

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/19/2020

Reviewed on 08/19/2020

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

2 Hazard(s) identification

- **Classification of the substance or mixture**



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 the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

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

(Contd. of page 1)



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
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

Butvar-B-98

Polyvinyl Butyral Resin

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 the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

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

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 2)

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
IF exposed or concerned: Get medical advice/attention.
Specific treatment (see on this label).
Get medical advice/attention if you feel unwell.
Rinse mouth.
Take off immediately all contaminated clothing and wash it before reuse.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
In case of fire: Use for extinction: CO₂, powder or water spray.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



· **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%
513-35-9	2-methylbut-2-ene	≤2.5%

US

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 3)

4 First-aid measures

- **Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

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

Remove breathing 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.

- **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.

- **Protective Action Criteria for Chemicals**

- **PAC-1:**

67-66-3	CHLOROFORM, GLASS DISTILLED	2 ppm
513-35-9	2-methylbut-2-ene	4.2 ppm

(Contd. on page 5)

Safety Data Sheet

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Printing date 08/19/2020

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

(Contd. of page 4)

· PAC-2:		
67-66-3	CHLOROFORM, GLASS DISTILLED	64 ppm
513-35-9	2-methylbut-2-ene	46 ppm
· PAC-3:		
67-66-3	CHLOROFORM, GLASS DISTILLED	3,200 ppm
513-35-9	2-methylbut-2-ene	280 ppm

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.*
- **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:**
*The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
 At this time, the other constituents have no known exposure limits.*

67-66-3 CHLOROFORM, GLASS DISTILLED	
PEL	<i>Ceiling limit value: 240 mg/m³, 50 ppm</i>
REL	<i>Short-term value: 9.78* mg/m³, 2* ppm *60-min; See Pocket Guide App. A</i>
TLV	<i>Long-term value: 49 mg/m³, 10 ppm</i>

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

(Contd. on page 6)

Safety Data Sheet

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Printing date 08/19/2020

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

(Contd. of page 5)

- **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

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

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

- | | |
|------------------|-----------------|
| pH-value: | Not determined. |
|------------------|-----------------|

· Change in condition

- | | |
|-------------------------------------|-------------------|
| Melting point/Melting range: | -63 °C (-81.4 °F) |
| Boiling point/Boiling range: | 62 °C (143.6 °F) |

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 6)

· Flash point:	0 °C (32 °F)
· Flammability (solid, gaseous):	Not flammable.
· Ignition temperature:	982 °C (1,799.6 °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 (157.5 mm Hg)
· Density at 20 °C (68 °F):	1.47807 g/cm ³ (12.33449 lbs/gal)
· Relative density	Not determined.
· Vapor 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.
VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gal
Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

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

US

(Contd. on page 8)

Safety Data Sheet

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

(Contd. of page 7)

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)
Dermal	LD50	75 mg/kg (rat)

- **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)**

2B

- **NTP (National Toxicology Program)**

R

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

None of the ingredients is 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.

(Contd. on page 9)

Safety Data Sheet

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Printing date 08/19/2020



Reviewed on 08/19/2020

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

(Contd. of page 8)

- **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</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"> · Packing group · DOT, ADR, IMDG, IATA 	<p style="margin-left: 20px;">III</p>
<ul style="list-style-type: none"> · Environmental hazards: 	<p style="margin-left: 20px;">Not applicable.</p>
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Segregation groups · Stowage Category · Stowage Code 	<p style="margin-left: 20px;">Warning: Toxic substances 60 6.1-02 Liquid halogenated hydrocarbons A SW2 Clear of living quarters.</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>

(Contd. on page 10)

Safety Data Sheet

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

(Contd. of page 9)

- | | |
|--|--|
| <ul style="list-style-type: none"> · ADR · Excepted quantities (EQ) | <p>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"> · 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>UN 1888 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):**

All components have the value ACTIVE.

- **Hazardous Air Pollutants**

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

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

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

B2, L, NL

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

A3

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

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

- **GHS label elements**

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

(Contd. on page 11)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/19/2020

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

(Contd. of page 10)

· **Hazard pictograms**



GHS02 GHS06 GHS07 GHS08

· **Signal word** *Danger*

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

CHLOROFORM, GLASS DISTILLED

Butvar-B-98

Polyvinyl Butyral Resin

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 the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

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

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

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

Continue rinsing.

Immediately call a poison center/doctor.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

Rinse mouth.

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

If skin irritation occurs: Get medical advice/attention.

(Contd. on page 12)

Safety Data Sheet

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Printing date 08/19/2020

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

(Contd. of page 11)

If eye irritation persists: Get medical advice/attention.

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

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

· **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** 08/19/2020 / -

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety **Health**

TLV: **Threshold Limit Value**

PEL: **Permissible Exposure Limit**

REL: **Recommended Exposure Limit**

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 2: Acute toxicity – Category 2

Acute Tox. 3: Acute toxicity – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

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

Carc. 2: Carcinogenicity – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Safety Data Sheet

according to WHS Regulations

Printing date 19.08.2020

Revision: 19.08.2020

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: info@emsdiasum.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)
Website: ems.proscitech.com
- Emgrid Australia Pty. Ltd.
P.O. Box 118
The Patch VIC 3792
Australia
Tel: 03 9752 1785
Fax: 03 9752 1784
Website: www.emgrid.com.au
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) Identification

- **Classification of the substance or mixture**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

(Contd. on page 2)

Safety Data Sheet

according to WHS Regulations

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 1)



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 the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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 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

Butvar-B-98

Polyvinyl Butyral Resin

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 the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.

(Contd. on page 3)

Safety Data Sheet

according to WHS Regulations

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 2)

· **Precautionary statements**

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

· **Other hazards**

· **Results of PBT and vPvB assessment**

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

3 Composition and Information on Ingredients

- **Chemical characterisation: 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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(Contd. on page 4)

Safety Data Sheet

according to WHS Regulations

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 3)

513-35-9 2-methylbut-2-ene

≤2.5%

4 First Aid Measures

- **Description of first aid measures**
- **General information:**
 Immediately remove any clothing soiled by the product.
 Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
 Remove breathing equipment only after contaminated clothing have been completely removed.
 In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
 Supply fresh air or oxygen; call for doctor.
 In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
 Rinse opened eye for several minutes under running water. 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 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.

(Contd. on page 5)

Safety Data Sheet

according to WHS Regulations

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 4)

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.

Protect from heat and direct sunlight.

- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

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

- **Control parameters**

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

67-66-3 CHLOROFORM, GLASS DISTILLED

WES	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.

(Contd. on page 6)

Safety Data Sheet

according to WHS Regulations

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 5)

· **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

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/freezing point:	-63 °C
Initial boiling point and boiling range:	62 °C

· **Flash point:** 0 °C

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

· **Ignition temperature:** 982 °C

· **Decomposition temperature:** Not determined.

· **Auto-ignition temperature:** Not determined.

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

· **Explosion limits:**

Lower: Not determined.

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 6)

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
Kinematic:	Not determined.
· Solvent content:	
VOC (EC)	0.00 %
Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and Reactivity

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

11 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.

(Contd. on page 8)

AU

Safety Data Sheet

according to WHS Regulations

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 7)

- **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.

14 Transport information

- | | |
|---|---------------------------------------|
| <ul style="list-style-type: none"> · UN-Number · ADG, IMDG, IATA | <p>UN1888</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · ADG · IMDG, IATA | <p>1888 CHLOROFORM
CHLOROFORM</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · ADG, IMDG, IATA | <p>6.1 Toxic substances.
6.1</p> |



- **Class**
- **Label**

(Contd. on page 9)

Safety Data Sheet

according to WHS Regulations

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 8)

· Packing group · ADG, IMDG, IATA	III
· Environmental hazards:	<i>Not applicable.</i>
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Segregation groups · Stowage Category · Stowage Code	<i>Warning: Toxic substances.</i> 60 6.1-02 <i>Liquid halogenated hydrocarbons</i> A SW2 Clear of living quarters.
· Transport in bulk according to Annex II of Marpol and the IBC Code	<i>Not applicable.</i>
· Transport/Additional information:	
· ADG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 <i>Maximum net quantity per inner packaging: 30 ml</i> <i>Maximum net quantity per outer packaging: 1000 ml</i>
· Transport category · Tunnel restriction code	2 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 <i>Maximum net quantity per inner packaging: 30 ml</i> <i>Maximum net quantity per outer packaging: 1000 ml</i>
· UN "Model Regulation":	UN 1888 CHLOROFORM, 6.1, III

15 Regulatory information

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

· **Australian Inventory of Chemical Substances**

All ingredients are listed.

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

S2, S4, S6

· **Australia: Priority Existing Chemicals**

None of the ingredients is listed.

· **GHS label elements**

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

(Contd. on page 10)

AU

Safety Data Sheet

according to WHS Regulations

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 9)

· **Hazard pictograms**



GHS02 GHS06 GHS07 GHS08

· **Signal word** *Danger*

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

CHLOROFORM, GLASS DISTILLED

Butvar-B-98

Polyvinyl Butyral Resin

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 the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

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

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

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

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

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

Immediately call a POISON CENTER/doctor.

IF exposed or concerned: Get medical advice/attention.

Specific treatment (see on this label).

Get medical advice/attention if you feel unwell.

Rinse mouth.

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

(Contd. on page 11)

Safety Data Sheet

according to WHS Regulations

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 10)

If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I Substance is not listed.**
- **Seveso category**
H2 ACUTE TOXIC
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t**
- **Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t**
- **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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity - oral – Category 4
Acute Tox. 2: Acute toxicity - dermal – Category 2
Acute Tox. 3: Acute toxicity - inhalation – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Carc. 2: Carcinogenicity – Category 2
Repr. 2: Reproductive toxicity – Category 2
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

-AU-

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/19/2020

Reviewed on 08/19/2020

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

2 Hazard identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS06 Skull and crossbones

Acute Toxicity (Dermal) – Category 2

H310 Fatal in contact with skin.

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS08 Health hazard

Carcinogenicity – Category 2

H351 Suspected of causing cancer.

Reproductive Toxicity - Category 2

H361 Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure - Category 1

H372 Causes damage to the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.

(Contd. on page 2)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 1)



GHS07

*Acute Toxicity (Oral) - Category 4**Skin Irritation - Category 2**Eye Irritation - Category 2A**H302 Harmful if swallowed.**H315 Causes skin irritation.**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**Butvar-B-98**Polyvinyl Butyral Resin**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 the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.*

· **Precautionary statements**

*Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.**Ground and bond container and receiving equipment.**Use explosion-proof [electrical/ventilating/lighting] equipment.**Use non-sparking tools.**Take actions to prevent static discharges.**Do not breathe dust/fume/gas/mist/vapours/spray.**Do not get in eyes, on skin, or on clothing.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Use only outdoors or in a well-ventilated area.**Wear protective gloves/protective clothing/eye protection/face protection.**If swallowed: Call a poison center/doctor if you feel unwell.*

(Contd. on page 3)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 2)

IF ON SKIN: Gently wash with plenty of soap and water.

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

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

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

Immediately call a poison center/doctor.

IF exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Rinse mouth.

Take off contaminated clothing and wash it before reuse.

Specific measures (see on this label).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Wash contaminated clothing before reuse.

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

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



· **HMIS-ratings (scale 0 - 4)**



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	0.1-1% w/w *
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* Actual concentration ranges are withheld as a trade secret.

