추천이 없다.
투과 시간, 침투율 과 저하를 고려해서 장갑 재료를 선택한다.

· 장갑의재료

적합한장갑의선정은재질차이뿐아니라품질기준의차이도고려하여이루어져야하고제조업자에따라서도다르게선정되어야한다.

· 장갑 재료 의 투과시 간 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

· 눈 보호:



확조이는보안경

9 물리화학적 특성

· 기본 물리 및 화학적 특성에 대한 정보

· 일반정보

· 외형

· 물리적 상태:	액체
· 색:	색소가없는
· 냄새:	에테르종류의
· 후각역치	알맞지않다.

· pH: 알맞지않다.

· 상태변화

· 녹는점/어는점:	-63 °C
· 초기 끓는점과 끓는점 범위:	62 °C

· 인화점: 0 °C

· 인화성(고체, 기체): 해당사항 없음.

· 점화온도: 982 °C

· 분해 온도: 알맞지않다.

· 자기점화: 알맞지않다.

· 폭발위험: 이제품은폭발위험성이없지만, 폭발가능성이있는증기화합물/공기화합물의형성가능성이있다.

· 인화 또는 폭발 범위의 상한/하한

· 아래로:	알맞지않다.
· 위로:	알맞지않다.

· 증기압 의경우 20 °C: 210 hPa

· 밀도 의경우 20 °C: 1.47807 g/cm³

· 비중: 알맞지않다.

· 증기밀도: 알맞지않다.

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· 증발 속도:	알맞지않다.
· 용해도: 물 의경우 20 °C:	8 g/l
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도: 역학성 의경우 20 °C: 동점성:	0.56 mPas 알맞지않다.
· 용매내용물 유기용매: VOC (EU) · 기타 정보	0.0 % 0.00 % 추가적인 정보가 존재하지 않습니다.

10 안정성 및 반응성

- 반응성
- 화학적 안정성
- 화학적 안정성 및 유해 반응의 가능성 / 피해야 할 조건: 규정에따라사용할경우해체는없다
- 유해반응 가능성 위험한 반응으로는 알려지지않았다.
- 피해야 할 조건 추가적인 정보가 존재하지 않습니다.
- 혼합 금지 물질: 추가적인 정보가 존재하지 않습니다.
- 유해분해물질: 위험성있는분해물들은 알려지지않았다.

11 독성에 관한 정보

- 독성학적 영향에 대한 정보
- 급성 독성:

· LD/LC50-수치에 따른 분류:	
67-66-3 CHLOROFORM, GLASS DISTILLED	
구강의 LD50	908 mg/kg (rat)
피부의 LD50	75 mg/kg (rat)

- 일차적 자극 효과:
- 피부 부식성 또는 자극성: 피부와점막을자극한다.
- 심한 눈 손상 또는 자극성: 자극
- 감각화: 민감한영향이없는것으로알려져있다.
- 추가적인 독성에 관한 정보: 피부유입시위험
- 다음 종류의 잠재적인 효과에 대한 정보
- CMR-효과 (암 유발, 돌연변이성 그리고 생식 독성)
발암성 구분2, 생식 독성 구분2

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.

(7 쪽에계속)

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제품명: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)


(6 쪽부터계속)

- **추가적인 생태학 정보:**
- **일반 특징:**
수질오염등급 3 (목록분류): 심하게수질오염이된 지하수나, 하천으로또는 하수도망에도달하지않게한다. 역시극소수의양이라도안된다. 지하수로아주미세한양이유입되었을경우엔이미식수오염상태이다
- **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.

14 운송에 필요한 정보

· 유엔 번호	UN1888
· ADR, IMDG, IATA	
· UN 적정 선적명	1888 CHLOROFORM
· ADR	CHLOROFORM
· IMDG, IATA	
· 교통 위험 클래스	
· ADR, IMDG, IATA	
	
· 등급	6.1 독성물질
· 위험물 라벨	6.1
· 용기등급	
· ADR, IMDG, IATA	III
· 환경적 유해물질:	
· 해양오염물질:	아니오
· 이용자 특별 예방조치	경고: 독성물질
· 위험 코드:	60
· EMS-번호:	F-A,S-A
· Segregation groups	Liquid halogenated hydrocarbons
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송	해당사항 없음.

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· 운 송/추가 정보:

· ADR	
· 한정 수량 (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· 운송 구분	
· 터널 제한 코드	2 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
· UN "모범 규제":	UN1888, CHLOROFORM, 6.1, III

15 법적 규제현황

· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률

· Korean Existing Chemical Inventory		
67-66-3	CHLOROFORM, GLASS DISTILLED	KE-34076
63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin	KE-29059
513-35-9	2-methylbut-2-ene	KE-23587

· GHS 라벨 요소

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

· 위험 도표



GHS02 GHS06 GHS08

· 표지어 위험

· 상표상에명확히위험성이표시된성분:

CHLOROFORM, GLASS DISTILLED
2-methylbut-2-ene

· 위험 문구

고인화성 액체 및 증기
삼키면 유해함
피부와 접촉하면 치명적임
흡입하면 유독함
피부에 자극을 일으킴
눈에 심한 자극을 일으킴
암을 일으킬 것으로 의심됨
태아 또는 생식능력에 손상을 일으킬 것으로 의심됨
장기간 또는 반복노출 되면 신체 중에 손상을 일으킴

· 주의 문구

피부(모발)에 접촉 시: 모든 오염된 옷을 즉시 벗으시오 피부를 물/샤워로 행구시오.

