

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2018

Reviewed on 08/21/2018

1 Identification

- **Product identifier**
- **Trade name:** POTASSIUM BROMIDE
- **Article number:** 20040
- **CAS Number:**
7758-02-3
- **EC number:**
231-830-3
- **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**



GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

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

- **Hazard pictograms**



GHS06 GHS07

- **Signal word** Danger

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

potassium bromide

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· **Hazard statements**

Harmful if swallowed or in contact with skin.

Toxic if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray

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.

Rinse mouth.

If on skin: Wash with plenty of water.

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

Call a poison center/doctor.

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

Continue rinsing.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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

Store locked up.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

7758-02-3 potassium bromide

· **Identification number(s)**

· **EC number:** 231-830-3

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4 First-aid measures

- **Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

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

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

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

- **After inhalation:**

Supply fresh air or oxygen; call for doctor.

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

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

- **After eye contact:**

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

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

- **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:** Use fire fighting measures that suit the environment.

· **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** Not required.

- **Environmental precautions:**

Dilute with plenty of water.

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

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

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

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

- **Protective Action Criteria for Chemicals**

- **PAC-1:**

9.2 mg/m³

- **PAC-2:**

100 mg/m³

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· **PAC-3:**610 mg/m³

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 respiratory protective device available.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:** *Keep receptacle tightly sealed.*
- **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:** *Not required.*
- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
*Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing.
 Wash hands before breaks and at the end of work.
 Store protective clothing separately.
 Avoid contact with the eyes and skin.*
- **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.*

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

- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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Trade name: POTASSIUM BROMIDE

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· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Solid
Color:	White
Odor:	Odorless
Odor threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range:	734 °C (1,353.2 °F)
Boiling point/Boiling range:	1,435 °C (2,615 °F)

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not flammable.

· Decomposition temperature: Not determined.

· Auto igniting: Not determined.

· Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapor pressure: Not determined.

· Density at 20 °C (68 °F): 2.75 g/cm³ (22.94875 lbs/gal)

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with

Water: Fully miscible.

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

· Viscosity:

Dynamic:	Not determined.
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.

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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:**
- **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:**
- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

Substance is not listed.

· NTP (National Toxicology Program)
--

Substance is not listed.

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

Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
- Water hazard class 1 (Assessment by list): slightly hazardous for water
- Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

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13 Disposal considerations

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

14 Transport information

- | | |
|--|---|
| · UN-Number | |
| · DOT, ADR, IMDG, IATA | UN3287 |
| · UN proper shipping name | |
| · DOT | Toxic liquid, inorganic, n.o.s. (potassium bromide) |
| · ADR | 3287 Toxic liquid, inorganic, n.o.s. (potassium bromide) |
| · IMDG, IATA | TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide) |
| · Transport hazard class(es) | |
| · DOT | |
| |  |
| · Class | 6.1 Toxic substances |
| · Label | 6.1 |
| · ADR, IMDG, IATA | |
| |  |
| · Class | 6.1 Toxic substances |
| · Label | 6.1 |
| · Packing group | |
| · DOT, ADR, IMDG, IATA | III |
| · Environmental hazards: | Not applicable. |
| · Special precautions for user | Warning: Toxic substances |
| · Danger code (Kemler): | 60 |
| · EMS Number: | F-A,S-A |
| · 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. |

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· Transport/Additional information:

· DOT

· Quantity limitations

On passenger aircraft/rail: 60 L

On cargo aircraft only: 220 L

· ADR

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· IMDG

· Limited quantities (LQ)

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· UN "Model Regulation":

UN 3287 TOXIC LIQUID, INORGANIC, N.O.S. (POTASSIUM BROMIDE), 6.1, III

15 Regulatory information

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

· Sara

· Section 355 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is not listed.

· TSCA (Toxic Substances Control Act):

Substance is listed.

· Proposition 65

· Chemicals known to cause cancer:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for males:

Substance is not listed.

· Chemicals known to cause developmental toxicity:

Substance is not listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

Substance is not listed.

· TLV (Threshold Limit Value established by ACGIH)

Substance is not listed.

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

Substance is not listed.

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

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Trade name: POTASSIUM BROMIDE

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· **Hazard pictograms**



GHS06 GHS07

· **Signal word** *Danger*

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

potassium bromide

· **Hazard statements**

Harmful if swallowed or in contact with skin.

Toxic if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapors/spray

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.

Rinse mouth.

If on skin: Wash with plenty of water.

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

Call a poison center/doctor.

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

Continue rinsing.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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

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** 08/21/2018 / -

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

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)

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*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**Acute Tox. 4: Acute toxicity – Category 4**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**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3*

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Safety Data Sheet

according to WHS Regulations

Printing date 21.08.2018

Revision: 21.08.2018

1 Identification

- **Product identifier**
- **Trade name:** POTASSIUM BROMIDE
- **Article number:** 20040
- **CAS Number:**
7758-02-3
- **EC number:**
231-830-3
- **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**



GHS06 skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**
- **GHS label elements**

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

- **Hazard pictograms**



GHS06 GHS07

- **Signal word** *Danger*

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

potassium bromide

- **Hazard statements**

Harmful if swallowed.

Harmful in contact with skin.

Toxic if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

- **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

Rinse mouth.

IF ON SKIN: Wash with plenty of water.

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

Call a POISON CENTER/doctor.

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

Continue rinsing.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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

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**

7758-02-3 potassium bromide

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- **Identification number(s)**
- **EC number:** 231-830-3

4 First Aid Measures

- **Description of first aid measures**
- **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Remove breathing equipment only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
Supply fresh air or oxygen; call for doctor.
In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
Rinse opened eye for several minutes under running water. 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:** Use fire extinguishing methods suitable to surrounding conditions.
- **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** Not required.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

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7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**
*Ensure good ventilation/exhaustion at the workplace.
 Open and handle receptacle with care.
 Prevent formation of aerosols.*
- **Information about fire - and explosion protection:** *Keep respiratory protective device available.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:** *Keep container tightly sealed.*
- **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:** *Not required.*
- **Additional information:** *The lists valid during the making were used as basis.*
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
*Keep away from foodstuffs, beverages and feed.
 Immediately remove all soiled and contaminated clothing
 Wash hands before breaks and at the end of work.
 Store protective clothing separately.
 Avoid contact with the eyes and skin.*
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.*

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

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

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

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Trade name: POTASSIUM BROMIDE

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· Eye protection:



Tightly sealed goggles

9 Physical and Chemical Properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Solid
Colour:	White
Odour:	Odourless
Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/freezing point:	734 °C
Initial boiling point and boiling range:	1,435 °C

· Flash point: Not applicable.

· Flammability (solid, gas): Not applicable.

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Not determined.

· Explosive properties: Product does not present an explosion hazard.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapour pressure: Not determined.

Density at 20 °C:	2.75 g/cm ³
Relative density	Not determined.
Vapour density	Not determined.
Evaporation rate	Not determined.

· Solubility in / Miscibility with water: Fully miscible.

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

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

VOC (EC) 0.00 %

Solids content: 0.0 %

· Other information: No further relevant information available.

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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**
- **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.

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 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

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

AU

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Safety Data Sheet

according to WHS Regulations


Printing date 21.08.2018

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Trade name: **POTASSIUM BROMIDE**

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14 Transport information

<ul style="list-style-type: none"> · UN-Number · ADG, IMDG, IATA 	UN3287
<ul style="list-style-type: none"> · UN proper shipping name · ADG · IMDG, IATA 	3287 TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide) TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide)
<ul style="list-style-type: none"> · Transport hazard class(es) · ADG, IMDG, IATA 	<div style="text-align: center;">  </div>
<ul style="list-style-type: none"> · Class · Label 	6.1 Toxic substances. 6.1
<ul style="list-style-type: none"> · Packing group · ADG, IMDG, IATA 	III
<ul style="list-style-type: none"> · Environmental hazards: 	Not applicable.
<ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category · Stowage Code 	Warning: Toxic substances. 60 F-A,S-A A SW2 Clear of living quarters.
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of Marpol and the IBC Code 	Not applicable.
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · ADG · Limited quantities (LQ) · Excepted quantities (EQ) 	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
<ul style="list-style-type: none"> · Transport category · Tunnel restriction code 	2 E
<ul style="list-style-type: none"> · 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
<ul style="list-style-type: none"> · UN "Model Regulation": 	UN 3287 TOXIC LIQUID, INORGANIC, N.O.S. (POTASSIUM BROMIDE), 6.1, III

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Safety Data Sheet

according to WHS Regulations

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Trade name: **POTASSIUM BROMIDE**

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15 Regulatory information

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

· *Australian Inventory of Chemical Substances*

Substance is listed.

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

S4

· *GHS label elements*

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

· *Hazard pictograms*



GHS06 GHS07

· *Signal word Danger*

· *Hazard-determining components of labelling:*

potassium bromide

· *Hazard statements*

Harmful if swallowed.

Harmful in contact with skin.

Toxic if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

· *Precautionary statements*

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

Rinse mouth.

IF ON SKIN: Wash with plenty of water.

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

Call a POISON CENTER/doctor.

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

Continue rinsing.

Specific treatment (see on this label).

Take off contaminated clothing and wash it before reuse.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

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

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.*

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

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Safety Data Sheet

according to WHS Regulations

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Trade name: POTASSIUM BROMIDE

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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

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

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

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

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

AU

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2018

Reviewed on 08/21/2018

1 Identification

- **Product identifier**
- **Trade name:** POTASSIUM BROMIDE
- **Article number:** 20040
- **CAS Number:**
7758-02-3
- **EC number:**
231-830-3
- **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**



GHS06 Skull and crossbones

Acute Toxicity (Inhalation) - Category 3

H331 Toxic if inhaled.



GHS07

Acute Toxicity (Oral) - Category 4

H302 Harmful if swallowed.

Acute Toxicity (Dermal) – Category 4

H312 Harmful in contact with skin.

Skin Irritation - Category 2

H315 Causes skin irritation.

Eye Irritation - Category 2A

H319 Causes serious eye irritation.

Specific Target Organ Toxicity - Single Exposure -
Category 3

H335 May cause respiratory irritation.

- **Label elements**

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

- **Hazard pictograms**



GHS06



GHS07

- **Signal word** Danger

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

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Safety Data Sheet

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Trade name: POTASSIUM BROMIDE

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· **Hazard statements**

Harmful if swallowed or in contact with skin.

Toxic if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

Rinse mouth.

If on skin: Wash with plenty of water.

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

Call a poison center/doctor.

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

Continue rinsing.

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.

Take off immediately all contaminated clothing.

Wash contaminated clothing before reuse.

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

Store locked up.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

7758-02-3 potassium bromide

· **Identification number(s)**

· **EC number:** 231-830-3

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Trade name: POTASSIUM BROMIDE

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4 First-aid measures

- **Description of first aid measures**
- **General information:**
 Immediately remove any clothing soiled by the product.
 Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
 Remove breathing apparatus only after contaminated clothing have been completely removed.
 In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
 Supply fresh air or oxygen; call for doctor.
 In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:**
 Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately call a doctor.
- **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:** Use fire fighting measures that suit the environment.
- **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** Not required.
- **Environmental precautions:**
 Dilute with plenty of water.
 Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
 Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 Dispose contaminated material as waste according to item 13.
 Ensure adequate ventilation.
- **Reference to other sections**
 See Section 7 for information on safe handling.
 See Section 8 for information on personal protection equipment.
 See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
 Ensure good ventilation/exhaustion at the workplace.
 Open and handle receptacle with care.
 Prevent formation of aerosols.

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Safety Data Sheet

acc. to OSHA HCS

Printing date 08/21/2018

Reviewed on 08/21/2018

Trade name: POTASSIUM BROMIDE

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- **Information about protection against explosions and fires:** *Keep respiratory protective device available.*
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** *No special requirements.*
- **Information about storage in one common storage facility:** *Not required.*
- **Further information about storage conditions:** *Keep receptacle tightly sealed.*
- **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:** *Not required.*
- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
 - Keep away from foodstuffs, beverages and feed.*
 - Immediately remove all soiled and contaminated clothing.*
 - Wash hands before breaks and at the end of work.*
 - Store protective clothing separately.*
 - Avoid contact with the eyes and skin.*
- **Breathing equipment:**
 - In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.*
- **Protection of hands:**



Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.*

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

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

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Trade name: POTASSIUM BROMIDE

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9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form:	Solid
Color:	White
Odor:	Odorless
Odor threshold:	Not determined.

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

- **Change in condition**

Melting point/Melting range:	734 °C
Boiling point/Boiling range:	1,435 °C

- **Flash point:** Not applicable.

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

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Not determined.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

- **Vapor pressure:** Not determined.

Density at 20 °C:	2.75 g/cm ³
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.

- **Solubility in / Miscibility with**

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

- **Viscosity:**

Dynamic:	Not determined.
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.

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acc. to OSHA HCS

Printing date 08/21/2018

Reviewed on 08/21/2018

Trade name: POTASSIUM BROMIDE

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

11 Toxicological information

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

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

Substance is not listed.

· **NTP (National Toxicology Program)**

Substance is not listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

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

14 Transport information

- **UN-Number**
- **DOT, TDG, IMDG, IATA** UN3287

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Trade name: **POTASSIUM BROMIDE**

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· **UN proper shipping name**
 · **DOT** Toxic liquid, inorganic, n.o.s. (potassium bromide)
 · **TDG** 3287 Toxic liquid, inorganic, n.o.s. (potassium bromide)
 · **IMDG, IATA** TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide)

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

· **Class** 6.1 Toxic substances
 · **Label** 6.1
 · **TDG, IMDG, IATA**



· **Class** 6.1 Toxic substances
 · **Label** 6.1

· **Packing group**· **DOT, TDG, IMDG, IATA** III· **Environmental hazards:** Not applicable.