CA

(Contd. on page 4)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 3)

4 First-aid measures

- **Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

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

Remove breathing 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.

- **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.

CA

(Contd. on page 5)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 4)

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.*
- **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 TWA: 2 ppm
IARC 2B; R

EV TWA: 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.

(Contd. on page 6)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 5)

· **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

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Colorless
Odor:	Ether-like
Odor 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.

(Contd. on page 7)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 6)

Upper:	Not determined.
· Vapor pressure at 20 °C:	210 hPa
· Density at 20 °C:	1.47807 g/cm ³
· Relative density	Not determined.
· Vapor 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.
· Solids content:	0.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

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

11 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)
------	------	-----------------

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

- **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)**

2B

(Contd. on page 8)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 7)

· **NTP (National Toxicology Program)**

R


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

14 Transport information

- | | |
|---|----------------------|
| · UN-Number | UN1888 |
| · DOT/TDG, ADR, IMDG, IATA | |
| · UN proper shipping name | Chloroform |
| · DOT/TDG | 1888 CHLOROFORM |
| · ADR | CHLOROFORM |
| · IMDG, IATA | |
| · Transport hazard class(es) | |
| · DOT/TDG (Transport dangerous goods): | |
|  | |
| · Class | 6.1 Toxic substances |

(Contd. on page 9)

CA

Safety Data Sheet


according to HPR, Schedule 1

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 8)

· Label	6.1
· ADR, IMDG, IATA	
	
· Class	6.1 Toxic substances
· Label	6.1
· Packing group	
· DOT/TDG, ADR, IMDG, IATA	III
· Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Toxic substances
· Hazard identification number (Kemler code):	60
· EMS Number:	6.1-02
· Segregation groups	Liquid halogenated hydrocarbons
· Stowage Category	A
· Stowage Code	SW2 Clear of living quarters.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT/TDG	
· Quantity limitations	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
· Hazardous substance:	10 lbs, 4.54 kg
· ADR	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1888 CHLOROFORM, 6.1, III

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

(Contd. on page 10)

CA

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 9)

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

67-66-3 CHLOROFORM, GLASS DISTILLED

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

All components have the value ACTIVE.

· **Canadian substance listings:**

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

All ingredients are listed.

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

67-66-3 CHLOROFORM, GLASS DISTILLED

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

None of the ingredients is listed.

· **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

Butvar-B-98

Polyvinyl Butyral Resin

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 the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Ground and bond container and receiving equipment.

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

Use non-sparking tools.

Take actions to prevent static discharges.

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

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

Wash thoroughly after handling.

(Contd. on page 11)

Safety Data Sheet

according to HPR, Schedule 1

Printing date 08/19/2020

Reviewed on 08/19/2020

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

(Contd. of page 10)

Do not eat, drink or smoke when using this product.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 If swallowed: Call a poison center/doctor if you feel unwell.
 IF ON SKIN: Gently wash with plenty of soap and water.
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Immediately call a poison center/doctor.
 IF exposed or concerned: Get medical advice/attention.
 Get medical advice/attention if you feel unwell.
 Rinse mouth.
 Take off contaminated clothing and wash it before reuse.
 Specific measures (see on this label).
 If skin irritation occurs: Get medical advice/attention.
 If eye irritation persists: Get medical advice/attention.
 Wash contaminated clothing before reuse.
 In case of fire: Use for extinction: CO₂, powder or water spray.
 Store in a well-ventilated place. Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **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 the latest revision of the safety data sheet** 08/19/2020 / -
- **Abbreviations and acronyms:**
 - IMDG: International Maritime Code for Dangerous Goods
 - DOT: US Department of Transportation
 - IATA: International Air Transport Association
 - EINECS: European Inventory of Existing Commercial Chemical Substances
 - ELINCS: European List of Notified Chemical Substances
 - CAS: Chemical Abstracts Service (division of the American Chemical Society)
 - NFPA: National Fire Protection Association (USA)
 - HMIS: Hazardous Materials Identification System (USA)
 - LC50: Lethal concentration, 50 percent
 - LD50: Lethal dose, 50 percent
 - PBT: Persistent, Bioaccumulative and Toxic
 - vPvB: very Persistent and very Bioaccumulative

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

Printing date 19.08.2020

Revision: 19.08.2020

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: info@emsdiasum.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 the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.

(Contd. on page 2)

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

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 1)



GHS07

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**



GHS02 GHS06 GHS08

· **Signal word Danger**

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

CHLOROFORM, GLASS DISTILLED

Butvar-B-98

Polyvinyl Butyral Resin

· **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 the central nervous system, the kidneys, the liver and the respiratory system 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 [or shower].

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER/doctor.

P321 Specific treatment (see on this label).

P330 Rinse mouth.

P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

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.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 2)

- **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

- **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.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 3)

- **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.

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.

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 4)

· 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/m³, 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

· **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

(Contd. on page 6)

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

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 5)

· Odour:	Ether-like
· Odour threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition	
Melting point/freezing point:	-63 °C
Initial boiling point and boiling range:	62 °C
· Flash point:	0 °C
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	982 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Not determined.
· Explosive properties:	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
Kinematic:	Not determined.
· Solvent content:	
VOC (EC)	0.00 %
Solids content:	0.0 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **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.

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 6)

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

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**

- **Acute toxicity**

Harmful if swallowed.

Fatal in contact with skin.

Toxic if inhaled.

- **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**

Causes skin irritation.

- **Serious eye damage/irritation**

Causes serious eye irritation.

- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

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

- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.

- **Carcinogenicity**

Suspected of causing cancer.

- **Reproductive toxicity**

Suspected of damaging the unborn child.

- **STOT-single exposure** Based on available data, the classification criteria are not met.

- **STOT-repeated exposure**

Causes damage to the central nervous system, the kidneys, the liver and the respiratory system through prolonged or repeated exposure.

- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**

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

- **12.2 Persistence and degradability** No further relevant information available.

- **12.3 Bioaccumulative potential** No further relevant information available.

- **12.4 Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 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.

(Contd. on page 8)

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

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 7)

· **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:**

Not applicable.

· **14.6 Special precautions for user**

Warning: Toxic substances.

· **Hazard identification number (Kemler code):**

60

· **EMS Number:**

6.1-02

· **Segregation groups**

Liquid halogenated hydrocarbons

· **Stowage Category**

A

· **Stowage Code**

SW2 Clear of living quarters.

· **14.7 Transport in bulk according to Annex II of**

Marpol 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

(Contd. on page 9)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 8)

· Tunnel restriction code	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":	UN 1888 CHLOROFORM, 6.1, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I Substance is not listed.**
- **Seveso category**
H2 ACUTE TOXIC
P5c FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction:** 3, 32

· **Regulation (EU) No 649/2012**

Annex I Part I

- **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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Acute Tox. 4: Acute toxicity - oral – Category 4
Acute Tox. 2: Acute toxicity - dermal – Category 2

(Contd. on page 10)

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

Printing date 19.08.2020

Revision: 19.08.2020

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

(Contd. of page 9)

Acute Tox. 3: Acute toxicity - inhalation – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Carc. 2: Carcinogenicity – Category 2

Repr. 2: Reproductive toxicity – Category 2

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

GB

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 19.08.2020

Herziening van: 19.08.2020

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: info@emsdiasum.com
www.emsdiasum.com
- **Aurion**
Binnenhaven 5
6709 PD Wageningen
The Netherlands
Tel: 31 317 415094
Fax: 31 317 415955
email: info@aurion.nl
- **Inlichtingengevende sector:** Product safety department
- **1.4 Telefoonnummer voor noodgevallen:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

RUBRIEK 2: Identificatie van de gevaren

- **2.1 Indeling van de stof of het mengsel**
- **Indeling overeenkomstig Verordening (EG) nr. 1272/2008**



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.

(Vervolg op blz. 2)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 19.08.2020

Herziening van: 19.08.2020

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

(Vervolg van blz. 1)



GHS08 gezondheidsgevaar

- 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 het centrale zenuwstelsel en de nieren en de lever en het ademhalingsstelsel 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

Butvar-B-98

Polyvinyl Butyral Resin

· 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 het centrale zenuwstelsel en de nieren en de lever en het ademhalingsstelsel 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 [of afdouchen].

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

P310 Onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.

P321 Specifieke behandeling vereist (zie op dit etiket).

(Vervolg op blz. 3)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 19.08.2020

Herziening van: 19.08.2020

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

(Vervolg van blz. 2)

- P330 De mond spoelen.
 P361+P364 Verontreinigde kleding onmiddellijk uittrekken en wassen alvorens deze opnieuw te gebruiken.
 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.

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.

(Vervolg op blz. 4)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 19.08.2020

Herziening van: 19.08.2020

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

(Vervolg van blz. 3)

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

RUBRIEK 5: Brandbestrijdingsmaatregelen

- **5.1 Blusmiddelen**
- **Geschikte blusmiddelen:** 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 brandweelieden**
- **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.
- **6.3 Insluifings- 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 zonnestralen beschermen.

(Vervolg op blz. 5)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 19.08.2020

Herziening van: 19.08.2020

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

(Vervolg van blz. 4)

· **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.

· **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

NL

(Vervolg op blz. 6)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 19.08.2020

Herziening van: 19.08.2020

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

(Vervolg van blz. 5)

RUBRIEK 9: Fysische en chemische eigenschappen

· 9.1 Informatie over fysische en chemische basiseigenschappen	
· Algemene gegevens	
· Voorkomen:	
· Vorm:	Vloeistof
· Kleur:	Kleurloos
· Geur:	Etherachtig
· Geurdrempelwaarde:	Niet bepaald.
· pH-waarde:	Niet bepaald.
· Toestandsverandering	
· Smelt-/vriespunt:	-63 °C
· Beginkookpunt en kooktraject:	62 °C
· Vlampunt:	0 °C
· Ontvlambaarheid (vast, gas):	Niet bruikbaar.
· Ontstekingstemperatuur:	982 °C
· Ontledingstemperatuur:	Niet bepaald.
· Zelfontbrandingstemperatuur:	Niet bepaald.
· Ontploffingseigenschappen:	Het produkt is niet ontploffingsgevaarlijk, maar de vorming van ontploffingsgevaarlijke damp-/luchtmengsels is mogelijk.
· Ontploffingsgrenzen:	
· Onderste:	Niet bepaald.
· Bovenste:	Niet bepaald.
· 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:	
· VOC (EG)	0,00 %
· Gehalte aan vaste bestanddelen:	0,0 %
· 9.2 Overige informatie	Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 10: Stabiliteit en reactiviteit

· **10.1 Reactiviteit** Geen verdere relevante informatie verkrijgbaar.

(Vervolg op blz. 7)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 19.08.2020

Herziening van: 19.08.2020

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

(Vervolg van blz. 6)

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

RUBRIEK 11: Toxicologische informatie

· 11.1 Informatie over toxicologische effecten

· Acute toxiciteit

Schadelijk bij inslikken.

Dodelijk bij contact met de huid.

Giftig bij inademing.

· Indelingsrelevantie LD/LC50-waarden:

67-66-3 trichloormethaan

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

· Primaire aandoening:

· Huidcorrosie/-irritatie

Veroorzaakt huidirritatie.

· Ernstig oogletsel/oogirritatie

Veroorzaakt ernstige oogirritatie.