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눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으시오. (8 쪽부터계속)

즉시 독성물질센터/병원 연락 필요.

(라벨 참조) 처치를 하시오.

잠금장치가 있는 저장장소에 저장 하시오.

현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

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

16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다, 하지만이보고서는생산특성에관한보증은 기술하지않았으며계약적인법률관계에기반을두고있지도않다

· **최초 작성일자:** 2015.09.01

· **개정 횟수 및 최종 개정일자:** 1 / 2015.09.01

· **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

인화성 액체 구분2: Flammable liquids, Hazard Category 2

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

급성 독성(경피) 구분2: Acute toxicity, Hazard Category 2

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

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

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

발암성 구분2: Carcinogenicity, Hazard Category 2

생식 독성 구분2: Reproductive toxicity, Hazard Category 2

표적장기-반복노출 구분1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 01.09.2015

Revisión: 01.09.2015

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

· 1.1 Identificador del producto

· **Nombre comercial:** Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

· **Número del artículo:** 11860

· **Número CAS:**

67-66-3

· **Número CE:**

200-663-8

· **Número de clasificación:**

602-006-00-4

· **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. 2 H225 Líquido y vapores muy inflamables.



GHS06 calavera y tibias cruzadas

Acute Tox. 2 H310 Mortal en contacto con la piel.

Acute Tox. 3 H331 Tóxico en caso de inhalación.



GHS08 peligro para la salud

(se continua en página 2)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 01.09.2015

Revisión: 01.09.2015

Nombre comercial: Butvar B-98 1% Solution (Butvar B-98 in Chloroform)

(se continua en página 1)

Carc. 2 H351 Se sospecha que provoca cáncer.
 Repr. 2 H361d Se sospecha que daña al feto.
 STOT RE 1 H372 Provoca daños en los órganos tras exposiciones prolongadas o repetidas.



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.

· 2.2 Elementos de la etiqueta

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

La sustancia se ha clasificado y etiquetado de conformidad con el reglamento CLP.

· Pictogramas de peligro



GHS02

GHS06

GHS08

· Palabra de advertencia Peligro

· Componentes peligrosos a indicar en el etiquetaje:

triclorometano

· Indicaciones de peligro

H225 Líquido y vapores muy inflamables.
 H302 Nocivo en caso de ingestión.
 H310 Mortal en contacto con la piel.
 H331 Tóxico en caso de inhalación.
 H315 Provoca irritación cutánea.
 H319 Provoca irritación ocular grave.
 H351 Se sospecha que provoca cáncer.
 H361d Se sospecha que daña al feto.
 H372 Provoca daños en los órganos tras exposiciones prolongadas o repetidas.

· Consejos de prudencia

P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente todas las prendas contaminadas. Aclararse la piel con agua/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.

P310 Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.

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.

· Datos adicionales:

Para uso exclusivo en instalaciones industriales.

· 2.3 Otros peligros

· Resultados de la valoración PBT y mPmB

· PBT: No aplicable.

· mPmB: No aplicable.

ES

(se continua en página 3)

Ficha de datos de seguridad

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SECCIÓN 3: Composición/información sobre los componentes

- **3.1 Caracterización química: Sustancias**
- **Denominación N° CAS**
67-66-3 triclorometano
- **Número(s) de identificación**
- **Número CE:** 200-663-8
- **Número de clasificación:** 602-006-00-4

- **Componentes peligrosos:**

63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin	≤ 2,5%
	 Acute Tox. 4, H302; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319	

SECCIÓN 4: Primeros auxilios

- **4.1 Descripción de los primeros auxilios**
- **Instrucciones generales:**
Quitarse de inmediato toda prenda contaminada con el producto.
Los síntomas de intoxicación pueden presentarse después de muchas horas, por lo que se requiere una supervisión médica durante un mínimo de 48 horas después del accidente.
Antes de quitarse la protección respiratoria, quítese la ropa contaminada.
En caso de respiración irregular o apnea (paro respiratorio), hágase la respiración artificial.
- **En caso de inhalación del producto:**
Suministrar aire fresco u oxígeno; solicitar ayuda médica.
Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.
- **En caso de contacto con la piel:** Lavar inmediatamente con agua y jabón y enjuagar bien.
- **En caso de con los ojos:**
Limpiar 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, arena, polvo extintor. No utilizar agua.
- **Sustancias extintoras inapropiadas por razones de seguridad:** Agua a pleno chorro
- **5.2 Peligros específicos derivados de la sustancia o la mezcla** No existen más datos relevantes disponibles.
- **5.3 Recomendaciones para el personal de lucha contra incendios**
- **Equipo especial de protección:** Colocarse la protección respiratoria.