· **Special precautions for user** Warning: Toxic substances
 · **Danger code (Kemler):** 60
 · **EMS Number:** F-A,S-A
 · **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**

· **Quantity limitations** On passenger aircraft/rail: 60 L
 On cargo aircraft only: 220 L

· **TDG**

· **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 3287 TOXIC LIQUID, INORGANIC, N.O.S. (POTASSIUM BROMIDE), 6.1, III

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Safety Data Sheet

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Printing date 08/21/2018

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Trade name: **POTASSIUM BROMIDE**

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15 Regulatory information

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

· **Sara**

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

Substance is not listed.

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

Substance is not listed.

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

Substance is listed.

· **Canadian substance listings:**

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

Substance is listed.

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

Substance is listed.

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

Substance is not listed.

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

· **Hazard pictograms**



GHS06 GHS07

· **Signal word** *Danger*

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

potassium bromide

· **Hazard statements**

Harmful if swallowed or in contact with skin.

Toxic if inhaled.

Causes skin irritation.

Causes serious eye irritation.

May cause respiratory irritation.

· **Precautionary statements**

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

Rinse mouth.

If on skin: Wash with plenty of water.

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

Call a poison center/doctor.

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

Continue rinsing.

Take off contaminated clothing and wash it before reuse.

Specific measures (see on this label).

If skin irritation occurs: Get medical advice/attention.

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Trade name: POTASSIUM BROMIDE

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If eye irritation persists: Get medical advice/attention.

Take off immediately all contaminated clothing.

Wash contaminated clothing before reuse.

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

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** 08/21/2018 / -

· **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

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

CA

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

Printing date 21.08.2018

Revision: 21.08.2018

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

- **1.1 Product identifier**
- **Trade name:** POTASSIUM BROMIDE
- **Article number:** 20040
- **CAS Number:**
7758-02-3
- **EC number:**
231-830-3
- **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**



GHS07

Acute Tox. 4 H302 Harmful if swallowed.
 Acute Tox. 4 H312 Harmful in contact with skin.
 Acute Tox. 4 H332 Harmful if inhaled.
 Skin Irrit. 2 H315 Causes skin irritation.
 Eye Irrit. 2 H319 Causes serious eye irritation.
 STOT SE 3 H335 May cause respiratory 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**



GHS07

- **Signal word** Warning
- **Hazard-determining components of labelling:**
potassium bromide

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Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 21.08.2018

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Trade name: POTASSIUM BROMIDE

(Contd. of page 1)

· Hazard statements*H302+H312+H332 Harmful if swallowed, in contact with skin or if inhaled.**H315 Causes skin irritation.**H319 Causes serious eye irritation.**H335 May cause respiratory irritation.***· Precautionary statements***P261 Avoid breathing dust/fume/gas/mist/vapours/spray.**P280 Wear protective gloves/protective clothing/eye protection/face protection.**P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.**P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**P405 Store locked up.**P501 Dispose of contents/container in accordance with local/regional/national/international regulations.***· 2.3 Other hazards****· Results of PBT and vPvB assessment****· PBT:** Not applicable.**· vPvB:** Not applicable.**SECTION 3: Composition/information on ingredients****· 3.1 Chemical characterisation: Substances****· CAS No. Description***7758-02-3 potassium bromide***· Identification number(s)****· EC number:** 231-830-3**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:** *Use fire extinguishing methods suitable to surrounding conditions.*

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

Printing date 21.08.2018

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Trade name: **POTASSIUM BROMIDE**

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- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Not required.
- **6.2 Environmental precautions:**
 - Dilute with plenty of water.
 - Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
 - Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
 - Dispose contaminated material as waste according to item 13.
 - Ensure adequate ventilation.
- **6.4 Reference to other sections**
 - See Section 7 for information on safe handling.
 - See Section 8 for information on personal protection equipment.
 - See Section 13 for disposal information.

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 respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
 - **Requirements to be met by storerooms and receptacles:** No special requirements.
 - **Information about storage in one common storage facility:** Not required.
 - **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **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.

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· 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:	Solid
Colour:	White
· Odour:	Odourless
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/freezing point:	734 °C
Initial boiling point and boiling range:	1,435 °C

· Flash point: Not applicable.

· Flammability (solid, gas): Not applicable.

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Not determined.

· Explosive properties: Product does not present an explosion hazard.

· Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapour pressure: Not determined.

· Density at 20 °C:	2.75 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.

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· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
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.
- **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, in contact with skin or if inhaled.
- **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** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.

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- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

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

SECTION 14: Transport information

- | | |
|--|--|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA | UN3287 |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG, IATA | 3287 TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide)
TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide) |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR, IMDG, IATA | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | 6.1 Toxic substances.
6.1 |
| <ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA | III |
| <ul style="list-style-type: none"> · 14.5 Environmental hazards: | Not applicable. |
| <ul style="list-style-type: none"> · 14.6 Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category · Stowage Code | Warning: Toxic substances.
60
F-A,S-A
A
SW2 Clear of living quarters. |
| <ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |

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· Transport/Additional information:**· ADR**

- **Limited quantities (LQ)** 5L
- **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
- **Transport category** 2
- **Tunnel restriction code** E

· 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 3287 TOXIC LIQUID, INORGANIC, N.O.S. (POTASSIUM BROMIDE), 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.**
- **REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3**
- **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.

· 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
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 VOC: Volatile Organic Compounds (USA, EU)
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

GB

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ODJELJAK 1: Identifikacija tvari/smjese i podaci o tvrtki/poduzeću

- **1.1 Identifikacijska oznaka proizvoda**
- **Naziv proizvoda: POTASSIUM BROMIDE**
- **Šifra proizvoda: 20040**
- **CAS-broj:**
7758-02-3
- **EK broj:**
231-830-3
- **1.2 Relevantne identificirane uporabe tvari ili smjese i uporabe koje se ne preporučuju**
Nema daljnjih bitnih informacija na raspolaganju.
- **Uporaba tvari/pripravaka kemikalije za laboratorij**
- **1.3 Podaci o dobavljaču koji isporučuje sigurnosno-tehnički list**
- **Proizvođač/uvoznik/distributer:**
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
- **Daljnje informacije se mogu nabaviti: Product safety department**
- **1.4 Broj telefona za izvanredna stanja**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

ODJELJAK 2: Identifikacija opasnosti

- **2.1 Razvrstavanje tvari ili smjese**
- **Razvrstavanje u skladu s Uredbom (EZ) br. 1272/2008**



GHS07

Acute Tox. 4 H302 Štetno ako se proguta.
 Acute Tox. 4 H312 Štetno u dodiru s kožom.
 Acute Tox. 4 H332 Štetno ako se udiše.
 Skin Irrit. 2 H315 Nadražuje kožu.
 Eye Irrit. 2 H319 Uzrokuje jako nadraživanje oka.
 STOT SE 3 H335 Može nadražiti dišni sustav.

- **2.2 Elementi označavanja**
- **Označivanje sukladno Uredbi (EG) br. 1272/2008**
Tvar je razvrstana i označena sukladno Uredbi o razvrstavanju, označavanju i pakiranju.
- **Piktogrami opasnosti**



GHS07

- **Oznaka opasnosti Upozorenje**
- **Oznake koje označavaju opasnost:**
potassium bromide

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- **Oznake upozorenja**

H302+H312+H332 Štetno ako se proguta, u dodiru s kožom ili ako se udiše.

H315 Nadražuje kožu.

H319 Uzrokuje jako nadraživanje oka.

H335 Može nadražiti dišni sustav.

- **Oznake obavijesti**

P261 Izbjegavati udisanje prašine/dima/plina/maglice/pare/aerosola.

P280 Nositi zaštitne rukavice/zaštitnu odjeću/zaštitu za oči/zaštitu za lice.

P301+P312 **AKO SE PROGUTA:** u slučaju zdravstvenih tegoba nazvati **CENTAR ZA KONTROLU OTROVANJA/lijječnika.**

P305+P351+P338 **U SLUČAJU DODIRA S OČIMA:** oprezno ispirati vodom nekoliko minuta. Ukloniti kontaktne leće ukoliko ih nosite i ako se one lako uklanjaju. Nastaviti ispiranje.

P405 Skladištiti pod ključem.

P501 Odložite sadržaje /spremnike u skladu s lokalnim/regionalnim/nacionalnim/međunarodnim odredbama.

- **2.3 Ostale opasnosti**

- **Rezultati PBT- i vPvB procjena**

- **PBT:** Ne primjenjuje se.

- **vPvB:** Ne primjenjuje se.

ODJELJAK 3: Sastav/informacije o sastojcima

- **3.1 Kemijska svojstva: Tvari**

- **CAS-brojčana oznaka**

7758-02-3 potassium bromide

- **Identifikacijski broj(evi)**

- **EK broj:** 231-830-3

ODJELJAK 4: Mjere prve pomoći

- **4.1 Opis mjera prve pomoći**

- **Opće upute:**

Odjeću koja je onečišćena proizvodom, odmah ukloniti.

Simptomi trovanja mogu se pojaviti nakon dužeg vremena, stoga je potreban liječnički nadzor od najmanje 48 sati nakon nezgode.

Zaštitu disanja skinuti tek onda, kada su uklonjeni onečišćeni dijelovi odjeće.

U slučaju nepravilnog disanja ili prestanka disanja umjetno disanje.

- **Nakon udisanja:**

Omogućiti dotok svježeg zraka ili kisika; potražiti liječničku pomoć.

U besvijesnom stanju ležanje i transport u stabilnom bočnom položaju.

- **Nakon dodira s kožom:** Odmah oprati vodom i sapunom te dobro isprati.

- **Nakon dodira s očima:**

Isprati oči tekućom vodom nekoliko minuta. Oči prilikom ispiranja moraju biti otvorene. U slučaju trajnih smetnji savjetovati se s liječnikom.

- **Nakon gutanja:** Odmah potražiti liječnika.

- **4.2 Najvažniji simptomi i učinci, akutni i odgođeni** Nema daljnjih bitnih informacija na raspolaganju.

- **4.3 Navod o slučaju potrebe za hitnom liječničkom pomoći i posebnom obradom**

Nema daljnjih bitnih informacija na raspolaganju.

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ODJELJAK 5: Mjere gašenja požara

- **5.1 Sredstva za gašenje**
- **Prikladna:** Uskladiti mjere gašenja požara s okolinom.
- **5.2 Posebne opasnosti koje proizlaze iz tvari ili smjese** Nema daljnjih bitnih informacija na raspolaganju.
- **5.3 Savjeti za gasitelje požara**
- **Posebna oprema za zaštitu vatrogasaca:** Stavite uređaj za zaštitu disanja.

ODJELJAK 6: Mjere kod slučajnog ispuštanja

- **6.1 Osobne mjere opreza, zaštitna oprema i postupci za izvanredna stanja** Nepotrebno
- **6.2 Mjere zaštite okoliša**
Razrijediti s mnogo vode.
Ne smije dospjeti u kanalizaciju/površinske vode/podzemne vode.
- **6.3 Metode i materijal za sprječavanje širenja i čišćenje**
Pokupiti pomoću materijala koji vežu tekućinu na sebe (pijesak, kremenca zemlja, vezivo kiselina, univerzalna veziva, piljevina).
Kontaminirani materijal zbrinuti kao otpad prema točki 13.
Voditi brigu da bude dostatno provjetreno.
- **6.4 Uputa na druge odjeljke**
Informacije o sigurnom rukovanje vidi poglavlje 7.
Informacije o osobnoj zaštitnoj opremi vidi poglavlje 8.
Informacije o zbrinjavanju vidi poglavlje 13.

ODJELJAK 7: Rukovanje i skladištenje

- **7.1 Mjere opreza za sigurno rukovanje**
Voditi brigu o dobroj provjetrenosti/isisavanju na radnom mjestu.
Oprezno otvarati spremnike i rukovati istima.
Izbjegavati nastajanje aerosola.
- **Upute za zaštitu od požara i eksplozije:** Imati u pripravi uređaje za zaštitu disanja.
- **7.2 Uvjeti sigurnog skladištenja, uzimajući u obzir moguće inkompatibilnosti**
- **Skladištenje:**
- **Zahjevi koje skladišni prostori i spremnici moraju ispunjavati:** Nema posebnih zahtjeva.
- **Upute za zajedničko skladištenje:** Nepotrebno.
- **Dodatne informacije o uvjetima skladištenja:** Spremnici moraju biti nepropustno zatvoreni.
- **7.3 Posebna krajnja uporaba ili uporabe** Nema daljnjih bitnih informacija na raspolaganju.

ODJELJAK 8: Nadzor nad izloženošću/osobna zaštita

- **Dodatne upute za oblikovanje tehničkih sustava:** Nema daljnjih podataka, vidi točka 7.
- **8.1 Nadzorni parametri**
- **Nadzor izloženosti na radnom mjestu:** Nije potrebno.
- **Dodatne informacije:** Kao osnova su služili popisi, koji su bili važeći u trenutku izrade.
- **8.2 Nadzor nad izloženošću**
- **Mjere osobne zaštite:**
- **Opće zaštitne i higijenske mjere:**
Držati dalje od živežnih namirnica, pića i krme.
Odmah skinuti zamazanu i tekućinom natopljenu odjeću.
Prije pauze i kraja radnog vremena oprati ruke.