· Sensibilisatie van de luchtwegen/de huid

Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

· CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)

· Mutageniteit in geslachtscellen

Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

· Kankerverwekkendheid

Verdacht van het veroorzaken van kanker.

· Giftigheid voor de voortplanting

Wordt ervan verdacht het ongeboren kind te schaden.

· STOT bij eenmalige blootstelling

Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

· STOT bij herhaalde blootstelling

Veroorzaakt schade aan het centrale zenuwstelsel en de nieren en de lever en het ademhalingsstelsel bij langdurige of herhaalde blootstelling.

· Gevaar bij inademing

Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

RUBRIEK 12: Ecologische informatie

· 12.1 Toxiciteit

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

- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.

- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.

- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.

(Vervolg op blz. 8)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 19.08.2020

Herziening van: 19.08.2020

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

(Vervolg van blz. 7)

- **Verdere ecologische informatie:**
- **Algemene informatie:**
Waterbezwaarlijkheid (NL): B(4) Weinig schadelijk voor in water levende organismen
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 Transportgevaarklasse(n) | |
| · ADR, IMDG, IATA | |
| | |
| · klasse | 6.1 Giftige stoffen |
| · Etiket | 6.1 |
| · 14.4 Verpakkingsgroep: | |
| · ADR, IMDG, IATA | III |
| · 14.5 Milieugevaren: | Niet bruikbaar. |
| · 14.6 Bijzondere voorzorgen voor de gebruiker | Waarschuwing: Giftige stoffen |
| · Gevaarsidentificatienummer (Kemler-getal): | 60 |
| · EMS-nummer: | 6.1-02 |
| · Segregation groups | Liquid halogenated hydrocarbons |
| · Stowage Category | A |
| · Stowage Code | SW2 Clear of living quarters. |

(Vervolg op blz. 9)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 19.08.2020

Herziening van: 19.08.2020

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

(Vervolg van blz. 8)

· 14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code	Niet bruikbaar.
· Transport/verdere gegevens:	
· ADR	
· Beperkte hoeveelheden (LQ)	5L
· Uitzonderde 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":	UN 1888 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**

geen der bestanddelen staat op de lijst.

· **SZW-lijst van mutagene stoffen**

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

2

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

geen der bestanddelen staat op de lijst.

· **Lijst Zeer Zorgwekkende Stoffen (ZZS)**

geen der bestanddelen staat op de lijst.

· **Lijst van Potentieel Zeer Zorgwekkende Stoffen**

geen der bestanddelen staat op de lijst.

· **Richtlijn 2012/18/EU**

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

· **Seveso-categorie**

H2 ACUUT TOXISCH

P5c ONTVLAMBARE VLOEISTOFFEN

(Vervolg op blz. 10)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 19.08.2020

Herziening van: 19.08.2020

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

(Vervolg van blz. 9)

- **Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen 50 t**
- **Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen 200 t**
- **Verordening (EG) nr. 1907/2006 BIJLAGE XVII Beperkingsvoorwaarden: 3, 32**

- **Verordening (EU) Nr. 649/2012**

Annex I Part I

- **Nationale voorschriften:**
- **Gevaarklasse v. water:**
Waterbezwaarlijkheid (NL): B(4) Weinig schadelijk voor in water levende organismen
- **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)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Ontvlambare vloeistoffen – Categorie 2
- Acute Tox. 4: Acute toxiciteit - oraal – Categorie 4
- Acute Tox. 2: Acute toxiciteit - dermaal – Categorie 2
- Acute Tox. 3: Acute toxiciteit - inademing – Categorie 3
- Skin Irrit. 2: Huidcorrosie/-irritatie – Categorie 2
- Eye Irrit. 2: Ernstig oogletsel/oogirritatie – Categorie 2
- Carc. 2: Kankerverwekkendheid – Categorie 2
- Repr. 2: Voortplantingstoxiciteit – Categorie 2
- STOT RE 1: Specifieke doelorgaantoxiciteit bij herhaalde blootstelling – Categorie 1

Käyttöturvallisuustiedote

1907/2006/EY, 31 artikla mukainen

Painatuspäivämäärä 19.08.2020

Tarkistus: 19.08.2020

KOHTA 1: Aineen tai seoksen ja yhtiön tai yrityksen tunnistetiedot

- **1.1 Tuotetunniste**
- **Kauppanimike:** Butvar B-98 1% Solution (Butvar B-98 in Chloroform)
- **Artikkelinumero:** 11860
- **CAS-numero:**
67-66-3
- **EY-numero:**
200-663-8
- **Indeksinumero:**
602-006-00-4
- **1.2 Aineen tai seoksen merkitykselliset tunnistetut käytöt ja käytöt, joita ei suositella**
Merkittäviä lisätietoja ei ole saatavilla.
- **Aineen / valmisteiden käyttö** Laboratoriokemikaalit
- **1.3 Käyttöturvallisuustiedotteen toimittajan tiedot**
- **Valmistaja/toimittaja:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- **Tietoja antaa:** Product safety department
- **1.4 Häätöpuhelinnumero:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

KOHTA 2: Vaaran yksilöinti

- **2.1 Aineen tai seoksen luokitus**
- **Luokitus asetuksen (EY) N:o 1272/2008 mukaisesti**



GHS02 liekki

Flam. Liq. 2 H225 Helposti syttyvä neste ja höyry.



GHS06 pääkallo ja ristikkäiset luut

Acute Tox. 2 H310 Tappavaa joutuessaan iholle.

Acute Tox. 3 H331 Myrkyllistä hengitettynä.



GHS08 terveysvaara

Carc. 2 H351 Epäillään aiheuttavan syöpää.

Repr. 2 H361d Epäillään vaurioittavan sikiötä.

STOT RE 1 H372 Vahingoittaa keskushermostoa ja munuaisia ja maksaa ja hengityselimiä pitkäaikaisessa tai toistuvassa altistumisessa.

(jatkuu sivulla 2)

Käyttöturvallisuustiedote

1907/2006/EY, 31 artikla mukainen

Painatuspäivämäärä 19.08.2020

Tarkistus: 19.08.2020

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

(jatkuu sivulla 1)



GHS07

Acute Tox. 4 H302 Haitallista nieltynä.
 Skin Irrit. 2 H315 Ärsyttää ihoa.
 Eye Irrit. 2 H319 Ärsyttää voimakkaasti silmiä.

· 2.2 Merkinnät

- **Merkinnät asetuksen (EY) N:o 1272/2008 mukaisesti**
Aine on luokiteltu ja merkitty CLP-asetuksen mukaan.
- **Varoitusmerkit**



GHS02 GHS06 GHS08

· **Huomiosana Vaara**

- **Vaaran määräävät komponentit etiketeissä:**

Kloroformi
 Butvar-B-98
 Polyvinyl Butyral Resin

· **Vaaralausekkeet**

H225 Helposti syttyvä neste ja höyry.
 H302 Haitallista nieltynä.
 H310 Tappavaa joutuessaan iholle.
 H331 Myrkyllistä hengitettynä.
 H315 Ärsyttää ihoa.
 H319 Ärsyttää voimakkaasti silmiä.
 H351 Epäillään aiheuttavan syöpää.
 H361d Epäillään vaurioittavan sikiötä.
 H372 Vahingoittaa keskushermostoa ja munuaisia ja maksaa ja hengityselimiä pitkäaikaisessa tai toistuvassa altistumisessa.

· **Turvalausekkeet**

P303+P361+P353 JOS KEMIKAALIA JOUTUU IHOLLE (tai hiuksiin): Riisu saastunut vaatetus välittömästi. Huuho iho vedellä [tai suihkuta].
 P305+P351+P338 JOS KEMIKAALIA JOUTUU SILMIIN: Huuhdo huolellisesti vedellä usean minuutin ajan. Poista mahdolliset piilolinssit, jos sen voi tehdä helposti. Jatka huuhtomista.
 P310 Ota välittömästi yhteys MYRKYTYSTIETOKESKUKSEEN/lääkäriin.
 P321 Erityishoitoa tarvitaan (katso pakkauksen merkinnöissä).
 P330 Huuhdo suu.
 P361+P364 Riisu saastunut vaatetus välittömästi ja pese ennen uudelleenkäyttöä.
 P405 Varastoi lukitussa tilassa.
 P501 Hävitä säiliö(t) noudattaen paikallisia/alueellisia/kansallisia/kansainvälisiä määräyksiä.

· **Lisätietoja:**

Vain teollisuuskäyttöön.

(jatkuu sivulla 3)

Käyttöturvallisuustiedote

1907/2006/EY, 31 artikla mukainen

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(jatkuu sivulla 2)

- **2.3 Muut vaarat**
- **PBT- ja vPvB-arvioinnin tulokset**
- **PBT:** Ei voida käyttää.
- **vPvB:** Ei voida käyttää.

KOHTA 3: Koostumus ja tiedot aineosista

- **3.1 Kemialliset ominaisuudet: Aineet**
- **CAS-nro. nimike**
67-66-3 Kloroformi
- **Tunnistusnumero(t)**
- **EY-numero:** 200-663-8
- **Indeksinumero:** 602-006-00-4

· **Sisältää vaarallisia aineita:**

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	

KOHTA 4: Ensiaputoimenpiteet

- **4.1 Ensiaputoimenpiteiden kuvaus**
- **Yleisohjeet:**
Aineen saastuttamat vaatekappaleet on riisuttava välittömästi.
Myrkytysoireet voivat ilmaantua vasta useiden tuntien kuluttua. Tästä syystä henkilöt on pidettävä lääkärin tarkkailun alaisena ainakin 48 tuntia onnettomuuden jälkeen.
Hengityssuojain saadaan poistaa vasta kun saastuneet vaatteet on riisuttu.
Annettava tekohengitystä hengityksen ollessa epätasainen tai pysähtynyt.
- **Hengitettynä:**
Huolehditava raittiin ilman saannista tai annettava happea; pyydettyä lääkärin apua.
Tajuton pidettävä ja kuljetettava kyljellään.
- **Ihokosketuksessa:** Pestävä heti vedellä ja saippualla ja huuhdottava hyvin.
- **Aineen päästyä silmiin:**
Silmiä huuhdotaan luomet auki juoksevan veden alla useita minuutteja. Oireiden kestäessä käännytään lääkärin puoleen.
- **Nieltyä:** Saatettava lääkärin hoitoon.
- **4.2 Tärkeimmät oireet ja vaikutukset, sekä välittömät että viivästyneet**
Merkittäviä lisätietoja ei ole saatavilla.
- **4.3 Mahdollisesti tarvittavaa välitöntä lääketieteellistä apua ja erityishoitoa koskevat ohjeet**
Merkittäviä lisätietoja ei ole saatavilla.

KOHTA 5: Palontorjuntatoimenpiteet

- **5.1 Sammutusaineet**
- **Sopivat sammutusaineet:** CO₂, hiekka, kuivakemikaalisammutin. Vettä ei saa käyttää.
- **Turvallisuussyistä sopimattomat sammutusaineet:** Täysi vesisuihku
- **5.2 Aineesta tai seoksesta johtuvat erityiset vaarat** Merkittäviä lisätietoja ei ole saatavilla.

(jatkuu sivulla 4)

Käyttöturvallisuustiedote

1907/2006/EY, 31 artikla mukainen

Painatuspäivämäärä 19.08.2020

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(jatkuu sivulla 3)

- **5.3 Palontorjuntaa koskevat ohjeet**
- **Erityinen suojavarustus:** Käytettävä hengityssuojainta.