SECCIÓN 6: Medidas en caso de vertido accidental

- **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia**
Llevar puesto equipo de protección. Mantener alejadas las personas sin protección.
- **6.2 Precauciones relativas al medio ambiente:**
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.

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- **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 item 13.
 Asegurar suficiente ventilación.
 No enjuagar con agua ni productos de limpieza acuosos.
- **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:** Almacenar en un lugar fresco.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**
 Mantener el recipiente cerrado herméticamente.
 Almacenarlo en envases bien cerrados en un lugar fresco y seco.
 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:**

67-66-3 triclorometano

LEP	Valor de larga duración: 10 mg/m ³ , 2 ppm
	r, via dérmica, VLI

- **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.

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· **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.

· **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: Incoloro

· **Olor:** Etéreo

· **Umbral olfativo:** No determinado.

· **valor pH:** No determinado.

· **Cambio de estado**

Punto de fusión /campo de fusión: -63 °C

Punto de ebullición /campo de ebullición: 62 °C

· **Punto de inflamación:** 0 °C

· **Inflamabilidad (sólido, gaseiforme):** No aplicable.

· **Temperatura de ignición:** 982 °C

· **Temperatura de descomposición:** No determinado.

· **Autoinflamabilidad:** No determinado.

· **Peligro de explosión:** El producto no es explosivo; sin embargo, pueden formarse mezclas explosivas de vapor / aire.

· **Límites de explosión:**

Inferior: No determinado.

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Superior:	No determinado.
· Presión de vapor a 20 °C:	210 hPa
· Densidad a 20 °C:	1,47807 g/cm ³
· Densidad relativa	No determinado.
· Densidad de vapor	No determinado.
· Velocidad de evaporación	No determinado.
· Solubilidad en / miscibilidad con agua a 20 °C:	8 g/l
· Coefficiente de reparto (n-octanol/agua):	No determinado.
· Viscosidad:	
Dinámica a 20 °C:	0,56 mPas
Cinemática:	No determinado.
· Concentración del disolvente:	
Disolventes orgánicos:	0,0 %
VOC (CE)	0,00 %
· 9.2 Información adicional	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.

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:**

67-66-3 triclorometano

Oral	LD50	908 mg/kg (rat)
Dermal	LD50	75 mg/kg (rat)

- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas** Irrita la piel y las mucosas.
- **Lesiones o irritación ocular graves** Produce irritaciones.
- **Sensibilización respiratoria o cutánea** No se conoce ningún efecto sensibilizante.
- **Indicaciones toxicológicas adicionales:** Peligro de resorción por la piel.
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
Carc. 2, Repr. 2

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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 3 (clasificación de listas): muy peligroso para el agua
 No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados, ni siquiera en pequeñas cantidades.
 Una cantidad ínfima 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.

SECCIÓN 14: Información relativa al transporte

- | | |
|---|----------------------------|
| · 14.1 Número UN | |
| · ADR, IMDG, IATA | UN1888 |
| · 14.2 Designación oficial de transporte de las Naciones Unidas | |
| · ADR | 1888 CLOROFORMO |
| · IMDG, IATA | CHLOROFORM |
| · 14.3 Clase(s) de peligro para el transporte | |
| · ADR, IMDG, IATA | |
|  | |
| · Clase | 6.1 Materias tóxicas |
| · Etiqueta | 6.1 |
| · 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 | Atención: Materias tóxicas |
| · Número Kemler: | 60 |
| · Número EMS: | F-A,S-A |

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· Segregation groups	Liquid halogenated hydrocarbons
· 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)	5L
· Cantidades exceptuadas (EQ)	Código: E1 Cantidad neta máxima por envase interior: 30 ml Cantidad neta máxima por embalaje exterior: 1000 ml
· Categoría de transporte	2
· Código de restricción del túnel	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
· "Reglamentación Modelo" de la UNECE:	UN1888, CLOROFORMO, 6.1, III

SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
- **Directiva 2012/18/UE**
- **Sustancias peligrosas nominadas - ANEXO I** No contiene la sustancia.
- **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**

H302 Nocivo en caso de ingestión.

H315 Provoca irritación cutánea.

H319 Provoca irritación ocular grave.

H332 Nocivo en caso de inhalación.

· **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

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

Acute Tox. 4: Acute toxicity, Hazard Category 4

Acute Tox. 2: Acute toxicity, Hazard Category 2

Acute Tox. 3: Acute toxicity, Hazard Category 3

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

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

Carc. 2: Carcinogenicity, Hazard Category 2

Repr. 2: Reproductive toxicity, Hazard Category 2

STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

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