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Zaštitnu odjeću čuvati odvojeno.

Izbjegavati dodir s očima i kožom.

· Zaštita organa za disanje:

Prilikom kratkotrajnog ili neznatnog opterećenja koristiti uređaj za disanje s filtrom; u slučaju intenzivnog, odnosno dužeg izlaganja koristiti uređaj za zaštitu disanja koji je neovisan od okolnog zraka.

· Zaštita ruku:



Zaštitne rukavice

Materijal za rukavice mora biti nepropustan i postojan na proizvod / tvar /pripravak.

S obzirom da nema ispitivanja, ne može se dati preporuka za materijal za rukavice za proizvod / pripremu / mješavinu kemikalija.

Kod odabira materijala za rukavice obratiti pozornost na vrijeme perforacije materijala, stupanj permeacije i degradaciju.

· Materijal za rukavice

Odabir prikladnih rukavica ovisi ne samo o materijalu, već i o drugim obilježjima kvalitete i različit je od proizvođača do proizvođača.

· Vrijeme prodiranja materijala za rukavice

Točno vrijeme perforacije materijala može se saznati kod proizvođača zaštitnih rukavica i treba ga se pridržavati.

· zaštita očiju:



Zaštitne naočale, koje nepropustno naliježu

ODJELJAK 9: Fizikalna i kemijska svojstva

· 9.1 Informacije o osnovnim fizikalnim i kemijskim svojstvima

· Opće informacije

· Izgled:

Oblik: Čvrst

Boja: Bijel

· Miris: Bez mirisa

· Prag mirisa: Nije određeno.

· pH vrijednost: Nije određeno.

· Promjena stanja

Talište/ledište: 734 °C

Početno vrelište i raspon vrenja: 1.435 °C

· Plamište: Nije primjenjiv.

· Zapaljivost (kruta tvar, plin): Nije primjenjiv.

· Temperatura raspada: Nije određeno.

· Temperatura samozapaljenja: Nije određeno.

· Eksplozivna svojstva: Ne postoji opasnost od eksplozije proizvoda.

· Granice eksplozivnosti:

Donja: Nije određeno.

Gornja: Nije određeno.

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· Plak pare:	Nije određeno.
· Gustoća kod 20 °C:	2,75 g/cm ³
· Relativna gustoća	Nije određeno.
· Gustoća pare	Nije određeno.
· Brzina isparavanja	Nije određeno.
· Topivost u / Miješanje s vodom:	Može se u potpunosti miješati.
· Koeficijent raspodjele: n-oktanol/voda:	Nije određeno.
· Viskoznost:	
· dinamička:	Nije određeno.
· kinematička:	Nije određeno.
· Koncentracija otapala:	
· Sadržaj hlapivog	0,00 %
· Koncentracija čvrstog tijela:	0,0 %
· 9.2 Ostale informacije	Nema daljnjih bitnih informacija na raspolaganju.

ODJELJAK 10: Stabilnost i reaktivnost

- **10.1 Reaktivnost** Nema daljnjih bitnih informacija na raspolaganju.
- **10.2 Kemijska stabilnost**
- **Termičko raspadanje / Uvjeti koje treba izbjegavati:** Ne rastvara se kod predviđene uporabe.
- **10.3 Mogućnost opasnih reakcija** Nisu poznate opasne reakcije.
- **10.4 Uvjeti koje treba izbjegavati** Nema daljnjih bitnih informacija na raspolaganju.
- **10.5 Inkompatibilni materijali** Nema daljnjih bitnih informacija na raspolaganju.
- **10.6 Opasni proizvodi raspadanja** Nisu poznati nikakvi opasni proizvodi rastvaranja.

ODJELJAK 11: Toksikološke informacije

- **11.1 Informacije o toksikološkim učincima**
- **Akutna toksičnost**
Štetno ako se proguta, u dodiru s kožom ili ako se udiše.
- **Primarno nadražujuće djelovanje:**
- **Nagrizanje/nadraživanje kože**
Nadražuje kožu.
- **Ozbiljno oštećenje/nadraživanje očiju**
Uzrokuje jako nadraživanje oka.
- **Izazivanje preosjetljivosti dišnih putova ili kože**
Temeljem dostupnih podataka razvidno je da nisu ispunjeni kriteriji za razvrstavanje.
- **Informacije o sljedećim grupama potencijalnih učinaka:**
- **CMR djelovanje (kancerogeno, mutageno i za reproduktivni sistem toksično djelovanje)**
- **Mutageni učinak na spolne stanice**
Temeljem dostupnih podataka razvidno je da nisu ispunjeni kriteriji za razvrstavanje.
- **Karcinogenost** Temeljem dostupnih podataka razvidno je da nisu ispunjeni kriteriji za razvrstavanje.
- **Reproduktivna toksičnost** Temeljem dostupnih podataka razvidno je da nisu ispunjeni kriteriji za razvrstavanje.
- **TCO – jednokratno izlaganje**
Može nadražiti dišni sustav.
- **TCO – ponavljano izlaganje**
Temeljem dostupnih podataka razvidno je da nisu ispunjeni kriteriji za razvrstavanje.

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· **Opasnost od aspiracije** Temeljem dostupnih podataka razvidno je da nisu ispunjeni kriteriji za razvrstavanje.**ODJELJAK 12: Ekološke informacije**

- **12.1 Toksičnost**
- **Akvatična toksičnost:** Nema daljnjih bitnih informacija na raspolaganju.
- **12.2 Postojanost i razgradivost** Nema daljnjih bitnih informacija na raspolaganju.
- **12.3 Bioakumulacijski potencijal** Nema daljnjih bitnih informacija na raspolaganju.
- **12.4 Pokretljivost u tlu** Nema daljnjih bitnih informacija na raspolaganju.
- **Daljnje ekološke upute:**
- **Opće upute:**
Klasa zagađenja vode 1 (Uvrštenje na popis): slabo zagađuje vodu
Ne dopustiti da nerazrijeđen, odn. u većim količinama dopije u podzemene vode, vodu ili kanalizaciju.
- **12.5 Rezultati ocjenjivanja svojstava PBT i vPvB**
- **PBT:** Nije primjenjiv.
- **vPvB:** Nije primjenjiv.
- **12.6 Ostali štetni učinci** Nema daljnjih bitnih informacija na raspolaganju.

ODJELJAK 13: Zbrinjavanje

- **13.1 Metode obrade otpada**
- **Preporuka:** Ne smije se zbrinjavati zajedno s komunalnim otpadom. Ne smije dospjeti u kanalizaciju.
- **Onečišćena ambalaža:**
- **Preporuka:** Odlaganje shodno propisima nadležnih organa.
- **Preporučljivo sredstvo za čišćenje:** Voda, u datom slučaju uz dodatak sredstava za čišćenje.

ODJELJAK 14: Informacije o prijevozu

- | | |
|---|--|
| · 14.1 UN broj | |
| · ADR, IMDG, IATA | UN3287 |
| · 14.2 Pravilno otpremno ime prema UN-u | |
| · ADR | 3287 OTROVNA TEKUĆINA, ANORGANSKA, N.D.N.
(potassium bromide) |
| · IMDG, IATA | TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide) |
| · 14.3 Razred(i) opasnosti pri prijevozu | |
| · ADR, IMDG, IATA | |
|  | |
| · klasa | 6.1 otrovne tvari |
| · Popis opasnosti | 6.1 |
| · 14.4 Skupina pakiranja | |
| · ADR, IMDG, IATA | III |
| · 14.5 Opasnosti za okoliš | Nije primjenjiv. |

(Nastavak na strani 7)

Sigurnosno-tehnički list
U skladu s 1907/2006/EU, članak 31

Nadnevak tiska: 21.08.2018

Revizija: 21.08.2018

Naziv proizvoda: **POTASSIUM BROMIDE**

(Nastavak sa strane 6)

· 14.6 Posebne mjere opreza za korisnika	Upozorenje: otrovne tvari
· Kemler-broj:	60
· EMS-broj:	F-A,S-A
· Stowage Category	A
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Prijevoz u razlišenom stanju u skladu s Prilogom II. Konvenciji MARPOL i Kodeksom IBC	Nije primjenjiv.
· Transport/daljnji podaci:	
· ADR	
· Ograničene količine	5L
· Izuzete količine (EQ)	Oznaka: E1 Najveća neto količina po unutrašnjem pakovanju: 30 ml Najveća neto količina po vanjskom pakovanju: 1000 ml
· Prijevozna kategorija	2
· Tunelska restriksijska oznaka	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 "Regulacija modela":	UN 3287 OTROVNA TEKUĆINA, ANORGANSKA, N.D.N. (POTASSIUM BROMIDE), 6.1, III

ODJELJAK 15: Informacije o propisima

- **15.1 Propisi u području sigurnosti, zdravlja i okoliša/posebni propisi za tvar ili smjesu**
- **Direktiva 2012/18/EU**
- **Imena opasnih tvari – PRILOG I** Ne sadrži materijal.
- **UREDBA (EZ) br. 1907/2006 PRILOG XVII.** Uvjeti ograničenja: 3
- **15.2 Procjena kemijske sigurnosti** Nije izvršena procjena sigurnosti tvari.

ODJELJAK 16: Ostale informacije

Podaci počivaju na današnjoj razini naših znanja, međutim ne predstavljaju nikakvo jamstvo o osobinama materijala i ne zasnivaju nikakav ugovorni pravni odnos.

- **Skraćenice i kratice:**

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

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

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Akutna toksičnost – 4. kategorija

Skin Irrit. 2: Nagrizanje/nadraživanje za kožu – Kategorija 2

Eye Irrit. 2: Teške ozljede oka/nadražujuće za oko – 2. kategorija

STOT SE 3: Specifična toksičnost za ciljane organe (jednokratno izlaganje) – 3. kategorija

Bezpečnostní list

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ODDÍL 1: Identifikace látky/směsi a společnosti/podniku

- **1.1 Identifikátor výrobku**
- **Obchodní označení:** POTASSIUM BROMIDE
- **Číslo výrobku:** 20040
- **Číslo CAS:**
7758-02-3
- **Číslo ES:**
231-830-3
- **1.2 Příslušná určená použití látky nebo směsi a nedoporučená použití**
Další relevantní informace nejsou k dispozici.
- **Použití látky / přípravku** Laboratorní chemikálie
- **1.3 Podrobné údaje o dodavateli bezpečnostního listu**
- **Identifikace výrobce/dovozce:**
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
- **Obor poskytující informace:** Product safety department
- **1.4 Telefonní číslo pro naléhavé situace:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

ODDÍL 2: Identifikace nebezpečnosti

- **2.1 Klasifikace látky nebo směsi**
- **Klasifikace v souladu s nařízením (ES) č. 1272/2008**



GHS07

Acute Tox. 4 H302 Zdraví škodlivý při požití.
 Acute Tox. 4 H312 Zdraví škodlivý při styku s kůží.
 Acute Tox. 4 H332 Zdraví škodlivý při vdechování.
 Skin Irrit. 2 H315 Dráždí kůži.
 Eye Irrit. 2 H319 Způsobuje vážné podráždění očí.
 STOT SE 3 H335 Může způsobit podráždění dýchacích cest.

- **2.2 Prvky označení**
- **Označování v souladu s nařízením (ES) č. 1272/2008** Látka je klasifikována a označena podle nařízení CLP.
- **Výstražné symboly nebezpečnosti**



GHS07

- **Signální slovo** Varování
- **Nebezpečné komponenty k etiketování:**
potassium bromide
- **Standardní věty o nebezpečnosti**
H302+H312+H332 Zdraví škodlivý při požití, při styku s kůží a při vdechování.

(pokračování na straně 2)

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(pokračování strany 1)

- H315 Dráždí kůži.
 H319 Způsobuje vážné podráždění očí.
 H335 Může způsobit podráždění dýchacích cest.
- **Pokyny pro bezpečné zacházení**
 - P261 Zamezte vdechování prachu/dýmu/plynu/mlhy/par/aerosolů.
 - P280 Používejte ochranné rukavice/ochranný oděv/ochranné brýle/obličejový štít.
 - P301+P312 **PŘI POŽITÍ:** Necítíte-li se dobře, volejte **TOXIKOLOGICKÉ INFORMAČNÍ STŘEDISKO/** lékaře.
 - P305+P351+P338 **PŘI ZASAŽENÍ OČÍ:** Několik minut opatrně vyplachujte vodou. Vyjměte kontaktní čočky, jsou-li nasazeny a pokud je lze vyjmout snadno. Pokračujte ve vyplachování.
 - P405 Skladujte uzamčené.
 - P501 Obsah/nádobu likvidujte v souladu s místními/regionálními/národními/mezinárodními předpisy.
- **2.3 Další nebezpečnost**
 - **Výsledky posouzení PBT a vPvB**
 - **PBT:** Nedá se použít.
 - **vPvB:** Nedá se použít.