KOHTA 6: Toimenpiteet onnettomuuspäästöissä

- **6.1 Varotoimenpiteet, henkilönsuojaimet ja menettely hätätilanteessa**
Käytettävä suojavarustusta. Suojautumattomat henkilöt pidettävä loitolla.
- **6.2 Ympäristöön kohdistuvat varotoimet:** Estettävä pääsy viemäreihin/pintavesiin/pohjaveteen.
- **6.3 Suojarakenteita ja puhdistusta koskevat menetelmät ja -välineet:**
Imettävä nestettä sitovalla aineella (hiekkä, piimaa, hapon sidosaine, yleisidosaine, sahajauho).
Saastunut aine on jätteenä hävitettävä kohdan 13 mukaisesti.
Huolehdittava riittävästä tuuletuksesta.
Ei saa huuhtoa pois vedellä tai vetisillä puhdistusaineilla.
- **6.4 Viittaukset muihin kohtiin**
Turvallista käsittelyä koskevia ohjeita kappaleessa 7.
Henkilökohtaista suojavarustusta koskevia ohjeita kappaleessa 8.
Aineen hävitystä koskevia ohjeita kappaleessa 13.

KOHTA 7: Käsittely ja varastointi

- **7.1 Turvallisen käsittelyn edellyttämät toimenpiteet**
Huolehdittava hyvästä tuuletuksesta/imusta työpaikalla.
Säiliöt avattava ja käsiteltävä varovasti.
Vältettävä aerosolin muodostusta.
- **Palo- ja räjähdysuojaohteet:**
Eristettävä sytytysläheteistä - tupakanpolto kielletty.
Suojaa lämmöltä.
Suoritettava toimenpiteet sähköstaattista latausta vastaan.
Pidettävä hengityssuojain käyttövalmiina.
- **7.2 Turvallisen varastoinnin edellyttämät olosuhteet, mukaan luettuina yhteensopimattomuudet**
- **Varastointi:**
- **Varastotiloille ja säiliöille asetettavat vaatimukset:** Säilytettävä viileässä paikassa.
- **Yhteisvarastointiohjeet:** Ei tarvita.
- **Lisätietoja varastointiehtoihin:**
Astiat on pidettävä tiiviisti suljettuina.
Varastoitava hyvin suljetuissa astioissa viileässä ja kuivassa paikassa.
Suojattava kuumuudelta ja välittömältä auringonpaisteelta.
- **7.3 Erityinen loppukäyttö** Merkittäviä lisätietoja ei ole saatavilla.

KOHTA 8: Altistumisen ehkäiseminen ja henkilönsuojaimet

- **Lisäohjeita teknisten laitteiden varustukseen:** Ei muita tietoja, ks. kohta 7.

(jatkuu sivulla 5)

Käyttöturvallisuustiedote

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(jatkuu sivulla 4)

· 8.1 Valvontaa koskevat muuttujat

- **Aineosat työpaikkakohtaisin valvottavin raja-arvoin:**

67-66-3 Kloroformi

HTP	Lyhytaikaisarvo: 20 mg/m ³ , 4 ppm Pitkäaikaisarvo: 10 mg/m ³ , 2 ppm iho
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- **Lisäohjeet:** Tiedot perustuvat valmistushetkellä voimassaoleviin luetteloihin.

· 8.2 Altistumisen ehkäiseminen

- **Henkilökohtainen suojavarustus:**

- **Yleiset suoja- ja hygieniatoimenpiteet:**

Pidettävä loitolla elintarvikkeista, juomista ja rehuista.

Likaantuneet, aineen saastuttamat vaatekappaleet on riisuttava välittömästi.

Kädet on pestävä ennen taukoja ja työn päätyttyä.

Suojavaatetus on säilytettävä erikseen.

Vältettävä ihokosketusta ja kosketusta silmiin.

- **Hengityssuoja:**

Lyhytaikaisessa tai vähäisessä altistuksessa hengityssuojasuodin; intensiivisessä tai pitempiaikaisessa rasituksessa ulkoilmasta riippumaton hengityssuojain.

- **Käsisuojus:**



Suojakäsineet

Käsinemateriaalin tulee olla tuotetta/ainetta/valmistetta kestävä ja läpäisemätöntä.

Puuttuvien testien vuoksi suositusta soveltuvasta suojakäsinemateriaalista tuotteelle/ valmistelle / kemikaalisekoitteelle ei voida antaa.

Suojakäsinemateriaalin valinnassa on otettava huomioon läpäisyajat, läpäisevyyskerroin ja kuluminen.

- **Käsinemateriaali**

Soveltuvan käsinetyypin valikoima ei riipu yksinomaan materiaalista vaan myös muista laatuominaisuuksista ja vaihtelee eri valmistajilla.

- **Käsinemateriaalin läpäisy aika**

Tarkka läpäisy aika on selvitettävä suojakäsinevalmistajalta ja sitä on noudatettava.

- **Silmäsuojus:**



Tiiviit suojalasit

KOHTA 9: Fysikaaliset ja kemialliset ominaisuudet

- **9.1 Fysikaalisia ja kemiallisia perusominaisuuksia koskevat tiedot**

- **Yleiset ohjeet**

- **Olomuoto:**

Muoto:

Neste

Väri:

Väritön

- **Haju:**

Eetterimäinen

(jatkuu sivulla 6)

Käyttöturvallisuustiedote

1907/2006/EY, 31 artikla mukainen

Painatuspäivämäärä 19.08.2020

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(jatkuu sivulla 5)

· Hajukynnys:	Ei määrätty.
· pH-arvo:	Ei määrätty.
· Tilanmuutos	
Sulamis- tai jäätympiste:	-63 °C
Kiehumispiste ja kiehumisalue:	62 °C
· Leimahduspiste:	0 °C
· Syttyvyys (kiinteät aineet, kaasut):	Ei voida käyttää.
· Syttymislämpötila:	982 °C
· Hajoamislämpötila:	Ei määrätty.
· Itsesyttymislämpötila:	Ei määrätty.
· Räjähävyys:	Tuote ei ole räjähdysvaarallinen, kuitenkin räjähdysvaarallisten höyry-/ilmaseosten muodostuminen mahdollista.
· Räjähäysrajat:	
Alempi:	Ei määrätty.
Ylempi:	Ei määrätty.
· Höyrypaine 20 °C lämpötilassa:	210 hPa
· Tiheys 20 °C lämpötilassa:	1,47807 g/cm ³
· Suhteellinen tiheys	Ei määrätty.
· Höyryntiheys:	Ei määrätty.
· Haihtumisnopeus:	Ei määrätty.
· Liukenevuus/sekoittuvuus veteen 20 °C lämpötilassa:	8 g/l
· Jakautumiskerroin: n-oktanol/vesi:	Ei määrätty.
· Viskositeetti:	
Dynaaminen 20 °C lämpötilassa:	0,56 mPas
Kinemaattinen:	Ei määrätty.
· Liuotainepitoisuus:	
VOC (EY)	0,00 %
Käynnepitoisuus:	0,0 %
· 9.2 Muut tiedot	Merkittäviä lisätietoja ei ole saatavilla.

KOHTA 10: Stabiilisuus ja reaktiivisuus

- 10.1 Reaktiivisuus Merkittäviä lisätietoja ei ole saatavilla.
- 10.2 Kemiallinen stabiilisuus
- Terminen hajoavuus / vältettävät olosuhteet: Ei hajaantumista määräystenmukaisessa käytössä.
- 10.3 Vaarallisten reaktioiden mahdollisuus Ei tiedossa vaarallisia reaktioita.
- 10.4 Vältettävät olosuhteet Merkittäviä lisätietoja ei ole saatavilla.
- 10.5 Yhteensopimattomat materiaalit: Merkittäviä lisätietoja ei ole saatavilla.

(jatkuu sivulla 7)

Käyttöturvallisuustiedote

1907/2006/EY, 31 artikla mukainen

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(jatkuu sivulla 6)

- **10.6 Vaaralliset hajoamistuotteet:** Tiedossa ei ole vaarallisia hajoamistuotteita.

KOHTA 11: Myrkyllisyyteen liittyvät tiedot

- **11.1 Tiedot myrkyllisistä vaikutuksista**
- **Välitön myrkyllisyys**
Haitallista nieltynä.
Tappavaa joutuessaan iholle.
Myrkyllistä hengitettynä.

- **Luokittelurelevantti LD/LC50-arvot:**

67-66-3 Kloroformi

Oraali	LD50	908 mg/kg (rat)
Dermaali	LD50	75 mg/kg (rat)

- **Ensisijainen ärsyttävä vaikutus:**
- **Ihosityyttävyys/ihoärsytys**
Ärsyttää ihoa.
- **Vakava silmävaurio/silmä-ärsytys**
Ärsyttää voimakkaasti silmiä.
- **Hengitysteiden tai ihon herkistyminen** Saatavilla olevien tietojen perusteella luokituskriteerit eivät täyty.
- **CMR-vaikutukset eli syöpää aiheuttavat, perimää vaurioittavat ja lisääntymiselle vaaralliset vaikutukset**
- **Sukusolujen perimää vaurioittavat vaikutukset**
Saatavilla olevien tietojen perusteella luokituskriteerit eivät täyty.
- **Syöpää aiheuttavat vaikutukset**
Epäillään aiheuttavan syöpää.
- **Lisääntymiselle vaaralliset vaikutukset**
Epäillään vaurioittavan sikiötä.
- **Elinlinohtainen myrkyllisyys – kerta-altistuminen**
Saatavilla olevien tietojen perusteella luokituskriteerit eivät täyty.
- **Elinlinohtainen myrkyllisyys – toistuva altistuminen**
Vahingoittaa keskushermostoa ja munuaisia ja maksaa ja hengityselimiä pitkäaikaisessa tai toistuvassa altistumisessa.
- **Aspiraatiovaara** Saatavilla olevien tietojen perusteella luokituskriteerit eivät täyty.

KOHTA 12: Tiedot vaarallisuudesta ympäristölle

- **12.1 Myrkyllisyys**
- **Vesimyrkyllisyys:** Merkittäviä lisätietoja ei ole saatavilla.
- **12.2 Pysyvyys ja hajoavuus** Merkittäviä lisätietoja ei ole saatavilla.
- **12.3 Biokertyvyys** Merkittäviä lisätietoja ei ole saatavilla.
- **12.4 Liikkuvuus maaperässä** Merkittäviä lisätietoja ei ole saatavilla.
- **Ekologisia lisätietoja:**
- **Yleisohjeita:**
Vesistövaarallisuusluokka 3 (listaluokitus): voimakkaasti vesistöä vaarantava
Estetään pääsy pohjaveteen, vesistöihin, viemäristöön; myöskin pieninä määrinä.
Juomavesi vaaraantuu jo pieninten määrien päästessä maaperään.
- **12.5 PBT- ja vPvB-arvioinnin tulokset**
- **PBT:** Ei voida käyttää.
- **vPvB:** Ei voida käyttää.

(jatkuu sivulla 8)

Käyttöturvallisuustiedote

1907/2006/EY, 31 artikla mukainen

Painatuspäivämäärä 19.08.2020

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


(jatkuu sivulla 7)

- 12.6 Muut haitalliset vaikutukset Merkittäviä lisätietoja ei ole saatavilla.

KOHTA 13: Jätteiden käsittelyyn liittyvät näkökohdat

- 13.1 Jätteiden käsittelymenetelmät
- **Suositus:** Ei voida hävittää yhdessä talousjätteiden kanssa. Ei saa päästää viemäristöön.
- **Puhdistamattomat pakkaukset:**
- **Suositus:** Hävitettävä virallisten määräysten mukaisesti.

KOHTA 14: Kuljetustiedot

- 14.1 YK-numero
- **ADR, IMDG, IATA** UN1888
- 14.2 Kuljetuksessa käytettävä virallinen nimi
- **ADR** 1888 KLOORIFORMI
- **IMDG, IATA** CHLOROFORM
- 14.3 Kuljetuksen vaaraluokka
- **ADR, IMDG, IATA**
- 
- **luokka** 6.1 Myrkylliset aineet
- **Lipuke** 6.1
- 14.4 Pakkausryhmä
- **ADR, IMDG, IATA** III
- 14.5 Ympäristövaarat: Ei voida käyttää.
- 14.6 Erityiset varotoimet käyttäjälle
- **Vaaran tunnus-nro (Kemler-luku):** 60
- **EMS-numero:** 6.1-02
- **Segregation groups** Liquid halogenated hydrocarbons
- **Stowage Category** A
- **Stowage Code** SW2 Clear of living quarters.
- 14.7 Kuljetus irtolastina Marpol-sopimuksen II liitteen ja IBC-säännösten mukaisesti Ei voida käyttää.
- **Kuljetus/lisätietoja:**
- **ADR**
- **Rajoitetut määrät (LQ)** 5L
- **Poikkeusmäärät (EQ)** Koodi: E1
- Enimmäisnettomäärä sisäpakkausta kohti: 30 ml
- Enimmäisnettomäärä ulkopakkausta kohti: 1000 ml
- **Kuljetuskategoria** 2

(jatkuu sivulla 9)

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1907/2006/EY, 31 artikla mukainen

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(jatkuu sivulla 8)

· Tunnelirajoituskoodi:	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":	UN 1888 KLOROFORMI, 6.1, III

KOHTA 15: Lainsäädäntöä koskevat tiedot

- **15.1 Nimenomaisesti ainetta tai seosta koskevat turvallisuus-, terveys- ja ympäristösäännökset tai -lainsäädäntö**
- **Direktiivi 2012/18/EU**
- **Nimetyt vaaralliset aineet - LIITE I** Aine ei sisälly
- **Seveso-luokka**
H2 VÄLITÖN MYRKYLLISYYS
P5c SYTTYVÄT NESTEET
- **Sovellamisen vähimmäismäärät (tonneina) alemman tason vaatimukset 50 t**
- **Sovellamisen vähimmäismäärät (tonneina) ylemmän tason vaatimukset 200 t**
- **NEUVOSTON ASETUS (EY) N:o 1907/2006 LIITE XVII** Rajoitusehdot: 3, 32
- **Neuvoston Asetus (EU) N:o 649/2012**

Annex I Part I

- **15.2 Kemikaaliturvallisuusarviointi:** Kemikaaliturvallisuusarviointia ei ole tehty.

KOHTA 16: Muut tiedot

Annetut tiedot perustuvat tämänhetkisiin tietoihimme. Ne eivät kuitenkaan anna takuuta tuotteen ominaisuuksista eivätkä aikaansaa sopimuksellista oikeussuhdetta.

- **Asiaankuuluvat lausekkeet**
H302 Haitallista nieltynä.
H315 Ärsyttää ihoa.
H319 Ärsyttää voimakkaasti silmiä.
H332 Haitallista hengitettynä.
- **Lyhenteet ja lyhytnimet:**
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
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Syttyvät nesteet – Katgoria 2
Acute Tox. 4: Välitön myrkyllisyys - suun kautta – Katgoria 4

(jatkuu sivulla 10)

Käyttöturvallisuustiedote
1907/2006/EY, 31 artikla mukainen

Painatuspäivämäärä 19.08.2020

Tarkistus: 19.08.2020

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

(jatkuu sivulla 9)

Acute Tox. 2: Välitön myrkyllisyys - ihon kautta – Katgoria 2
Acute Tox. 3: Välitön myrkyllisyys - hengitysteitse – Katgoria 3
Skin Irrit. 2: Ihosyövyttävyyys/ihoärsytys – Katgoria 2
Eye Irrit. 2: Vakava silmävaurio/silmä-ärsytys – Katgoria 2
Carc. 2: Syöpää aiheuttavat vaikutukset – Katgoria 2
Repr. 2: Lisääntymiselle vaarallinen – Katgoria 2
STOT RE 1: Elinkohtainen myrkyllisyys (toistuva altistuminen) – Katgoria 1

FI

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 19.08.2020

Révision: 19.08.2020

RUBRIQUE 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: info@emsdiasum.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*

RUBRIQUE 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 le système nerveux central, les reins, le foie et le système respiratoire à la suite d'expositions répétées ou d'une exposition prolongée.

(suite page 2)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 19.08.2020

Révision: 19.08.2020

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

(suite de la page 1)



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

Butvar-B-98

Polyvinyl Butyral Resin

· 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 le système nerveux central, les reins, le foie et le système respiratoire 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 [ou se doucher].

P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.

P310 Appeler immédiatement un CENTRE ANTIPOISON/un médecin.

P321 Traitement spécifique (voir sur cette étiquette).

P330 Rincer la bouche.

P361+P364 Enlever immédiatement tous les vêtements contaminés et les laver avant réutilisation.

P405 Garder sous clef.

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

· Indications complémentaires:

Réservé aux installations industrielles.

(suite page 3)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 19.08.2020

Révision: 19.08.2020

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

(suite de la page 2)

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

RUBRIQUE 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	

RUBRIQUE 4: Premiers secours

- **4.1 Description des premiers secours**
- **Remarques générales:**
Enlever immédiatement les vêtements contaminés par le produit.
Les symptômes d'intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.
Ne retirer la protection respiratoire qu'après avoir retiré les vêtements contaminés.
Respiration artificielle dans le cas d'une respiration irrégulière ou d'un arrêt respiratoire.
- **Après inhalation:**
Donner de l'air frais ou de l'oxygène; demander d'urgence une assistance médicale.
En cas d'inconscience, coucher et transporter la personne en position latérale stable.
- **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.
- **Après contact avec les yeux:**
Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières. 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.

RUBRIQUE 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.

(suite page 4)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 19.08.2020

Révision: 19.08.2020

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

(suite de la page 3)

- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Porter un appareil de protection respiratoire.

RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

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

RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**
Veiller à une bonne ventilation/aspiration du poste de travail.
Ouvrir et manipuler les récipients avec précaution.
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.

RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

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

(suite page 5)

FR

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 19.08.2020

Révision: 19.08.2020

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

(suite de la page 4)

· 8.1 Paramètres de contrôle

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

67-66-3 trichlorométhane

VLEP	Valeur momentanée: 250 mg/m ³ , 50 ppm Valeur à long terme: 10 mg/m ³ , 2 ppm C2, R2,(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.

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

RUBRIQUE 9: Propriétés physiques et chimiques

· 9.1 Informations sur les propriétés physiques et chimiques essentielles

· Indications générales

· Aspect:

Forme:

Liquide

(suite page 6)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 19.08.2020

Révision: 19.08.2020

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

(suite de la page 5)

· Couleur:	Incolore
· Odeur:	Genre éther
· Seuil olfactif:	Non déterminé.
· valeur du pH:	Non déterminé.
· Changement d'état	
Point de fusion/point de congélation:	-63 °C
Point initial d'ébullition et intervalle d'ébullition:	62 °C
· Point d'éclair	0 °C
· Inflammabilité (solide, gaz):	Non applicable.
· Température d'inflammation:	982 °C
· Température de décomposition:	Non déterminé.
· Température d'auto-inflammabilité:	Non déterminé.
· Propriétés explosives:	Le produit n'est pas explosif; toutefois, des mélanges explosifs vapeur-air peuvent se former.
· Limites d'explosion:	
Inférieure:	Non déterminé.
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.
· Taux 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:	
VOC (CE)	0,00 %
· Teneur en substances solides:	0,0 %
· 9.2 Autres informations	Pas d'autres informations importantes disponibles.

RUBRIQUE 10: Stabilité et réactivité

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

(suite page 7)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 19.08.2020

Révision: 19.08.2020

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

(suite de la page 6)

· **10.6 Produits de décomposition dangereux:** Pas de produits de décomposition dangereux connus

RUBRIQUE 11: Informations toxicologiques

· **11.1 Informations sur les effets toxicologiques**

· **Toxicité aiguë**

Nocif en cas d'ingestion.

Mortel par contact cutané.

Toxique par inhalation.

· **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**

Provoque une irritation cutanée.

· **Lésions oculaires graves/irritation oculaire**

Provoque une sévère irritation des yeux.

· **Sensibilisation respiratoire ou cutanée**

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

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

· **Mutagénicité sur les cellules germinales**

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

· **Cancérogénicité**

Susceptible de provoquer le cancer.

· **Toxicité pour la reproduction**

Susceptible de nuire au fœtus.

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

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

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

Risque avéré d'effets graves pour le système nerveux central, les reins, le foie et le système respiratoire à la suite d'expositions répétées ou d'une exposition prolongée.

· **Danger par aspiration**

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

RUBRIQUE 12: Informations écologiques

· **12.1 Toxicité**

· **Toxicité aquatique:** Pas d'autres informations importantes disponibles.

· **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.

· **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.

· **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.

· **Autres indications écologiques:**

· **Indications générales:**

Catégorie de pollution des eaux 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 minime dans le sous-sol.