ODDÍL 3: Složení/informace o složkách

- **3.1 Chemická charakteristika: Látky**
- **Číslo CAS:**
7758-02-3 potassium bromide
- **Identifikační číslo(čísla)**
- **Číslo ES:** 231-830-3

ODDÍL 4: Pokyny pro první pomoc

- **4.1 Popis první pomoci**
- **Všeobecné pokyny:**
Neprodleně odstranit části oděvů znečištěné produktem.
Příznaky otravy se mohou projevit až po mnoha hodinách, proto je nutný lékařský dohled nejméně 48 hodin po nehodě.
Ochranu dýchání odstranit teprve po odstranění znečištěných částí oděvu.
Při nepravidelném dechu nebo zástavě dechu provést umělé dýchání.
- **Při nadýchání:**
Přívod čerstvého vzduchu nebo kyslíku; vyhledat lékařskou pomoc.
Při bezvědomí uložit a přepravit ve stabilní poloze na boku.
- **Při styku s kůží:** Ihned omýt vodou a mýdlem a dobře opláchnout.
- **Při zasažení očí:**
Oči s otevřenými víčky vyplachovat po více minut proudem tekoucí vody. Při přetrvávajících potížích se poradit s lékařem.
- **Při požití:** Ihned vyhledat lékaře.
- **4.2 Nejdůležitější akutní a opožděné symptomy a účinky** Další relevantní informace nejsou k dispozici.
- **4.3 Pokyn týkající se okamžité lékařské pomoci a zvláštního ošetření**
Další relevantní informace nejsou k dispozici.

ODDÍL 5: Opatření pro hašení požáru

- **5.1 Hasiva**
- **Vhodná hasiva:** Způsob hašení přizpůsobit podmínkám v okolí.

(pokračování na straně 3)

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- **5.2 Zvláštní nebezpečnost vyplývající z látky nebo směsi** Další relevantní informace nejsou k dispozici.
- **5.3 Pokyny pro hasiče**
- **Zvláštní ochranné prostředky pro hasiče:** Použít ochranný dýchací přístroj.

ODDÍL 6: Opatření v případě náhodného úniku

- **6.1 Opatření na ochranu osob, ochranné prostředky a nouzové postupy** Není nutné.
- **6.2 Opatření na ochranu životního prostředí:**
Zředit velkým množstvím vody.
Nenechat proniknout do kanalizace/povrchových vod/podzemních vod.
- **6.3 Metody a materiál pro omezení úniku a pro čištění:**
Sebrat s materiály, vážícími kapaliny (písek, štěrkový písek, pojidla kyselin, univerzální pojidla, piliny).
Kontaminovaný materiál odstranit jako odpad podle bodu 13.
Zajistit dostatečné větrání.
- **6.4 Odkaz na jiné oddíly**
Informace o bezpečnému zacházení viz kapitola 7.
Informace o osobní ochranné výstroji viz kapitola 8.
Informace k odstranění viz kapitola 13.

ODDÍL 7: Zacházení a skladování

- **7.1 Opatření pro bezpečné zacházení**
Na pracovišti zabezpečit dobré větrání a odsávání.
Nádrž opatrně otevřít a zacházet s ní opatrně.
Zamezit vytváření aerosolů.
- **Upozornění k ochraně před ohněm a explozí:** Mít připravené ochranné dýchací přístroje.
- **7.2 Podmínky pro bezpečné skladování látek a směsí včetně neslučitelných látek a směsí**
- **Pokyny pro skladování:**
- **Požadavky na skladovací prostory a nádoby:** Žádné zvláštní požadavky.
- **Upozornění k hromadnému skladování:** Není nutné.
- **Další údaje k podmínkám skladování:** Nádrž držet neprodyšně uzavřenou.
- **7.3 Specifické konečné / specifická konečná použití** Další relevantní informace nejsou k dispozici.

ODDÍL 8: Omezování expozice / osobní ochranné prostředky

- **Technická opatření:** Žádné další údaje, viz bod 7.
- **8.1 Kontrolní parametry**
- **Kontrolní parametry:** Odpadá
- **Další upozornění:** Jako podklad sloužily při zhotovení platné listiny.
- **8.2 Omezování expozice**
- **Osobní ochranné prostředky:**
- **Všeobecná ochranná a hygienická opatření:**
Zdržovat od potravin, nápojů a krmiv.
Zašpiněné, nasáknuté šaty ihned vysvléci.
Před přestávkami a po práci umýt ruce.
Ochranný oděv odděleně přechovávat.
Zamezit styku s pokožkou a zrakem.
- **Ochrana dýchacích orgánů:**
Při krátkodobém nebo nízkém zatížení použít dýchací přístroj s filtrem, při intenzivním nebo delším zatížení se musí použít dýchací přístroj nezávislý na okolním vzduchu.

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(pokračování strany 3)

· **Ochrana rukou:**

Ochranné rukavice

Materiál rukavic musí být nepropustný a odolný proti produktu / látce / směsi.

Vzhledem k tomu, že chybí testy, není možné doporučit materiál rukavic pro produkt / přípravek / chemickou směs.

Výběr materiálu rukavic proveďte podle času průniku, permeability a degradace.

· **Materiál rukavic**

Správný výběr rukavic nezávisí jen na materiálu, ale také na dalších kritériích, která se liší podle výrobce.

· **Doba průniku materiálem rukavic**

Je nutno u výrobce rukavic zjistit a dodržovat přesné časy průniku materiálem ochranných rukavic.

· **Ochrana očí:**

Uzavřené ochranné brýle

ODDÍL 9: Fyzikální a chemické vlastnosti

· **9.1 Informace o základních fyzikálních a chemických vlastnostech**· **Všeobecné údaje**· **Vzhled:**

Skupenství: Pevné

Barva: Bílá

· **Zápach:** Bez zápachu

· **Prahová hodnota zápachu:** Není určeno.

· **Hodnota pH:** Není určeno.

· **Změna stavu**

Bod tání/bod tuhnutí: 734 °C

Počáteční bod varu a rozmezí bodu varu: 1.435 °C

· **Bod vzplanutí:** Nedá se použít.

· **Hořlavost (pevné látky, plyny):** Nedá se použít.

· **Teplota rozkladu:** Není určeno.

· **Teplota samovznícení:** Není určeno.

· **Výbušné vlastnosti:** U produktu nehrozí nebezpečí exploze.

· **Meze výbušnosti:**

Dolní mez: Není určeno.

Horní mez: Není určeno.

· **Tlak páry:** Není určeno.

· **Hustota při 20 °C:** 2,75 g/cm³

· **Relativní hustota** Není určeno.

· **Hustota páry:** Není určeno.

· **Rychlost odpařování** Není určeno.

(pokračování na straně 5)

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(pokračování strany 4)

· Rozpuštnost ve / směsitelnost s vodě:	Úplně mísitelná.
· Rozdělovací koeficient: n-oktanol/voda:	Není určeno.
· Viskozita:	
Dynamicky:	Není určeno.
Kinematicky:	Není určeno.
· Obsah ředidel:	
VOC (EC)	0,00 %
Obsah netěkavých složek:	0,0 %
· 9.2 Další informace	Další relevantní informace nejsou k dispozici.

ODDÍL 10: Stálost a reaktivita

- **10.1 Reaktivita** Další relevantní informace nejsou k dispozici.
- **10.2 Chemická stabilita**
- **Termický rozklad / Podmínky, kterých je nutno se vyvarovat:**
Nedochází k rozkladu při doporučeném způsobu použití.
- **10.3 Možnost nebezpečných reakcí** Žádné nebezpečné reakce nejsou známy.
- **10.4 Podmínky, kterým je třeba zabránit** Další relevantní informace nejsou k dispozici.
- **10.5 Neslučitelné materiály:** Další relevantní informace nejsou k dispozici.
- **10.6 Nebezpečné produkty rozkladu:** Nejsou známy žádné nebezpečné produkty při rozkladu.

ODDÍL 11: Toxikologické informace

- **11.1 Informace o toxikologických účincích**
- **Akutní toxicita**
Zdraví škodlivý při požití, při styku s kůží a při vdechování.
- **Primární dráždivé účinky:**
- **Žíravost/dráždivost pro kůži**
Dráždí kůži.
- **Vážné poškození očí / podráždění očí**
Způsobuje vážné podráždění očí.
- **Senzibilizace dýchacích cest / senzibilizace kůže**
Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Účinky CMR (karcinogenita, mutagenita a toxicita pro reprodukci)**
- **Mutagenita v zárodečných buňkách** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Karcinogenita** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Toxicita pro reprodukci** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Toxicita pro specifické cílové orgány – jednorázová expozice**
Může způsobit podráždění dýchacích cest.
- **Toxicita pro specifické cílové orgány – opakovaná expozice**
Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Nebezpečnost při vdechnutí** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

ODDÍL 12: Ekologické informace

- **12.1 Toxicita**
- **Aquatická toxicita:** Další relevantní informace nejsou k dispozici.

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(pokračování strany 5)

- **12.2 Perzistence a rozložitelnost** Další relevantní informace nejsou k dispozici.
- **12.3 Bioakumulační potenciál** Další relevantní informace nejsou k dispozici.
- **12.4 Mobilita v půdě** Další relevantní informace nejsou k dispozici.
- **Další ekologické údaje:**
- **Všeobecná upozornění:**
Třída ohrožení vody 1 (zařazení v listině): slabé ohrožení vody
Nesmí se dostat nezředěný nebo ve větším množství do spodní vody, povodí nebo kanalizace.
- **12.5 Výsledky posouzení PBT a vPvB**
- **PBT:** Nedá se použít.
- **vPvB:** Nedá se použít.
- **12.6 Jiné nepříznivé účinky** Další relevantní informace nejsou k dispozici.

ODDÍL 13: Pokyny pro odstraňování

- **13.1 Metody nakládání s odpady**
- **Doporučení:** Nesmí se odstraňovat společně s odpady z domácnosti. Nepřipustit únik do kanalizace.
- **Kontaminované obaly:**
- **Doporučení:** Odstranění podle příslušných předpisů.
- **Doporučený čisticí prostředek:** Voda, případně s přísadami čisticích prostředků.

ODDÍL 14: Informace pro přepravu

- | | |
|--|--|
| <ul style="list-style-type: none"> · 14.1 UN číslo · ADR, IMDG, IATA | <p style="text-align: right;">UN3287</p> |
| <ul style="list-style-type: none"> · 14.2 Oficiální (OSN) pojmenování pro přepravu · ADR · IMDG, IATA | <p style="text-align: right;">3287 LÁTKA TOXICKÁ, KAPALNÁ, ANORGANICKÁ, J.N.
(potassium bromide)
TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide)</p> |
| <ul style="list-style-type: none"> · 14.3 Třída/třídy nebezpečnosti pro přepravu · ADR, IMDG, IATA | <p style="text-align: right;">6.1 Jedovaté látky
6.1</p> |
| <ul style="list-style-type: none"> · 14.4 Obalová skupina · ADR, IMDG, IATA | <p style="text-align: right;">III</p> |
| <ul style="list-style-type: none"> · 14.5 Nebezpečnost pro životní prostředí: | <p style="text-align: right;">Nedá se použít.</p> |
| <ul style="list-style-type: none"> · 14.6 Zvláštní bezpečnostní opatření pro uživatele · Kemlerovo číslo: · EMS-skupina: · Stowage Category · Stowage Code | <p style="text-align: right;">Varování: Jedovaté látky
60
F-A,S-A
A
SW2 Clear of living quarters.</p> |
| <ul style="list-style-type: none"> · 14.7 Hromadná přeprava podle přílohy II úmluvy MARPOL a předpisu IBC | <p style="text-align: right;">Nedá se použít.</p> |

(pokračování na straně 7)

Bezpečnostní list

podle 1907/2006/ES, Článek 31

Datum vydání: 21.08.2018

Revize: 21.08.2018

Obchodní označení: POTASSIUM BROMIDE

(pokračování strany 6)

· Přeprava/další údaje:**· ADR****· Omezené množství (LQ)**

5L

· Vyňatá množství (EQ)

Kód: E1

Nejvyšší čisté množství na vnitřní obal: 30 ml

Nejvyšší čisté množství na vnější obal: 1000 ml

· Přepavní kategorie

2

· Kód omezení pro tunely:

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 3287 LÁTKA TOXICKÁ, KAPALNÁ, ANORGANICKÁ,
J.N. (POTASSIUM BROMIDE), 6.1, III**ODDÍL 15: Informace o předpisech**

- **15.1 Předpisy týkající se bezpečnosti, zdraví a životního prostředí/specifické právní předpisy týkající se látky nebo směsi**
- **Rady 2012/18/EU**
- **Nebezpečné látky jmenovitě uvedené - PŘÍLOHA I** Látka neobsažena.
- **Rady (ES) č. 1907/2006 PŘÍLOHA XVII** Omezující podmínky: 3
- **15.2 Posouzení chemické bezpečnosti:** Posouzení chemické bezpečnosti nebylo provedeno.

ODDÍL 16: Další informace

Údaje se opírají o dnešní stav našich vědomostí, nepředstavují však záruku vlastností produktu a nevznikají tak žádné smluvní právní vztahy.

· Zkratky a akronymy:

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

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

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Akutní toxicita – Kategorie 4

Skin Irrit. 2: Žiravost/dráždivost pro kůži – Kategorie 2

Eye Irrit. 2: Vážné poškození očí / podráždění očí – Kategorie 2

STOT SE 3: Toxicita pro specifické cílové orgány (jednorázová expozice) – Kategorie 3

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 21.08.2018

Herziening van: 21.08.2018

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

- **1.1 Productidentificatie**
- **Handelsnaam:** POTASSIUM BROMIDE
- **Artikelnummer:** 20040
- **CAS-nummer:**
7758-02-3
- **EC-nummer:**
231-830-3
- **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**



GHS07

Acute Tox. 4 H302 Schadelijk bij inslikken.
 Acute Tox. 4 H312 Schadelijk bij contact met de huid.
 Acute Tox. 4 H332 Schadelijk bij inademing.
 Skin Irrit. 2 H315 Veroorzaakt huidirritatie.
 Eye Irrit. 2 H319 Veroorzaakt ernstige oogirritatie.
 STOT SE 3 H335 Kan irritatie van de luchtwegen veroorzaken.

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

(Vervolg op blz. 2)

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Handelsnaam: POTASSIUM BROMIDE

(Vervolg van blz. 1)

· Gevarenpictogrammen



GHS07

· Signaalwoord Waarschuwing

· Gevaaraanduidende componenten voor de etikettering:

kaliumbromide

· Gevarenaanduidingen

H302+H312+H332 *Schadelijk bij inslikken, bij contact met de huid en bij inademing.*H315 *Veroorzaakt huidirritatie.*H319 *Veroorzaakt ernstige oogirritatie.*H335 *Kan irritatie van de luchtwegen veroorzaken.*

· Veiligheidsaanbevelingen

P261 *Inademing van stof/rook/gas/nevel/damp/spuitnevel vermijden.*P280 *Beschermende handschoenen/beschermende kleding/oogbescherming/gelaatsbescherming dragen.*P301+P312 *NA INSLIKKEN: bij onwel voelen een ANTIGIFCENTRUM/arts raadplegen.*P305+P351+P338 *BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.*P405 *Achter slot bewaren.*P501 *De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.*

· 2.3 Andere gevaren

· Resultaten van PBT- en zPzB-beoordeling

- **PBT:** Niet bruikbaar.

- **zPzB:** Niet bruikbaar.

RUBRIEK 3: Samenstelling en informatie over de bestanddelen

· 3.1 Chemische karakterisering: Stoffen

· CAS-Nr. omschrijving

7758-02-3 kaliumbromide

· Identificatienummer(s)

- **EC-nummer:** 231-830-3

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 invoeren.

Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

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

(Vervolg op blz. 3)

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(Vervolg van blz. 2)

- **Na oogcontact:**
De ogen gedurende verscheidene minuten onder stromend water afspoelen terwijl de oogspleet geopend blijft. Bij aanhoudende klachten een dokter raadplegen.
- **Na inslikken:** Onmiddellijk arts raadplegen.
- **4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.
- **4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling**
Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 5: Brandbestrijdingsmaatregelen

- **5.1 Blusmiddelen**
- **Geschikte blusmiddelen:** Brandblusmaatregelen op omgeving afstemmen.
- **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** Niet nodig.
- **6.2 Milieuvorzorgsmaatregelen:**
Met veel water verdunnen.
Niet in de riolering/het oppervlaktewater/het grondwater laten terecht komen.
- **6.3 Insluitings- en reinigingsmethoden en -materiaal:**
Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.
Besmet materiaal zoals afval volgens punt 13 verwijderen.
Voor voldoende ventilatie zorgen.
- **6.4 Verwijzing naar andere rubrieken**
Informatie inzake veilig gebruik - zie hoofdstuk 7.
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:** Ademhalingstoestellen gereedhouden.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:** Tanks ondoordringbaar gesloten houden.
- **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.

(Vervolg op blz. 4)

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(Vervolg van blz. 3)

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

RUBRIEK 9: Fysische en chemische eigenschappen

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

Vorm:	Vast
Kleur:	Wit
- **Geur:** Reukloos
- **Geurdrempelwaarde:** Niet bepaald.
- **pH-waarde:** Niet bepaald.
- **Toestandsverandering**

Smelt-/vriespunt:	734 °C
Beginkookpunt en kooktraject:	1.435 °C
- **Vlampunt:** Niet bruikbaar.

(Vervolg op blz. 5)

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(Vervolg van blz. 4)

· Ontvlambaarheid (vast, gas):	Niet bruikbaar.
· Ontledingstemperatuur:	Niet bepaald.
· Zelfontbrandingstemperatuur:	Niet bepaald.
· Ontploffingseigenschappen:	Het produkt is niet ontploffingsgevaarlijk.
· Ontploffingsgrenzen:	
Onderste:	Niet bepaald.
Bovenste:	Niet bepaald.
· Dampspanning:	Niet bepaald.
Dichtheid bij 20 °C:	2,75 g/cm ³
· Relatieve dichtheid	Niet bepaald.
· Dampdichtheid	Niet bepaald.
· Verdampingssnelheid	Niet bepaald.
· Oplosbaarheid in/mengbaarheid met Water:	Volledig mengbaar.
· Verdelingscoëfficiënt: n-octanol/water:	Niet bepaald.
· Viscositeit	
Dynamisch:	Niet bepaald.
Kinematisch:	Niet bepaald.
· Oplosmiddelgehalte:	
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.
- **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, bij contact met de huid en bij inademing.
- **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.

(Vervolg op blz. 6)

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(Vervolg van blz. 5)

- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
- **Mutageniteit in geslachtscellen** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Kankerverwekkendheid** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Giftigheid voor de voortplanting** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **STOT bij eenmalige blootstelling**
Kan irritatie van de luchtwegen veroorzaken.
- **STOT bij herhaalde blootstelling** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Gevaar bij inademing** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Verdere ecologische informatie:**
- **Algemene informatie:**
Waterbezwaarlijkheid (NL): A(4) Weinig schadelijk voor in water levende organismen kan in het aquatische milieu op lange termijn schadelijke effecten veroorzaken
Gevaar voor water klasse 1 (D) (Lijstclassificatie): gevaar voor water klein
Niet onverdund of in grote hoeveelheden lozen in grondwater, in oppervlaktewater of in de riolering.
- **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.
- **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

RUBRIEK 14: Informatie met betrekking tot het vervoer

- **14.1 VN-nummer**
- **ADR, IMDG, IATA** UN3287
- **14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN**
- **ADR** 3287 GIFTIGE ANORGANISCHE VLOEISTOF, N.E.G.
(kaliumbromide)
- **IMDG, IATA** TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide)

(Vervolg op blz. 7)

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(Vervolg van blz. 6)

· **14.3 Transportgevaarenklasse(n)**

· **ADR, IMDG, IATA**



· **klasse** 6.1 Giftige stoffen
 · **Etiket** 6.1

· **14.4 Verpakkingsgroep:**

· **ADR, IMDG, IATA** III

· **14.5 Milieugevaaren:** Niet bruikbaar.

· **14.6 Bijzondere voorzorgen voor de gebruiker** Waarschuwing: Giftige stoffen

· **Kemler-getal:** 60
 · **EMS-nummer:** F-A,S-A
 · **Stowage Category** A
 · **Stowage Code** SW2 Clear of living quarters.

· **14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code** Niet bruikbaar.

· **Transport/verdere gegevens:**

· **ADR**
 · **Beperkte hoeveelheden (LQ)** 5L
 · **Uitgezonderde hoeveelheden (EQ)** Code: E1
 Grootste netto hoeveelheid per binnenverpakking: 30 ml
 Grootste netto hoeveelheid per buitenverpakking: 1000 ml
 · **Vervoerscategorie** 2
 · **Tunnelbeperkingscode** E

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

· **VN "Model Regulation":** UN 3287 GIFTIGE ANORGANISCHE VLOEISTOF, N.E.G. (KALIUMBROMIDE), 6.1, III

RUBRIEK 15: Regelgeving

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

· **SZW-lijst van kankerverwekkende stoffen**

De stof is niet aanwezig.

· **SZW-lijst van mutagene stoffen**

De stof is niet aanwezig.

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

De stof is niet aanwezig.

(Vervolg op blz. 8)

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(Vervolg van blz. 7)

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

De stof is niet aanwezig.

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

De stof is niet aanwezig.

· **Richtlijn 2012/18/EU**

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

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

· **Nationale voorschriften:**

· **Gevaarklasse v. water:**

Waterbezwaarlijkheid (NL): A(4) Weinig schadelijk voor in water levende organismen kan in het aquatische milieu op lange termijn schadelijke effecten veroorzaken

· **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.

· **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

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

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxiciteit – Categorie 4

Skin Irrit. 2: Huidcorrosie/-irritatie – Categorie 2

Eye Irrit. 2: Ernstig oogletsel/oogirritatie – Categorie 2

STOT SE 3: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 3

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 21.08.2018

Révision: 21.08.2018

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

- **1.1 Identificateur de produit**
- **Nom du produit:** POTASSIUM BROMIDE
- **Code du produit:** 20040
- **No CAS:**
7758-02-3
- **Numéro CE:**
231-830-3
- **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**



GHS07

Acute Tox. 4 H302 Nocif en cas d'ingestion.
 Acute Tox. 4 H312 Nocif par contact cutané.
 Acute Tox. 4 H332 Nocif par inhalation.
 Skin Irrit. 2 H315 Provoque une irritation cutanée.
 Eye Irrit. 2 H319 Provoque une sévère irritation des yeux.
 STOT SE 3 H335 Peut irriter les voies respiratoires.

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



GHS07

- **Mention d'avertissement** Attention
- **Composants dangereux déterminants pour l'étiquetage:**
bromure de potassium
- **Mentions de danger**
H302+H312+H332 Nocif en cas d'ingestion, de contact cutané ou d'inhalation.

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- H315 Provoque une irritation cutanée.
 H319 Provoque une sévère irritation des yeux.
 H335 Peut irriter les voies respiratoires.
- **Conseils de prudence**
- P261 Éviter de respirer les poussières/fumées/gaz/brouillards/vapeurs/aérosols.
 P280 Porter des gants de protection/des vêtements de protection/un équipement de protection des yeux/du visage.
- P301+P312 EN CAS D'INGESTION: Appeler un CENTRE ANTIPOISON/un médecin en cas de malaise.
 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.
- P405 Garder sous clef.
 P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.
- **2.3 Autres dangers**
 · **Résultats des évaluations PBT et vPvB**
 · **PBT:** Non applicable.
 · **vPvB:** Non applicable.

RUBRIQUE 3: Composition/informations sur les composants

- **3.1 Caractérisation chimique: Substances**
 · **No CAS Désignation**
 7758-02-3 bromure de potassium
 · **Code(s) d'identification**
 · **Numéro CE:** 231-830-3

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.

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RUBRIQUE 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:** Adapter les mesures d'extinction d'incendie à l'environnement.
- **5.2 Dangers particuliers résultant de la substance ou du mélange**
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Porter un appareil de protection respiratoire.

RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

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

RUBRIQUE 7: Manipulation et stockage

- **7.1 Précautions à prendre pour une manipulation sans danger**
Veiller à une bonne ventilation/aspiration du poste de travail.
Ouvrir et manipuler les récipients avec précaution.
Éviter la formation d'aérosols.
- **Préventions des incendies et des explosions:** Tenir des appareils de protection respiratoire prêts.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Aucune exigence particulière.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:** Tenir les emballages hermétiquement fermés.
- **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.
- **8.1 Paramètres de contrôle**
- **Composants présentant des valeurs-seuil à surveiller par poste de travail:** Néant
- **Remarques supplémentaires:**
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.

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- **8.2 Contrôles de l'exposition**
- **Équipement 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.
Éviter 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:	Solide
· Couleur:	Blanc
· Odeur:	Inodore
· Seuil olfactif:	Non déterminé.

· valeur du pH:	Non déterminé.
------------------------	----------------

· Changement d'état

· Point de fusion/point de congélation:	734 °C
· Point initial d'ébullition et intervalle d'ébullition:	1.435 °C

· Point d'éclair	Non applicable.
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· Inflammabilité (solide, gaz):	Non applicable.
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· Température de décomposition:	Non déterminé.
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· Température d'auto-inflammabilité:	Non déterminé.
· Propriétés explosives:	Le produit n'est pas explosif.
· Limites d'explosion: Inférieure: Supérieure:	Non déterminé. Non déterminé.
· Pression de vapeur:	Non déterminé.
· Densité à 20 °C: · Densité relative · Densité de vapeur: · Taux d'évaporation:	2,75 g/cm ³ Non déterminé. Non déterminé. Non déterminé.
· Solubilité dans/miscibilité avec l'eau:	Entièrement miscible
· Coefficient de partage: n-octanol/eau:	Non déterminé.
· Viscosité: Dynamique: Cinématique:	Non déterminé. 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.
- **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, de contact cutané ou d'inhalation.
- **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.

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- **Cancérogénicité** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité pour la reproduction**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition unique**
Peut irriter les voies respiratoires.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

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 1 (D) (classification selon liste): peu polluant
Ne pas laisser le produit, non dilué ou en grande quantité, pénétrer la nappe phréatique, les eaux ou les canalisations.
- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

RUBRIQUE 13: Considérations relatives à l'élimination

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

RUBRIQUE 14: Informations relatives au transport

- | | |
|---|--|
| <ul style="list-style-type: none"> · 14.1 Numéro ONU · ADR, IMDG, IATA | <p>UN3287</p> |
| <ul style="list-style-type: none"> · 14.2 Désignation officielle de transport de l'ONU · ADR · IMDG, IATA | <p>3287 LIQUIDE INORGANIQUE TOXIQUE, N.S.A.
(bromure de potassium)
TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide)</p> |

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Nom du produit: **POTASSIUM BROMIDE**

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· 14.3 Classe(s) de danger pour le transport

· ADR, IMDG, IATA



· Classe 6.1 Matières toxiques.
· Étiquette 6.1

· 14.4 Groupe d'emballage

· ADR, IMDG, IATA III

· 14.5 Dangers pour l'environnement: Non applicable.

· 14.6 Précautions particulières à prendre par l'utilisateur

· Indice Kemler: Attention: Matières toxiques.
60
· No EMS: F-A,S-A
· Stowage Category A
· Stowage Code SW2 Clear of living quarters.