(suite page 8)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 19.08.2020

Révision: 19.08.2020

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


(suite de la page 7)

- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

RUBRIQUE 13: Considérations relatives à l'élimination

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

RUBRIQUE 14: Informations relatives au transport

- | | |
|--|---|
| <ul style="list-style-type: none"> · 14.1 Numéro ONU · ADR, IMDG, IATA | <p>UN1888</p> |
| <ul style="list-style-type: none"> · 14.2 Désignation officielle de transport de l'ONU · ADR · IMDG, IATA | <p>1888 CHLOROFORME
CHLOROFORM</p> |
| <ul style="list-style-type: none"> · 14.3 Classe(s) de danger pour le transport · ADR, IMDG, IATA <div style="text-align: center; margin: 10px 0;">  </div> <ul style="list-style-type: none"> · Classe · Étiquette | <p>6.1 Matières toxiques.
6.1</p> |
| <ul style="list-style-type: none"> · 14.4 Groupe d'emballage · ADR, IMDG, IATA | <p>III</p> |
| <ul style="list-style-type: none"> · 14.5 Dangers pour l'environnement: | <p>Non applicable.</p> |
| <ul style="list-style-type: none"> · 14.6 Précautions particulières à prendre par l'utilisateur · Numéro d'identification du danger (Indice Kemler): · No EMS: · Segregation groups · Stowage Category · Stowage Code | <p>Attention: Matières toxiques.</p> <p>60
6.1-02
Liquid halogenated hydrocarbons
A
SW2 Clear of living quarters.</p> |
| <ul style="list-style-type: none"> · 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC | <p>Non applicable.</p> |

(suite page 9)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 19.08.2020

Révision: 19.08.2020

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

(suite de la page 8)

· 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:

UN 1888 CHLOROFORME, 6.1, III

RUBRIQUE 15: Informations relatives à la réglementation

· 15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement

· Directive 2012/18/UE

· Substances dangereuses désignées - ANNEXE I la substance n'est pas comprise

· Catégorie SEVESO

H2 TOXICITÉ AIGUË

P5c LIQUIDES INFLAMMABLES

· Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas 50 t

· Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut 200 t

· RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII Conditions de limitation: 3, 32

· Règlement (CE) N° 649/2012

Annex I Part I

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

RUBRIQUE 16: Autres informations

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

· Phrases importantes

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

(suite page 10)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 19.08.2020

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

(suite de la page 9)

*GHS: Globally Harmonised System of Classification and Labelling of Chemicals**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 2: Liquides inflammables – Catégorie 2**Acute Tox. 4: Toxicité aiguë - voie orale – Catégorie 4**Acute Tox. 2: Toxicité aiguë - voie cutanée – Catégorie 2**Acute Tox. 3: Toxicité aiguë - inhalation – Catégorie 3**Skin Irrit. 2: Corrosion cutanée/irritation cutanée – Catégorie 2**Eye Irrit. 2: Lésions oculaires graves/irritation oculaire – Catégorie 2**Carc. 2: Cancérogénicité – Catégorie 2**Repr. 2: Toxicité pour la reproduction – Catégorie 2**STOT RE 1: Toxicité spécifique pour certains organes cibles (exposition répétée) – Catégorie 1*

FR

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 19.08.2020

überarbeitet am: 19.08.2020

ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise 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: info@emsdiasum.com

www.emsdiasum.com

Science Services GmbH

Unterhachinger Str. 75

81737 München Germany

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

safety@scienceservices.de

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

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

· **Auskunftgebender Bereich:** Product safety department

· **1.4 Notrufnummer:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

ABSCHNITT 2: Mögliche Gefahren

· **2.1 Einstufung des Stoffs oder Gemischs**

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



GHS02 Flamme

Flam. Liq. 2 H225 Flüssigkeit und Dampf leicht entzündbar.



GHS06 Totenkopf mit gekreuzten Knochen

(Fortsetzung auf Seite 2)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 19.08.2020

überarbeitet am: 19.08.2020

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

(Fortsetzung von Seite 1)

Acute Tox. 2 H310 Lebensgefahr bei Hautkontakt.

Acute Tox. 3 H331 Giftig bei Einatmen.



GHS08 Gesundheitsgefahr

Carc. 2 H351 Kann vermutlich Krebs erzeugen.

Repr. 2 H361d Kann vermutlich das Kind im Mutterleib schädigen.

STOT RE 1 H372 Schädigt das zentrale Nervensystem, die Nieren, die Leber und das Respirationssystem 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

Butvar-B-98

Polyvinyl Butyral Resin

· 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 das zentrale Nervensystem, die Nieren, die Leber und das Respirationssystem 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 [oder duschen].

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

(Fortsetzung auf Seite 3)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 19.08.2020

überarbeitet am: 19.08.2020

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

(Fortsetzung von Seite 2)

- P310 *Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.*
- P321 *Besondere Behandlung (siehe auf diesem Kennzeichnungsetikett).*
- P330 *Mund ausspülen.*
- P361+P364 *Alle kontaminierten Kleidungsstücke sofort ausziehen und vor erneutem Tragen waschen.*
- 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.

· **vPvB:** Nicht anwendbar.

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:**

Frischluf- oder Sauerstoffzufuhr; ärztliche Hilfe in Anspruch nehmen.

Bei Bewusstlosigkeit Lagerung und Transport in stabiler Seitenlage.

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

· **Nach Augenkontakt:**

Augen 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.

(Fortsetzung auf Seite 4)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 19.08.2020

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

(Fortsetzung von Seite 3)

- **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.

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.

(Fortsetzung auf Seite 5)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 19.08.2020

überarbeitet am: 19.08.2020

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

(Fortsetzung von Seite 4)

Vor Hitze und direkter Sonnenbestrahlung schützen.

· **Lagerklasse:**

· **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** Entzündbare Flüssigkeiten

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

ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

· **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, X
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· **Zusätzliche Hinweise:** Als Grundlage dienen die bei der Erstellung gültigen Listen.

· **8.2 Begrenzung und Überwachung der Exposition**

· **Persönliche Schutzausrüstung:**

· **Allgemeine Schutz- und Hygienemaßnahmen:**

Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.

Beschmutzte, getränkte Kleidung sofort ausziehen.

Vor den Pausen und bei Arbeitsende Hände waschen.

Getrennte Aufbewahrung der Schutzkleidung.

Berührung mit den Augen und der Haut vermeiden.

· **Atemschutz:**

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

· **Handschutz:**



Schutzhandschuhe

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

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

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

· **Handschuhmaterial**

Die Auswahl eines geeigneten Handschuhs ist nicht nur vom Material, sondern auch von weiteren Qualitätsmerkmalen abhängig und von Hersteller zu Hersteller unterschiedlich.

· **Durchdringungszeit des Handschuhmaterials**

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

(Fortsetzung auf Seite 6)

Sicherheitsdatenblatt

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

(Fortsetzung von Seite 5)

· **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/Gefrierpunkt:** -63 °C

· **Siedebeginn und Siedebereich:** 62 °C

· **Flammpunkt:** 0 °C

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

· **Zündtemperatur:** 982 °C

· **Zersetzungstemperatur:** Nicht bestimmt.

· **Selbstentzündungstemperatur:** Nicht bestimmt.

· **Explosive Eigenschaften:** 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/cm³

· **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.

(Fortsetzung auf Seite 7)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 19.08.2020

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

(Fortsetzung von Seite 6)

· Lösemittelgehalt: VOC (EU)	0,00 %
· Festkörpergehalt:	0,0 %
· 9.2 Sonstige Angaben	Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 10: Stabilität und Reaktivität

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

ABSCHNITT 11: Toxikologische Angaben

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

- **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**
Verursacht Hautreizungen.
- **Schwere Augenschädigung/-reizung**
Verursacht schwere Augenreizung.
- **Sensibilisierung der Atemwege/Haut**
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)**
- **Keimzell-Mutagenität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Karzinogenität**
Kann vermutlich Krebs erzeugen.
- **Reproduktionstoxizität**
Kann vermutlich das Kind im Mutterleib schädigen.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**
Schädigt das zentrale Nervensystem, die Nieren, die Leber und das Respirationssystem bei längerer oder wiederholter Exposition.

(Fortsetzung auf Seite 8)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

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überarbeitet am: 19.08.2020

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

(Fortsetzung von Seite 7)

· **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.


ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**
Wassergefährdungsklasse 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 |

(Fortsetzung auf Seite 9)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 19.08.2020

überarbeitet am: 19.08.2020

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

(Fortsetzung von Seite 8)

· 14.4 Verpackungsgruppe · ADR, IMDG, IATA	III
· 14.5 Umweltgefahren:	<i>Nicht anwendbar.</i>
· 14.6 Besondere Vorsichtsmaßnahmen für den Verwender · Nummer zur Kennzeichnung der Gefahr (Kemler-Zahl): · EMS-Nummer: · Segregation groups · Stowage Category · Stowage Code	Achtung: Giftige Stoffe 60 6.1-02 Liquid halogenated hydrocarbons A SW2 Clear of living quarters.
· 14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code	<i>Nicht anwendbar.</i>
· Transport/weitere Angaben:	
· ADR · Begrenzte Menge (LQ) · Freigestellte Mengen (EQ)	5L Code: E1 Höchste Nettomenge je Innenverpackung: 30 ml Höchste Nettomenge je Außenverpackung: 1000 ml
· Beförderungskategorie · Tunnelbeschränkungscode	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":	UN 1888 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.
- **Seveso-Kategorie**
H2 AKUT TOXISCH
P5c ENTZÜNDBARE FLÜSSIGKEITEN
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 50 t**
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 200 t**
- **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3, 32
- **Verordnung (EU) Nr. 649/2012**

Annex I Part I

(Fortsetzung auf Seite 10)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 19.08.2020

überarbeitet am: 19.08.2020

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

(Fortsetzung von Seite 9)

· **Nationale Vorschriften:**

· **Technische Anleitung Luft:**

Klasse	Anteil in %
I	98,9

· **Wassergefährdungsklasse:** WGK 3 (Listeneinstufung): stark wassergefährdend.

· **Sonstige Vorschriften, Beschränkungen und Verbotsverordnungen**

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

· **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.

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

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Entzündbare Flüssigkeiten – Kategorie 2

Acute Tox. 4: Akute Toxizität - oral – Kategorie 4

Acute Tox. 2: Akute Toxizität - dermal – Kategorie 2

Acute Tox. 3: Akute Toxizität - inhalativ – Kategorie 3

Skin Irrit. 2: Hautreizende/-ätzende Wirkung – Kategorie 2

Eye Irrit. 2: Schwere Augenschädigung/Augenreizung – Kategorie 2

Carc. 2: Karzinogenität – Kategorie 2

Repr. 2: Reproduktionstoxizität – Kategorie 2

STOT RE 1: Spezifische Zielorgan-Toxizität (wiederholte Exposition) – Kategorie 1

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

Stampato il: 19.08.2020

Revisione: 19.08.2020

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 identificati pertinenti della sostanza o della miscela e usi sconsigliati**

Non sono disponibili altre informazioni.

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

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

· **Produttore/fornitore:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: info@emsdiasum.com

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.

(continua a pagina 2)

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

Stampato il: 19.08.2020

Revisione: 19.08.2020

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

(Segue da pagina 1)



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 al sistema nervoso centrale, ai reni, al fegato e al sistema respiratorio in caso di esposizione prolungata e ripetuta.



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

Butvar-B-98

Polyvinyl Butyral Resin

· **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 al sistema nervoso centrale, ai reni, al fegato e al sistema respiratorio in caso di esposizione prolungata e ripetuta.

· **Consigli di prudenza**

P303+P361+P353 **IN CASO DI CONTATTO CON LA PELLE (o con i capelli):** togliersi di dosso immediatamente tutti gli indumenti contaminati. Sciacquare la pelle [o fare una doccia].

P305+P351+P338 **IN CASO DI CONTATTO CON GLI OCCHI:** sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.

P310 Contattare immediatamente un CENTRO ANTIVELENI/un medico.

(continua a pagina 3)

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

Stampato il: 19.08.2020

Revisione: 19.08.2020

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

(Segue da pagina 2)

- P321 *Trattamento specifico (vedere su questa etichetta).*
 P330 *Sciacquare la bocca.*
 P361+P364 *Togliere immediatamente tutti gli indumenti contaminati e lavarli prima di indossarli nuovamente.*
 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

· **Numerali di identificazione**

· **Numerali 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.*

(continua a pagina 4)

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

Stampato il: 19.08.2020

Revisione: 19.08.2020

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

(Segue da pagina 3)

- **4.3 Indicazione dell'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 detersivi 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.
Per informazioni relative allo smaltimento vedere Capitolo 13.