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

Non applicable.

· Indications complémentaires de transport:

· ADR

· 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 3287 LIQUIDE INORGANIQUE TOXIQUE, N.S.A.
(BROMURE DE POTASSIUM), 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

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

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

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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.

· Acronymes et abréviations:

ADR: Accord européen sur le transport des marchandises dangereuses par Route

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Toxicité aiguë – Catégorie 4

Skin Irrit. 2: Corrosion cutanée/irritation cutanée – Catégorie 2

Eye Irrit. 2: Lésions oculaires graves/irritation oculaire – Catégorie 2

STOT SE 3: Toxicité spécifique pour certains organes cibles (exposition unique) – Catégorie 3

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Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 21.08.2018

überarbeitet am: 21.08.2018

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

· **1.1 Produktidentifikator**

· **Handelsname:** **POTASSIUM BROMIDE**

· **Artikelnummer:** 20040

· **CAS-Nummer:**

7758-02-3

· **EG-Nummer:**

231-830-3

· **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**



GHS07

Acute Tox. 4 H302 Gesundheitsschädlich bei Verschlucken.

Acute Tox. 4 H312 Gesundheitsschädlich bei Hautkontakt.

Acute Tox. 4 H332 Gesundheitsschädlich bei Einatmen.

Skin Irrit. 2 H315 Verursacht Hautreizungen.

Eye Irrit. 2 H319 Verursacht schwere Augenreizung.

STOT SE 3 H335 Kann die Atemwege reizen.

· **2.2 Kennzeichnungselemente**

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

Der Stoff ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

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Handelsname: POTASSIUM BROMIDE

(Fortsetzung von Seite 1)

· Gefahrenpiktogramme

GHS07

· Signalwort Achtung**· Gefahrbestimmende Komponenten zur Etikettierung:**

Kaliumbromid

· GefahrenhinweiseH302+H312+H332 *Gesundheitsschädlich bei Verschlucken, Hautkontakt oder Einatmen.*H315 *Verursacht Hautreizungen.*H319 *Verursacht schwere Augenreizung.*H335 *Kann die Atemwege reizen.***· Sicherheitshinweise**P261 *Einatmen von Staub/Rauch/Gas/Nebel/Dampf/Aerosol vermeiden.*P280 *Schutzhandschuhe/Schutzkleidung/Augenschutz/Gesichtsschutz tragen.*P301+P312 *BEI VERSCHLUCKEN: Bei Unwohlsein GIFTINFORMATIONSZENTRUM/Arzt anrufen.*P305+P351+P338 *BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.*P405 *Unter Verschluss aufbewahren.*P501 *Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.***· 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**

7758-02-3 Kaliumbromid

· Identifikationsnummer(n)**· EG-Nummer:** 231-830-3

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.*

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- **Nach Augenkontakt:**
Augen mehrere Minuten bei geöffnetem Lidspalt unter fließendem Wasser spülen. Bei anhaltenden Beschwerden Arzt konsultieren.
- **Nach Verschlucken:** *Sofort Arzt aufsuchen.*
- **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**
Keine weiteren relevanten Informationen verfügbar.
- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**
Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:** *Feuerlöschmaßnahmen auf die Umgebung abstimmen.*
- **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**
Nicht erforderlich.
- **6.2 Umweltschutzmaßnahmen:**
*Mit viel Wasser verdünnen.
Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.*
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**
*Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.
Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.
Für ausreichende Lüftung sorgen.*
- **6.4 Verweis auf andere Abschnitte**
*Informationen zur sicheren Handhabung siehe Abschnitt 7.
Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.
Informationen zur Entsorgung siehe Abschnitt 13.*

ABSCHNITT 7: Handhabung und Lagerung

- **7.1 Schutzmaßnahmen zur sicheren Handhabung**
*Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.
Behälter mit Vorsicht öffnen und handhaben.
Aerosolbildung vermeiden.*
- **Hinweise zum Brand- und Explosionsschutz:** *Atemschutzgeräte bereithalten.*
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** *Keine besonderen Anforderungen.*
- **Zusammenlagerungshinweise:** *Nicht erforderlich.*
- **Weitere Angaben zu den Lagerbedingungen:** *Behälter dicht geschlossen halten.*
- **Lagerklasse:**
- **Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV):** -

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· **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:** Entfällt.
- **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.
- **Augenschutz:**



Dichtschließende Schutzbrille

ABSCHNITT 9: Physikalische und chemische Eigenschaften

- **9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften**
- **Allgemeine Angaben**
- **Aussehen:**

Form:	Fest
Farbe:	Weiß
- **Geruch:** Geruchlos

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· Geruchsschwelle:	Nicht bestimmt.
· pH-Wert:	Nicht bestimmt.
· Zustandsänderung Schmelzpunkt/Gefrierpunkt:	734 °C
Siedebeginn und Siedebereich:	1.435 °C
· Flammpunkt:	Nicht anwendbar.
· Entzündbarkeit (fest, gasförmig):	Nicht anwendbar.
· Zersetzungstemperatur:	Nicht bestimmt.
· Selbstentzündungstemperatur:	Nicht bestimmt.
· Explosive Eigenschaften:	Das Produkt ist nicht explosionsgefährlich.
· Explosionsgrenzen: Untere:	Nicht bestimmt.
Obere:	Nicht bestimmt.
· Dampfdruck:	Nicht bestimmt.
· Dichte bei 20 °C:	2,75 g/cm ³
· Relative Dichte	Nicht bestimmt.
· Dampfdichte	Nicht bestimmt.
· Verdampfungsgeschwindigkeit	Nicht bestimmt.
· Löslichkeit in / Mischbarkeit mit Wasser:	Vollständig mischbar.
· Verteilungskoeffizient: n-Octanol/Wasser:	Nicht bestimmt.
· Viskosität: Dynamisch:	Nicht bestimmt.
Kinematisch:	Nicht bestimmt.
· Lösemittelgehalt: 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 Möglicherweise 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.

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ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität**
Gesundheitsschädlich bei Verschlucken, Hautkontakt oder Einatmen.
- **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** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Reproduktionstoxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei einmaliger Exposition**
Kann die Atemwege reizen.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Aspirationsgefahr** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

ABSCHNITT 12: Umweltbezogene Angaben

- **12.1 Toxizität**
- **Aquatische Toxizität:** Keine weiteren relevanten Informationen verfügbar.
- **12.2 Persistenz und Abbaubarkeit** Keine weiteren relevanten Informationen verfügbar.
- **12.3 Bioakkumulationspotenzial** Keine weiteren relevanten Informationen verfügbar.
- **12.4 Mobilität im Boden** Keine weiteren relevanten Informationen verfügbar.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**
Wassergefährdungsklasse 1 (Listeneinstufung): schwach wassergefährdend
Nicht unverdünnt bzw. in größeren Mengen in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen.
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 13: Hinweise zur Entsorgung

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

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ABSCHNITT 14: Angaben zum Transport

<ul style="list-style-type: none"> · 14.1 UN-Nummer · ADR, IMDG, IATA 	<p style="margin: 0;">UN3287</p>	
<ul style="list-style-type: none"> · 14.2 Ordnungsgemäße UN-Versandbezeichnung · ADR · IMDG, IATA 	<p style="margin: 0;">3287 GIFTIGER ANORGANISCHER FLÜSSIGER STOFF, N.A.G. (Kaliumbromid)</p> <p style="margin: 0;">TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide)</p>	
<ul style="list-style-type: none"> · 14.3 Transportgefahrenklassen · ADR, IMDG, IATA 	<div style="text-align: center; margin-bottom: 10px;">  </div> <ul style="list-style-type: none"> · Klasse · Gefahrzettel 	<p style="margin: 0;">6.1 Giftige Stoffe</p> <p style="margin: 0;">6.1</p>
<ul style="list-style-type: none"> · 14.4 Verpackungsgruppe · ADR, IMDG, IATA 	<p style="margin: 0;">III</p>	
<ul style="list-style-type: none"> · 14.5 Umweltgefahren: 	<p style="margin: 0;">Nicht anwendbar.</p>	
<ul style="list-style-type: none"> · 14.6 Besondere Vorsichtsmaßnahmen für den Verwender · Kemler-Zahl: · EMS-Nummer: · Stowage Category · Stowage Code 	<p style="margin: 0;">Achtung: Giftige Stoffe</p> <p style="margin: 0;">60</p> <p style="margin: 0;">F-A,S-A</p> <p style="margin: 0;">A</p> <p style="margin: 0;">SW2 Clear of living quarters.</p>	
<ul style="list-style-type: none"> · 14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code 	<p style="margin: 0;">Nicht anwendbar.</p>	
<ul style="list-style-type: none"> · Transport/weitere Angaben: 		
<ul style="list-style-type: none"> · ADR · Begrenzte Menge (LQ) · Freigestellte Mengen (EQ) · Beförderungskategorie · Tunnelbeschränkungscode 	<p style="margin: 0;">5L</p> <p style="margin: 0;">Code: E1</p> <p style="margin: 0;">Höchste Nettomenge je Innenverpackung: 30 ml</p> <p style="margin: 0;">Höchste Nettomenge je Außenverpackung: 1000 ml</p> <p style="margin: 0;">2</p> <p style="margin: 0;">E</p>	
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p style="margin: 0;">5L</p> <p style="margin: 0;">Code: E1</p> <p style="margin: 0;">Maximum net quantity per inner packaging: 30 ml</p> <p style="margin: 0;">Maximum net quantity per outer packaging: 1000 ml</p>	
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p style="margin: 0;">UN 3287 GIFTIGER ANORGANISCHER FLÜSSIGER STOFF, N.A.G. (KALIUMBROMID), 6.1, III</p>	

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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.
- **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3
- **Nationale Vorschriften:**
- **Wassergefährdungsklasse: WGK 1** (Listeneinstufung): schwach wassergefährdend.
- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

ABSCHNITT 16: Sonstige Angaben

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

- **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

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

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Akute Toxizität – Kategorie 4

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

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

STOT SE 3: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 3

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

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** POTASSIUM BROMIDE

· **Articolo numero:** 20040

· **Numero CAS:**

7758-02-3

· **Numeri CE:**

231-830-3

· **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**



GHS07

Acute Tox. 4 H302 Nocivo se ingerito.

Acute Tox. 4 H312 Nocivo per contatto con la pelle.

Acute Tox. 4 H332 Nocivo se inalato.

Skin Irrit. 2 H315 Provoca irritazione cutanea.

Eye Irrit. 2 H319 Provoca grave irritazione oculare.

STOT SE 3 H335 Può irritare le vie respiratorie.

· **2.2 Elementi dell'etichetta**

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

La sostanza è classificata ed etichettata conformemente al regolamento CLP.

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· **Pittogrammi di pericolo**



GHS07

· **Avvertenza** *Attenzione*

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

bromuro di potassio

· **Indicazioni di pericolo**

H302+H312+H332 Nocivo se ingerito, a contatto con la pelle o se inalato.

H315 Provoca irritazione cutanea.

H319 Provoca grave irritazione oculare.

H335 Può irritare le vie respiratorie.

· **Consigli di prudenza**

P261 Evitare di respirare la polvere/i fumi/i gas/la nebbia/i vapori/gli aerosol.

P280 Indossare guanti/indumenti protettivi/Proteggere gli occhi/il viso.

P301+P312 IN CASO DI INGESTIONE: contattare un CENTRO ANTIVELENI/un medico in caso di malessere.

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.

P405 Conservare sotto chiave.

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

· **2.3 Altri pericoli**

· **Risultati della valutazione PBT e vPvB**

· **PBT:** Non applicabile.

· **vPvB:** Non applicabile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

· **3.1 Caratteristiche chimiche: Sostanze**

· **Numero CAS**

7758-02-3 bromuro di potassio

· **Numeri di identificazione**

· **Numeri CE:** 231-830-3

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.*

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- **Contatto con gli occhi:**
Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte. Se persiste il dolore consultare il medico.
- **Ingestione:** Chiamare subito il medico.
- **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.
- **4.3 Indicazione 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:** Adottare provvedimenti antiincendio nei dintorni della zona colpita.
- **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** Non necessario.
- **6.2 Precauzioni ambientali:**
Diluire abbondantemente con acqua.
Impedire infiltrazioni nella fognatura/nelle acque superficiali/nelle acque freatiche.
- **6.3 Metodi e materiali per il contenimento e per la bonifica:**
Raccogliere il liquido con materiale assorbente (sabbia, tripoli, legante di acidi, legante universale, segatura).
Smaltimento del materiale contaminato conformemente al punto 13.
Provvedere ad una sufficiente areazione.
- **6.4 Riferimento ad altre sezioni**
Per informazioni relative ad una manipolazione sicura, vedere capitolo 7.
Per informazioni relative all'equipaggiamento protettivo ad uso personale vedere Capitolo 8.
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:** Tener pronto il respiratore.
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** Non sono richiesti requisiti particolari.
- **Indicazioni sullo stoccaggio misto:** Non necessario.
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:** Mantenere i recipienti ermeticamente chiusi.
- **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:** Non Necessario.

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

· **8.2 Controlli dell'esposizione**

· **Mezzi protettivi individuali:**

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

Tenere lontano da cibo, bevande e foraggi.

Togliere immediatamente gli abiti contaminati.

Lavarsi le mani prima dell'intervallo o a lavoro terminato.

Custodire separatamente l'equipaggiamento protettivo.

Evitare il contatto con gli occhi e la pelle.