SEZIONE 7: Manipolazione e immagazzinamento

- **7.1 Precauzioni per la manipolazione sicura**
Accurata ventilazione/aspirazione nei luoghi di lavoro.
Aprire e manipolare i recipienti con cautela.
Evitare la formazione di aerosol.
- **Indicazioni in caso di incendio ed esplosione:**
Tenere lontano da fonti di calore, non fumare.
Proteggere dal calore.
Adottare provvedimenti contro cariche elettrostatiche.
Tener pronto il respiratore.
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** 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.

(continua a pagina 5)

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

Stampato il: 19.08.2020

Revisione: 19.08.2020

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

(Segue da pagina 4)

· **7.3 Usi finali particolari** 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/m³, 10 ppm
A3

VL Valore a lungo termine: 10 mg/m³, 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.

· **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.

Sceita 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.

(continua a pagina 6)

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

Stampato il: 19.08.2020

Revisione: 19.08.2020

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

(Segue da pagina 5)

· **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**

· Punto di fusione/punto di congelamento:	-63 °C
· Punto di ebollizione iniziale e intervallo di ebollizione:	62 °C

· **Punto di infiammabilità:** 0 °C· **Infiammabilità (solidi, gas):** Non applicabile.· **Temperatura di accensione:** 982 °C· **Temperatura di decomposizione:** Non definito.· **Temperatura di autoaccensione:** Non definito.· **Proprietà esplosive:** 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· **Densità relativa** Non definito.· **Densità di vapore:** Non definito.· **Velocità di evaporazione** Non definito.· **Solubilità in/Miscibilità con**· **acqua a 20 °C:** 8 g/l· **Coefficiente di ripartizione: n-ottanolo/acqua:** Non definito.· **Viscosità:**

· Dinamica a 20 °C:	0,56 mPas
· Cinematica:	Non definito.

(continua a pagina 7)

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

Stampato il: 19.08.2020

Revisione: 19.08.2020

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

(Segue da pagina 6)

· Tenore del solvente: VOC (CE)	0,00 %
· Contenuto solido:	0,0 %
· 9.2 Altre informazioni	Non sono disponibili altre informazioni.

SEZIONE 10: Stabilità e reattività

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

SEZIONE 11: Informazioni tossicologiche

- **11.1 Informazioni sugli effetti tossicologici**
- **Tossicità acuta**
Nocivo se ingerito.
Letale per contatto con la pelle.
Tossico se inalato.

- **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**
Provoca irritazione cutanea.
- **Lesioni oculari gravi/irritazioni oculari gravi**
Provoca grave irritazione oculare.
- **Sensibilizzazione respiratoria o cutanea**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
- **Mutagenicità delle cellule germinali**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Cancerogenicità**
Sospettato di provocare il cancro.
- **Tossicità per la riproduzione**
Sospettato di nuocere al feto.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**
Provoca danni al sistema nervoso centrale, ai reni, al fegato e al sistema respiratorio in caso di esposizione prolungata e ripetuta.

(continua a pagina 8)

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

Stampato il: 19.08.2020

Revisione: 19.08.2020

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

(Segue da pagina 7)

- **Pericolo in caso di aspirazione**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

SEZIONE 12: Informazioni ecologiche

- **12.1 Tossicità**
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- **12.2 Persistenza e degradabilità** Non sono disponibili altre informazioni.
- **12.3 Potenziale di bioaccumulo** Non sono disponibili altre informazioni.
- **12.4 Mobilità nel suolo** Non sono disponibili altre informazioni.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**
Pericolosità per le acque classe 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 |

(continua a pagina 9)

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

Stampato il: 19.08.2020

Revisione: 19.08.2020

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

(Segue da pagina 8)

· 14.5 Pericoli per l'ambiente:	Non applicabile.
· 14.6 Precauzioni speciali per gli utilizzatori	Attenzione: Materie tossiche
· N° identificazione pericolo (Numero Kemler):	60
· Numero EMS:	6.1-02
· Segregation groups	Liquid halogenated hydrocarbons
· Stowage Category	A
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Trasporto di rifiuti secondo l'allegato II di MARPOL ed il codice IBC	Non applicabile.
· 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":	UN 1888 CLOROFORMIO, 6.1, III

SEZIONE 15: Informazioni sulla regolamentazione

- **15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**
- **Direttiva 2012/18/UE**
- **Sostanze pericolose specificate - ALLEGATO I** La sostanza non è contenuta
- **Categoria Seveso**
H2 TOSSICITÀ ACUTA
P5c LIQUIDI INFIAMMABILI
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 50 t**
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 200 t**
- **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3, 32

· **Regolamento (UE) N. 649/2012**

Annex I Part I

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

(continua a pagina 10)

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

Stampato il: 19.08.2020

Revisione: 19.08.2020

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

(Segue da pagina 9)

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

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LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Liquidi infiammabili – Categoria 2

Acute Tox. 4: Tossicità acuta per via orale – Categoria 4

Acute Tox. 2: Tossicità acuta per via cutanea – Categoria 2

Acute Tox. 3: Tossicità acuta per inalazione – Categoria 3

Skin Irrit. 2: Corrosione/irritazione della pelle – Categoria 2

Eye Irrit. 2: Gravi lesioni oculari/irritazione oculare – Categoria 2

Carc. 2: Cancerogenicità – Categoria 2

Repr. 2: Tossicità per la riproduzione – Categoria 2

STOT RE 1: Tossicità specifica per organi bersaglio (esposizione ripetuta) – Categoria 1

물질안전보건자료 GHS에 따라라다

인쇄일자: 2020.08.19

개정: 2020.08.19

1 화학제품과 회사에 관한 정보

제품제명

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

· **상품번호:** 11860

· **번호번호번호**
67-66-3

· **EC 의번호:**
200-663-8

색인색인번호:

602-006-00-4

해당해당제품질이나 혼합물과 관련 위험도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.

· **제품의 권고 용도와 사용 생애의 제한 사항** 실 화 학 품

· **안전데이터표(Safety Data Sheet) 내 공급 업체 관련 연락처 정보**

· **제조사/수입자/유통 업체 정보**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: info@emsdiasum.com

www.emsdiasum.com

Samchang Commercial Co., Ltd.

Yeo Eui Do

PO Box 1110

Seoul, Korea

Tel: 82 2 703 3040

Fax: 82 2 717 3298

Daedok Science, Co. Ltd.

34141 E10 Korea Advanced Institute of Science

Guseong-Dong, Yuseong-gu, Daejeon,

Korea

Phone: 82 42 710 2091

Fax: 82 42 367 0005

Website: www.labsmro.com

· **추가적인 정보** (ChemTrec) 1-800-424-9300 Contract CCN7661

· **비상연락 전화번호:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

2 유해성·위험성

· **순물질 또는 혼합물**의 분류 분류



화염

인화성 액체 - 구분 2

H225 고인화성 액체 및 증기

(2 쪽에 계속)

물질안전보건자료

GHS에 따라라따

인쇄일자: 2020.08.19

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

(1 쪽부터계속)



두개골과 대퇴골

급성 독성 - 경피 - 구분 2

H310 피부와 접촉하면 치명적임

급성 독성 - 흡입 - 구분 3

H331 흡입하면 유독함



건강에 위험

발암성 - 구분 2

H351 암을 일으킬 것으로 의심됨

생식독성 - 구분 2

H361 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨

특정표적장기 독성 - 반복 노출 - 구분 1

H372 중추 신경계, 신장, 간 그리고 호흡체계를 장시간 또는 반복된 노출로 인하여 손상시킨다.



급성 독성 - 경구 - 구분 4

H302 삼키면 유해함

피부 부식성/피부 자극성 - 구분 2

H315 피부에 자극을 일으킴

심한 눈 손상성/눈 자극성 - 구분 2

H319 눈에 심한 자극을 일으킴

· 라벨 표기 요소

· 라벨 표기 요소

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

· 그림문자



GHS02



GHS06



GHS08

· 신호어 위험

· 상 표 상에 명확히 위험성이 표시된 성분:

클로로포름

2-methylbut-2-ene

유해 유해 유해 유해 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

중추 신경계, 신장, 간 그리고 호흡체계를 장시간 또는 반복된 노출로 인하여 손상시킨다.

(3 쪽에계속)

물질안전보건자료

GHS에 따라라다

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(2 쪽부터 계속)

· 예방 조치 문구 문구

- 피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으시오/샤워하십시오.
- 눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으시오. 즉시 독성물질센터/병원 연락 필요.
- (라벨 참조) 처치를 하시오.
- 입을 씻어내시오.
- 오염된 모든 의복은 즉시 벗고 다시 사용 전 세척하십시오.
- 밀봉하여 저장하십시오.
- (지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

기타기타 규제성

- PBT(잔류성, 생물농축성, 물성물질물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 지정 여부 결과
- PBT(잔류성, 생물농축성, 물성물질물질) 당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질) 당사항 없음.

3 구성성분의 명칭 및 함유량

- 화학적 특성: 화학물질
- CAS-번호표시
67-66-3 클로로포름

식별식별 번호

- EC 의번호: 200-663-8
- 색인색인번호: 602-006-00-4

· 위험 요소 요소

63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin ⚠ 피부 부식성/피부 자극성 - 구분 2, H315; 심한 눈 손상성/눈 자극성 - 구분 2, H319	≤2.5%
513-35-9	2-methylbut-2-ene ⚠ 인화성 액체 - 구분 1, H224; ⚠ 급성 독성 - 경구 - 구분 3, H301	≤2.5%

4 응급조치 요령

· 응급조치외용 내용내용

· 일 반적 정보 정보

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

· 흡입했을 때:

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

· 피부에 접촉했을 때: 즉시물과비누로씻고잘행군다.

· 눈에 눈에 들어갔을 때:

- 흐르는 물에 눈을 몇분동안 씻어내고나서, 증상이 지속될 경우에는 의사와 상담한다

· 먹었을 때: 즉시 의사의 도움을 구한다.

(4 쪽에 계속)

물질안전보건자료

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(4 쪽부터계속)

· **구체적 최종 최종자** 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

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

통제 ~~통제~~ ~~통제~~ 변수

· **화학물질의 노출기준, 생물학적 노출기준 등:**

67-66-3 클로로포름

TLV (KR)	장기간의값: 10 ppm 발암성2,생식독성2
IOELV (EU)	장기간의값: 10 mg/m ³ , 2 ppm Skin
PEL (US)	최고노출기준: 240 mg/m ³ , 50 ppm
REL (US)	단기간의값: 9.78* mg/m ³ , 2* ppm *60-min; See Pocket Guide App. A
TLV (US)	장기간의값: 49 mg/m ³ , 10 ppm

· **추가정보** 정보 조 할 당시에 유 효 한 목 록 을 기초로 사용했다.

노출 ~~노출~~ ~~노출~~ 통제

개인개인 ~~개인~~ 구

· **일반적보호조치및위생조치:**

- 식료품, 음료수와 사료로부터 멀리떨어뜨려놓는다.
- 더러워지거나음료수가 묻은 옷은 즉시 탈의한다.
- 휴식전 이나 작업이 끝날때마다 손을 씻는다.
- 방호복은 따로보관한다.
- 눈과 피부와의 접촉은 피한다.

· **호흡기보호보호**

단 시간 또는 경미한 오염의 경우에는 호흡여과기를 사용한다. 심각한 또는 장기간 노출 시에는 호흡보호장비를 사용한다.

보수보호보호



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**

적합한장갑의선택은재질차이뿐 아니라 품질기준의차이도 고려하여 이루어져야하고제조업자에따라서도다르게선정되어야한다.

· **장갑 재료의 투과시간** 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

(6 쪽에계속)

물질안전보건자료


GHS에 따라라다

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개정: 2020.08.19

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보호 보호 보호



꼭조이는보안경

(5 쪽부터계속)

9 물리화학적 특성	
기본 정보	
· 일반정보	· 물리화학적 특성에 대한 기본 정보
· 외형외형외형	· 액체
· 물리적 상태	· 색소가 없는
· 색:	· 에테르종류의
· 냄새	· 알맞지 않다.
· 후각역치	· 알맞지 않다.
· pH:	· 알맞지 않다.
· 상태변화	· 녹는점/어는점: -63 °C
· 초기조기	· 끓는점/범위범위: 62 °C
· 인화점:	· 0 °C
· 인화성(고체)기체기체	· 해당사항 없음.
· 점화온도:	· 982 °C
· 분해온도	· 알맞지 않다.
· 자기점화:	· 알맞지 않다.
· 폭발위험:	· 이제품은폭발위험성이없지만, 폭발가능성이있는증기화합물/공기화합물의형성가능성이있다.
인화 안전 정보	
· 아래로:	· 알맞지 않다.
· 위로위로위로	· 알맞지 않다.
· 증기압 의경우 20 °C:	· 210 hPa
· 밀도 밀도 의경우 20 °C:	· 1.47807 g/cm ³
· 비중 비중 비중	· 알맞지 않다.
· 증기밀도:	· 알맞지 않다.
· 증발 증발 증발 속도	· 알맞지 않다.
· 용해도:	· 물 의경우 20 °C: 8 g/l
· n 옥탄올/물 분배계수:	· 알맞지 않다.
점도 점도 점도	
· 역학성 의경우 20 °C:	· 0.56 mPas
· 동점성:	· 알맞지 않다.

(7 쪽에계속)

물질안전보건자료

GHS에 따라라다

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(7 쪽부터 계속)


- PBT(잔류성, 생물농축성, 독성 물질 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질)에 해당하지 않음.
- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질)에 해당하지 않음.
- vPvB(고 잔류성, 고 생물농축성 물질)에 해당하지 않음.

기타 기타 **부작용** 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

- 폐기물 처리 방법
권고 권고 **환경** 쓰레기와 함께 처리되어서는 안 된다. 하수도망으로 유입되어서는 안 된다.
- 비위생적 포장 포장
권고 권고 **환경** 의지 침에 입각 한 쓰레기 처리.

14 운송에 필요한 정보

유엔 유엔 번호 · ADR, IMDG, IATA	UN1888
적정적정명 · ADR · IMDG, IATA	1888 CHLOROFORM CHLOROFORM
교통 교통 · ADR, IMDG, IATA	
	
등급 등급 · 위험 라벨라벨	6.1 독성 물질 6.1
용기 등급 · ADR, IMDG, IATA	III
환경적 유해물질:	해당사항 없음.
이 용기 특별 취급 조치 위험 위험 코드 · E 번호 번호 · Segregation groups · Stowage Category · Stowage Code	경고: 독성 물질 60 6.1-02 Liquid halogenated hydrocarbons A SW2 Clear of living quarters.
· MARPOL 73/78 (선박으로부터의 해양오염방지협약) 부속서 2 및 IBC Code (국제 선적 화물 코드)에 다른 다른 (선박) 운송 운송	해당사항 없음.

(9 쪽에 계속)

물질안전보건자료

GHS에 따라라다

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(8 쪽부터계속)

· 운송/ 추가정보

· ADR 한정수량(수량 수량)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
운송 위험분류 구분	2
터널 제한 코드	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 번호

UN 1888 CHLOROFORM, 6.1, III

15 법적 규제 현황

· 산업안전보건법에 의한 규제

체 조제 조제 금지 물질:

어떠한 내용물도 목록화 되어있지 않다

· 허가대상 물질:

어떠한 내용물도 목록화 되어있지 않다

· 관리대상 유해물질:

67-66-3 | 클로로포름

· 작업환경 측정 대상 유해인자

1A100

· 특수건강 점검 대상 유해인자

1A91

해당 해당 물질 또는 혼합물에 대한 안전보건자료 작성 의무를 법률

· Korean Existing Chemical Inventory

67-66-3	클로로포름	KE-34076
63148-65-2	Butvar-B-98 Polyvinyl Butyral Resin	KE-29059
513-35-9	2-methylbut-2-ene	KE-23587

· 화학물질관리법

· 사고대비물질

어떠한 내용물도 목록화 되어있지 않다

· 금지물질

어떠한 내용물도 목록화 되어있지 않다

· 제한물질

어떠한 내용물도 목록화 되어있지 않다

(10 쪽에계속)

물질안전보건자료

GHS에 따라라따

인쇄일자: 2020.08.19

개정: 2020.08.19

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

(10 쪽부터계속)

(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하시오.

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

16 그 밖의 참고사항

이보고는우리지식에대한 오늘날의의상태에대하여평가하고있다, 하지만 이보고서는 생산특성에 관한보 증은기술하지않았으며계약적인법률관계에기반을두고있지도않다

최초최초 **작성일자:** 2020.08.19

개정개정 **작성일자:** 1 / 2020.08.19

· **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

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 19.08.2020

Revisión: 19.08.2020

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: info@emsdiasum.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.

(se continua en página 2)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 19.08.2020

Revisión: 19.08.2020

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

(se continua en página 1)



GHS08 peligro para la salud

- Carc. 2 H351 Se sospecha que provoca cáncer.
 Repr. 2 H361d Se sospecha que daña al feto.
 STOT RE 1 H372 Provoca daños en el sistema nervioso central, los riñones, el hígado y el sistema respiratorio 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

Butvar-B-98

Polyvinyl Butyral Resin

· 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 el sistema nervioso central, los riñones, el hígado y el sistema respiratorio tras exposiciones prolongadas o repetidas

· Consejos de prudencia

P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente toda la ropa contaminada. Enjuagar la piel con agua [o ducharse].

P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Enjuagar con agua cuidadosamente durante varios minutos. Quitar las lentes de contacto cuando estén presentes y pueda hacerse con facilidad. Proseguir con el lavado.

P310 Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.

P321 Se necesita un tratamiento específico (ver en esta etiqueta).

(se continua en página 3)

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(se continua en página 2)

- P330 Enjuagarse la boca.
 P361+P364 Quitar inmediatamente todas las prendas contaminadas y lavarlas antes de volver a usarlas.
 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.

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:**

Limpia los ojos abiertos durante varios minutos con agua corriente. En caso de trastornos persistentes consultar un médico.

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

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

(se continua en página 4)

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fecha de impresión 19.08.2020

Revisión: 19.08.2020

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(se continua en página 3)

- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**
No existen más datos relevantes disponibles.

SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:** 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.
- **6.3 Métodos y material de contención y de limpieza:**
Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).
Desechar el material contaminado como vertido según ítem 13.
Asegurar suficiente ventilación.
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.

(se continua en página 5)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 19.08.2020

Revisión: 19.08.2020

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

(se continua en página 4)

· **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.

· **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

ES

(se continua en página 6)

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según 1907/2006/CE, Artículo 31

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(se continua en página 5)

SECCIÓN 9: Propiedades físicas y químicas

· 9.1 Información sobre propiedades físicas y químicas básicas

· Datos generales

· Aspecto:

Forma: Líquido

Color: Incoloro

· **Olor:** Eféreo

· **Umbral olfativo:** No determinado.

· **valor pH:** No determinado.

· Cambio de estado

Punto de fusión/punto de congelación: -63 °C

Punto inicial de ebullición e intervalo de ebullición: 62 °C

· **Punto de inflamación:** 0 °C

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

· **Temperatura de ignición:** 982 °C

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

· **Temperatura de auto-inflamación:** No determinado.

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

· Límites de explosión:

Inferior: No determinado.

Superior: No determinado.

· **Presión de vapor a 20 °C:** 210 hPa

· **Densidad a 20 °C:** 1,47807 g/cm³

· **Densidad relativa** No determinado.

· **Densidad de vapor** No determinado.

· **Tasa 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:

VOC (CE) 0,00 %

Contenido de cuerpos sólidos: 0,0 %

· **9.2 Otros datos** No existen más datos relevantes disponibles.

ES

(se continua en página 7)

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

(se continua en página 6)

SECCIÓN 10: Estabilidad y reactividad

- **10.1 Reactividad** No existen más datos relevantes disponibles.
- **10.2 Estabilidad química**
- **Descomposición térmica / condiciones que deben evitarse:**
No se descompone al emplearse adecuadamente.
- **10.3 Posibilidad de reacciones peligrosas** No se conocen reacciones peligrosas.
- **10.4 Condiciones que deben evitarse** No existen más datos relevantes disponibles.
- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda**
Nocivo en caso de ingestión.
Mortal en contacto con la piel.
Tóxico en caso de inhalación.

- **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**
Provoca irritación cutánea.
- **Lesiones o irritación ocular graves**
Provoca irritación ocular grave.
- **Sensibilización respiratoria o cutánea**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)**
- **Mutagenicidad en células germinales**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Carcinogenicidad**
Se sospecha que provoca cáncer.
- **Toxicidad para la reproducción**
Se sospecha que daña al feto.
- **Toxicidad específica en determinados órganos (STOT) – exposición única**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**
Provoca daños en el sistema nervioso central, los riñones, el hígado y el sistema respiratorio tras exposiciones prolongadas o repetidas
- **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.

(se continua en página 8)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 19.08.2020

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


(se continua en página 7)

- **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 ONU | UN1888 |
| · ADR, IMDG, IATA | |
| · 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: | No aplicable. |
| · 14.6 Precauciones particulares para los usuarios | Atención: Materias tóxicas |
| · Número de identificación de peligro (Número Kemler): | 60 |
| · Número EMS: | 6.1-02 |
| · Segregation groups | Liquid halogenated hydrocarbons |
| · Stowage Category | A |

(se continua en página 9)

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según 1907/2006/CE, Artículo 31

fecha de impresión 19.08.2020

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(se continua en página 8)

· Stowage Code	SW2 Clear of living quarters.
· 14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC	No aplicable.
· Transporte/datos adicionales:	
· ADR	
· Cantidades limitadas (LQ)	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:	UN 1888 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.
- **Categoría Seveso**
H2 TOXICIDAD AGUDA
P5c LÍQUIDOS INFLAMABLES
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior** 50 t
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior** 200 t
- **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII Restricciones:** 3, 32

· **Reglamento (UE) No 649/2012**

Annex I Part I

· **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.

(se continua en página 10)

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

(se continua en página 9)

· 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)

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LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Líquidos inflamables – Categoría 2

Acute Tox. 4: Toxicidad aguda - oral – Categoría 4

Acute Tox. 2: Toxicidad aguda - cutánea – Categoría 2

Acute Tox. 3: Toxicidad aguda - por inhalación – Categoría 3

Skin Irrit. 2: Corrosión o irritación cutáneas – Categoría 2

Eye Irrit. 2: Lesiones oculares graves o irritación ocular – Categoría 2

Carc. 2: Carcinogenicidad – Categoría 2

Repr. 2: Toxicidad para la reproducción – Categoría 2

STOT RE 1: Toxicidad específica en determinados órganos (exposiciones repetidas) – Categoría 1