· **Maschera protettiva:**

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

· **Guanti protettivi:**



Guanti protettivi

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

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

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

· **Materiale dei guanti**

La scelta dei guanti adatti non dipende soltanto dal materiale bensì anche da altre caratteristiche di qualità variabili da un produttore a un altro.

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

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

· **Occhiali protettivi:**



Occhiali protettivi a tenuta

SEZIONE 9: Proprietà fisiche e chimiche

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

· **Indicazioni generali**

· **Aspetto:**

Forma: Solido

Colore: Bianco

· **Odore:** Inodore

· **Soglia olfattiva:** Non definito.

· **valori di pH:** Non definito.

· **Cambiamento di stato**

Punto di fusione/punto di congelamento: 734 °C

Punto di ebollizione iniziale e intervallo di ebollizione: 1.435 °C

· **Punto di infiammabilità:** Non applicabile.

(continua a pagina 5)

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

Stampato il: 21.08.2018

Revisione: 21.08.2018

Denominazione commerciale: POTASSIUM BROMIDE

(Segue da pagina 4)

· Infiammabilità (solidi, gas):	Non applicabile.
· Temperatura di decomposizione:	Non definito.
· Temperatura di autoaccensione:	Non definito.
· Proprietà esplosive:	Prodotto non esplosivo.
· Limiti di infiammabilità:	
Inferiore:	Non definito.
Superiore:	Non definito.
· Tensione di vapore:	Non definito.
· Densità a 20 °C:	2,75 g/cm ³
· Densità relativa	Non definito.
· Densità di vapore:	Non definito.
· Velocità di evaporazione	Non definito.
· Solubilità in/Miscibilità con acqua:	Completamente miscibile.
· Coefficiente di ripartizione: n-ottanolo/acqua:	Non definito.
· Viscosità:	
Dinamica:	Non definito.
Cinematica:	Non definito.
· 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, a contatto con la pelle o se inalato.
- **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.

(continua a pagina 6)

IT

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

Stampato il: 21.08.2018

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Denominazione commerciale: POTASSIUM BROMIDE

(Segue da pagina 5)

- **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** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità per la riproduzione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**
Può irritare le vie respiratorie.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Pericolo in caso di aspirazione** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.

SEZIONE 12: Informazioni ecologiche

- **12.1 Tossicità**
- **Tossicità acquatica:** Non sono disponibili altre informazioni.
- **12.2 Persistenza e degradabilità** Non sono disponibili altre informazioni.
- **12.3 Potenziale di bioaccumulo** Non sono disponibili altre informazioni.
- **12.4 Mobilità nel suolo** Non sono disponibili altre informazioni.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**
Pericolosità per le acque classe 1 (D) (Classif. secondo le liste): poco pericoloso
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature non diluito o in grandi quantità.
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.
- **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

SEZIONE 13: Considerazioni sullo smaltimento

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

SEZIONE 14: Informazioni sul trasporto

- | | |
|---|---|
| · 14.1 Numero ONU | |
| · ADR, IMDG, IATA | UN3287 |
| · 14.2 Nome di spedizione dell'ONU | |
| · ADR | 3287 LIQUIDO INORGANICO TOSSICO, N.A.S. (bromuro di potassio) |
| · IMDG, IATA | TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide) |

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

Stampato il: 21.08.2018

Revisione: 21.08.2018

Denominazione commerciale: **POTASSIUM BROMIDE**

(Segue da pagina 6)

· 14.3 Classi di pericolo connesso al trasporto

· ADR, IMDG, IATA



· Classe 6.1 Materie tossiche
· Etichetta 6.1

· 14.4 Gruppo di imballaggio

· ADR, IMDG, IATA III

· 14.5 Pericoli per l'ambiente: Non applicabile.

· 14.6 Precauzioni speciali per gli utilizzatori Attenzione: Materie tossiche

· Numero Kemler: 60
· Numero EMS: F-A,S-A
· 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 3287 LIQUIDO INORGANICO TOSSICO, N.A.S.
(BROMURO DI POTASSIO), 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

· REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII Restrizioni: 3

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

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(continua a pagina 8)

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

Stampato il: 21.08.2018

Revisione: 21.08.2018

Denominazione commerciale: POTASSIUM BROMIDE

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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.

· Abbreviazioni e acronimi:

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Tossicità acuta – Categoria 4

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

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

STOT SE 3: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3

IT

물질안전보건자료

GHS에 따라라따

기압점: 2018.08.21

개정: 2018.08.21

1 화학제품과 회사에 관한 정보

제품제품제명

- **제품명: POTASSIUM BROMIDE**
- **상품번호: 20040**
- **번호번호번호**
7758-02-3
- **EC 의번호:**
231-830-3

해당 해당 물질이나 혼합물 관련 권고 및 사용금지용도 추가적인 정보가 존재하지 않습니다.

- **제품의 권고 용도와 사용 제한** (제한 없음 실 화 학 품)
- **안전데이터표(Safety Data Sheet) 내 공급 업체 권고 사항 정보**
- **제조사/수입자/유통업체 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

- **추가적인 정보** (독성 시험 가능) product safety department
- **비상연락 전화번호:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 유해성·위험성

순물질 또는 혼합물에 분류분류



두개골과 대퇴골

급성 독성 - 흡입 - 구분 3

H331 흡입하면 유독함



급성 독성 - 경구 - 구분 4

H302 삼키면 유해함

급성 독성 - 경피 - 구분 4

H312 피부와 접촉하면 유해함

피부 부식성/피부 자극성 - 구분 2

H315 피부에 자극을 일으킴

심한 눈 손상성/눈 자극성 - 구분 2

H319 눈에 심한 자극을 일으킴

특정표적장기 독성 - 1회 노출 - 구분 3 H335 호흡기계 자극을 일으킬 수 있음

라벨표기 요소요소

라벨표기 요소

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

(2 쪽에 계속)

물질안전보건자료 GHS에 따라라따

기압점: 2018.08.21

개정: 2018.08.21

제품명: POTASSIUM BROMIDE

(3 쪽부터계속)

노출 통제를 통해 통제
개인 개인 보호구

· 일반적 보호 조치 및 위생 조치:

- 식료품, 음료수와 사료로부터 멀리 떨어져 두어 놓는다.
- 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.
- 휴식 전이나 작업이 끝날때마다 손을 씻는다.
- 방호복은 따로 보관한다.
- 눈과 피부와의 접촉은 피한다.

· 호흡기 보호 보호

- 단 시간 또는 경미한 오염의 경우에는 호흡 여과기를 사용한다. 심각한 또는 장기간 노출시에는 호흡 보호장비를 사용한다.

· 눈 보호 보호



보호용 장갑

장갑재질은 제품 / 원료 / 조제를 통과시키지 않아야 하고, 내구성이 있어야 한다.
테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합물에 적합한 장갑재질에 대한 추천이 없다.
투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

· 장갑의 재료

- 적합한 장갑의 선정은 재질 차이뿐만 아니라 품질 기준의 차이도 고려하여 이루어져야 하고 제조업자에 따라서도 다르게 선정되어야 한다.

· 장갑 재료의 투과 시간 정확한 관통 시간은 보호 장갑 제조자에 의하여 인지되고, 준수되어야 한다.

· 눈 보호 보호



확조이는 보안경

9 물리화학적 특성

기본 정보, 물리화학적 특성에 대한 정보

· 일반 정보		
외형 외형 외형		
· 물리적 상태	고체	
· 색:	하얀	
· 냄새	무취의	
· 후각 역치	알맞지 않다.	
· pH:	알맞지 않다.	
· 상태 변화		
· 녹는 점/어는 점:	734 °C	
· 초기 끓는 점과 끓는 범위	1,435 °C	
· 인화점:	해당 사항 없음.	
· 인화성 고체/기체	해당 사항 없음.	
· 분해 온도	알맞지 않다.	
· 자기점화:	알맞지 않다.	
· 폭발 위험:	이 제품은 폭발 위험성이 없다	

(5 쪽에 계속)

물질안전보건자료

GHS에 따라라따

기압점: 2018.08.21

개정: 2018.08.21

제품명: POTASSIUM BROMIDE

· 추가적인 생태학 정보정보

(5 쪽부터계속)

일반 열안정성특징

수질오염등급 1 (목록분류): 약하게수질오염이된
 희석시키지않은채대량으로지하수나, 하천으로그리고 하수도망에도달하지않게한다.

· PBT(잔류성, 생물농축성, 독성물질) 및 vPvB(고 잔류성, 고 생물농축성 물질)에 해당하지 않음.

· PBT(잔류성, 생물농축성, 독성물질)에 해당하지 않음.

· vPvB(고 잔류성, 고 생물농축성 물질)에 해당하지 않음.

기타기타 **부작용** 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

· **폐기물 처리 방법**
 권고 권고 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.

· **비위생적 포장포장**
 권고 권고 바닥의지침에입각한쓰레기처리.

· **추천 세정제:** 경우에따라서세제가첨가된물

14 운송에 필요한 정보

유엔 유엔번호

· ADR, IMDG, IATA UN3287

· 적정적정명

· ADR 3287 TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide)
 · IMDG, IATA TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide)

교통 위험 위험 클래스

· ADR, IMDG, IATA



등급 등급

6.1 독성물질

· 위험 라벨라벨

6.1

· 용기 등급

III

· ADR, IMDG, IATA

· 환경적 유해물질:

해당사항 없음.

· **이동시 특별 예방 조치**

경고: 독성물질

위험 위험 코드

60

· E 번호번호

F-A,S-A

· Stowage Category

A

· Stowage Code

SW2 Clear of living quarters.

· MARPOL73/78(선박으로부터의 해양오염방지협

약) 부속서2 및 IBC Code(국제 선적화물코드)에 따른

별크별 운송 운송

해당사항 없음.

(7 쪽에계속)

물질안전보건자료

GHS에 따라라따

기압점: 2018.08.21

개정: 2018.08.21

제품명: POTASSIUM BROMIDE

(6 쪽부터계속)

· 운송/추가정보	
· ADR	5L
한정 제한량 (수량)	Code: E1
· Excepted quantities (EQ)	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
운송 위험분류	2
터널 제한량 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
· UN번호	UN 3287 TOXIC LIQUID, INORGANIC, N.O.S. (POTASSIUM BROMIDE), 6.1, III

15 법적 규제현황

· 산업안전보건법에 의한 위험물규제	
제조제조업종 금지물질:	
성분이포함되어있지않다	
· 허가대상물질:	
성분이포함되어있지않다	
· 관리대상유해물질:	
성분이포함되어있지않다	
해당 해당 수용물질 또는 모합 물질 에 대한 안전보건자료 작성 경우 법률	
· Korean Existing Chemical Inventory	KE-29079
· 화학물질관리법	
· 사고대비물질	
성분이포함되어있지않다	
· 금지물질	
성분이포함되어있지않다	
· 제한물질	
성분이포함되어있지않다	
· 유독물질	
성분이포함되어있지않다	
· 허가물질	
성분이포함되어있지않다	
· 라벨작성요소	
본 화학물질은 화학물질의 분류 및 표기에 관한 국제화학시스템(GHS)에 따라 분류 및 표기되었습니다.	
(8 쪽에계속)	

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 21.08.2018

Revisión: 21.08.2018

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

· 1.1 Identificador del producto

· **Nombre comercial:** POTASSIUM BROMIDE

· **Número del artículo:** 20040

· **Número CAS:**

7758-02-3

· **Número CE:**

231-830-3

· **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**



GHS07

Acute Tox. 4 H302 Nocivo en caso de ingestión.

Acute Tox. 4 H312 Nocivo en contacto con la piel.

Acute Tox. 4 H332 Nocivo en caso de inhalación.

Skin Irrit. 2 H315 Provoca irritación cutánea.

Eye Irrit. 2 H319 Provoca irritación ocular grave.

STOT SE 3 H335 Puede irritar las vías respiratorias.

· **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.

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· **Pictogramas de peligro**

GHS07

· **Palabra de advertencia** Atención· **Componentes peligrosos a indicar en el etiquetaje:**

bromuro de potasio

· **Indicaciones de peligro**H302+H312+H332 *Nocivo en caso de ingestión, contacto con la piel o inhalación.*H315 *Provoca irritación cutánea.*H319 *Provoca irritación ocular grave.*H335 *Puede irritar las vías respiratorias.*· **Consejos de prudencia**P261 *Evitar respirar el polvo/el humo/el gas/la niebla/los vapores/el aerosol.*P280 *Llevar guantes/prendas/gafas/máscara de protección.*P301+P312 *EN CASO DE INGESTIÓN: Llamar a un CENTRO DE TOXICOLOGÍA/médico si la persona se encuentra mal.*P305+P351+P338 *EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.*P405 *Guardar bajo llave.*P501 *Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.*· **2.3 Otros peligros**· **Resultados de la valoración PBT y mPmB**· **PBT:** No aplicable.· **mPmB:** No aplicable.

SECCIÓN 3: Composición/información sobre los componentes

· **3.1 Caracterización química: Sustancias**· **Denominación N° CAS**

7758-02-3 bromuro de potasio

· **Número(s) de identificación**· **Número CE:** 231-830-3

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.*

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- **En caso de con los ojos:**
Limpia los ojos abiertos durante varios minutos con agua corriente. En caso de trastornos persistentes consultar un médico.
- **En caso de ingestión:** *Consultar inmediatamente un médico.*
- **4.2 Principales síntomas y efectos, agudos y retardados** *No existen más datos relevantes disponibles.*
- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**
No existen más datos relevantes disponibles.

SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:** *Combatir los incendios con medidas adaptados al ambiente circundante.*
- **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** *No es necesario.*
- **6.2 Precauciones relativas al medio ambiente:**
Diluir con mucha agua.
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
- **6.3 Métodos y material de contención y de limpieza:**
Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).
Desechar el material contaminado como vertido según item 13.
Asegurar suficiente ventilación.
- **6.4 Referencia a otras secciones**
Ver capítulo 7 para mayor información sobre una manipulación segura.
Ver capítulo 8 para mayor información sobre el equipo personal de protección.
Para mayor información sobre cómo desechar el producto, ver capítulo 13.

SECCIÓN 7: Manipulación y almacenamiento

- **7.1 Precauciones para una manipulación segura**
Asegurar suficiente ventilación /aspiración en el puesto de trabajo.
Abrir y manejar el recipiente con cuidado.
Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:** *Tener preparados los aparatos respiratorios.*
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** *No se requieren medidas especiales.*
- **Normas en caso de un almacenamiento conjunto:** *No es necesario.*
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**
Mantener el recipiente cerrado herméticamente.
- **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.

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- **8.1 Parámetros de control**
- **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:** Nulo.
- **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

SECCIÓN 9: Propiedades físicas y químicas

- **9.1 Información sobre propiedades físicas y químicas básicas**

- **Datos generales**

- **Aspecto:**

Forma: Sólido

Color: Blanco

· **Olor:** Inodoro

· **Umbral olfativo:** No determinado.

· **valor pH:** No determinado.

- **Cambio de estado**

Punto de fusión/punto de congelación: 734 °C

Punto inicial de ebullición e intervalo de ebullición: 1.435 °C

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· Punto de inflamación:	No aplicable.
· Inflamabilidad (sólido, gas):	No aplicable.
· Temperatura de descomposición:	No determinado.
· Temperatura de auto-inflamación:	No determinado.
· Propiedades explosivas:	El producto no es explosivo.
· Límites de explosión:	
Inferior:	No determinado.
Superior:	No determinado.
· Presión de vapor:	No determinado.
· Densidad a 20 °C:	2,75 g/cm ³
· Densidad relativa	No determinado.
· Densidad de vapor	No determinado.
· Tasa de evaporación:	No determinado.
· Solubilidad en / miscibilidad con agua:	Completamente mezclable.
· Coefficiente de reparto: n-octanol/agua:	No determinado.
· Viscosidad:	
Dinámica:	No determinado.
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.

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, contacto con la piel o inhalación.
- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas**
Provoca irritación cutánea.
- **Lesiones o irritación ocular graves**
Provoca irritación ocular grave.

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- **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** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad para la reproducción** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición única**
Puede irritar las vías respiratorias.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Peligro de aspiración** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

SECCIÓN 12: Información ecológica

- **12.1 Toxicidad**
- **Toxicidad acuática:** No existen más datos relevantes disponibles.
- **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.
- **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.
- **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**
Nivel de riesgo para el agua 1 (clasificación de listas): escasamente peligroso para el agua
En estado no diluido o no neutralizado, no dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados.
- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

SECCIÓN 13: Consideraciones relativas a la eliminación

- **13.1 Métodos para el tratamiento de residuos**
- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.
- **Embalajes sin limpiar:**
- **Recomendación:** Eliminar conforme a las disposiciones oficiales.
- **Producto de limpieza recomendado:** Agua, eventualmente añadiendo productos de limpieza.

SECCIÓN 14: Información relativa al transporte

- **14.1 Número ONU**
- **ADR, IMDG, IATA** UN3287
- **14.2 Designación oficial de transporte de las Naciones Unidas**
- **ADR** 3287 LÍQUIDO TÓXICO, INORGÁNICO, N.E.P.
(bromuro de potasio)
- **IMDG, IATA** TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide)

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· **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 Kemler:**

60

· **Número EMS:**

F-A,S-A

· **Stowage Category**

A

· **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 3287 LÍQUIDO TÓXICO, INORGÁNICO, N.E.P.
(BROMURO DE POTASIO), 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.

· **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII** Restricciones: 3

· **15.2 Evaluación de la seguridad química:** Una evaluación de la seguridad química no se ha llevado a cabo.

ES

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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.

· Abreviaturas y acrónimos:

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Toxicidad aguda – Categoría 4

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

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

STOT SE 3: Toxicidad específica en determinados órganos (exposición única) – Categoría 3

แผ่นข้อมูลความปลอดภัย

มาตรฐาน 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2018.08.21

การปรับปรุงใหม่ : 2018.08.21

1 การระบุสาร/ การทำ/ และของบริษัท / บริษัทที่เข้าถือครอง

- 1.1 ลักษณะเฉพาะของผลิตภัณฑ์
- ชื่อทางการค้า **POTASSIUM BROMIDE**
- เลขที่รายชื่อ 20040
- เลขที่ CAS: 7758-02-3
- จำนวน EC: 231-830-3
- 1.2 สารหรือสารผสมที่เกี่ยวข้องที่ระบุให้ใช้และที่ไม่ควรให้ใช้ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- การประยุกต์ใช้สาร/ การทำ เคมีภัณฑ์ห้องทดลอง
- 1.3 รายละเอียดของผู้จัดหาข้อมูลด้านความปลอดภัย
- ผู้ผลิต/ ผู้จัดหา
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- ข้อมูลรายละเอียดเพิ่มเติมหาได้จาก Product safety department
- 1.4 หมายเลขโทรศัพท์ฉุกเฉิน:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 การระบุสิ่งที่อันตราย

- 2.1 การจำแนกประเภทของสารหรือสารผสม
- การแบ่งประเภทตามข้อบังคับจีเอสดีซีจี 1272/2008



Acute Tox. 4 H302 เป็นอันตรายหากกลืนเข้าไป
 Acute Tox. 4 H312 เป็นอันตรายหากสัมผัสกับผิวหนัง
 Acute Tox. 4 H332 ให้โทษหากสูดหายใจเข้า
 Skin Irrit. 2 H315 เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง
 Eye Irrit. 2 H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
 STOT SE 3 H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ

- 2.2 องค์ประกอบของฉลาก
- ฉลากตามระเบียบ (EC) เลขที่ 1272/2008 สารได้รับการจัดประเภทและติดฉลากตามข้อบังคับของ CLP
- ภาพสัญลักษณ์สิ่งที่อันตราย



GHS07

- สัญญาการค้า ค่าเตือน !
- ส่วนประกอบที่ระบุอันตรายบนฉลาก
potassium bromide
- ประกาศสิ่งที่อันตราย
H302+H312+H332 อันตรายหากมีการกลืนกิน , มีการสัมผัสกับผิวหนัง หรือ มีการสูดดม.
H315 เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง

(ต่อที่หน้า 2)

แผนข้อมูลความปลอดภัย

มาตรฐาน 1907/2006/EC, มาตรา 31

วันที่พิมพ์ 2018.08.21

การปรับปรุงใหม่ : 2018.08.21

ชื่อทางการค้า POTASSIUM BROMIDE

(ต่อหน้า 1)

- H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
- H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ
- **ประกาศการป้องกันระดับระวังภัย**
 - P261 หลีกเลี่ยงการสูดหายใจเอาฝุ่น/ ไอสาร/ แกส/ หมอก/ไอ/ ละอองฟุ้ง
 - P280 สวมถุงมือป้องกัน/เสื้อผ้าป้องกัน/ที่ป้องกันตา/ที่ป้องกันหน้า
 - P301+P312 หากกลืนลงไป: โทรศัพทถึงศูนย์พิษวิทยา/แพทย์ หากท่านรู้สึกไม่สบาย
 - P305+P351+P338 หากเข้าตา : ชะด้วยน้ำอย่างระมัดระวังเป็นเวลาหลายนาทีถอดคอนแทกซ์เลนส์ถ้ายังอยู่ที่เดิมและสะดวกที่จะทำก็ให้ชะล้างต่อไป
 - P405 เก็บในที่ใส่กุญแจมิด
 - P501 ทิ้งสิ่งที่บรรจุ/ภาชนะที่บรรจุตามกฎหมายของท้องถิ่น/แคว้น/ในประเทศ/ระหว่างประเทศ
 - **2.3 อันตรายอื่นๆ**
 - **ผลของ PBT และการประเมิน vPvB**
 - **PBT:** ไม่สามารถใช้ได้
 - **vPvB:** ไม่สามารถใช้ได้

3 ส่วนประกอบ/ ข้อมูลรายละเอียดของส่วนผสมต่างๆ

- **3.1 คุณลักษณะทางเคมีสารสาร**
- **การระบุเลขที่ CAS**
- 7758-02-3 potassium bromide
- **เลขที่ที่ระบุ**
- **จำนวน EC:** 231-830-3

4 มาตรการการปฐมพยาบาลเบื้องต้น

- **4.1 คำอธิบายถึงมาตรการปฐมพยาบาล**
- **ข้อมูลรายละเอียดทั่วไป**
- ให้ถอดเสื้อผ้าที่เปื้อนออกให้เร็วที่สุด
- อาการจากพิษอาจเกิดขึ้นหลังจากนั้นหลายชั่วโมงดังนั้นจะต้องเฝ้าติดตามอาการทางการแพทย์อย่างน้อย 48 ชั่วโมงหลังจากอุบัติเหตุ
- ให้ถอดอุปกรณ์ช่วยหายใจออกหลังจากที่ถอดเสื้อผ้าที่เปื้อนออกเรียบร้อยแล้วเท่านั้น
- ในกรณีที่หายใจผิดปกติหรือการหายใจหยุดชะงักให้ใช้อุปกรณ์ช่วยหายใจ
- **หลังจากการสูดหายใจเข้าไป**
- หาบริเวณที่มีอากาศบริสุทธิ์หรือให้ออกซิเจนติดต่อแพทย์
- ในกรณีที่คนไข้ไม่รู้สึกตัวให้ขนย้ายคนไข้อย่างมั่นคงในท่าตะแคงด้านข้าง
- **หลังจากการสัมผัสผิวหนัง** ล้างด้วยน้ำและสบู่แล้วฟอกให้ทั่วทันที
- **หลังจากการสัมผัสถูกตา** ชะตาที่เปิดอยู่ใต้น้ำที่กำลังไหลเป็นเวลาหลายนาทีถ้าอาการไม่ดีขึ้นให้ปรึกษาแพทย์
- **หลังจากการกลืนเข้าไป:** พบแพทย์โดยทันที
- **4.2 อาการสำคัญส่วนใหญ่และผลกระทบ ทั้งชนิดเฉียบพลันและค่อยๆ แสดงอาการ**
- ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- **4.3 ข้อบ่งชี้ของอาการที่ต้องเข้ารับการรักษาจากแพทย์ทันทีและการบำบัดพิเศษที่จำเป็น**
- ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

5 มาตรการการดับเพลิง

- **5.1 สารที่ใช้ดับเพลิง**
- **สารดับเพลิงที่เหมาะสม** ใช้วิธีดับเพลิงที่เหมาะสมกับสภาพแวดล้อม
- **5.2 อันตรายเฉพาะอย่างที่เกิดจากสารหรือส่วนผสม** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

(ต่อหน้า 3)

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- 5.3 คำแนะนำสำหรับพนักงานดับเพลิง
- อุปกรณ์ป้องกันภัย อุปกรณ์ป้องกันซึ่งเหมาะสำหรับการหายใจทางปาก

6 มาตรการลดอุบัติเหตุ

- 6.1 การป้องกันส่วนบุคคล อุปกรณ์ป้องกัน และขั้นตอนดำเนินการเมื่อเกิดกรณีฉุกเฉิน ไม่ได้กำหนด
- 6.2 การให้ความคุ้มครองสิ่งแวดล้อม:
ทำให้เจือจางด้วยน้ำมากๆ
อย่าปล่อยให้เข้าไปในท่อน้ำทิ้ง/ น้ำบนดินหรือใต้ดิน
- 6.3 วิธีดำเนินการและวัสดุสำหรับการบรรจุและการทำความสะอาด:
ดูดซับด้วยวัสดุที่สามารถยึดของเหลวไว้ (ทรายโตอะโตไมท์ตัวยึดเกาะกรดตัวยึดทั่วๆไปซีลีย)
ทิ้งวัสดุที่ปนเปื้อนเป็นของเสียตามรายการในบัญชี 13
ตรวจให้แน่ใจว่ามีการระบายอากาศที่ดีพอ
- 6.4 การอ้างอิงถึงส่วนอื่น
ดูข้อมูลรายละเอียดเรื่องความปลอดภัยในการขนถ่ายจากส่วนที่ 7
ดูข้อมูลรายละเอียดเรื่องอุปกรณ์ป้องกันส่วนบุคคลจากส่วนที่ 8
ดูข้อมูลรายละเอียดเรื่องการกำจัดจากส่วนที่ 13

7 การขนถ่ายและการจัดเก็บ

- 7.1 การป้องกันล่วงหน้าสำหรับการจัดการด้านความปลอดภัย
ทำให้แน่ใจว่าสถานที่ทำงานมีการระบายอากาศ/ ไอเสียที่ดี
เปิดและถือภาชนะรองรับอย่างระมัดระวัง
ป้องกันการเกิดละอองสารฟุ้ง
- ข้อมูลรายละเอียดเกี่ยวกับการป้องกันอัคคีภัยและการระเบิด
เก็บอุปกรณ์ป้องกันสำหรับการช่วยหายใจให้มีพร้อมใช้งาน
- 7.2 เงื่อนไขในการเก็บรักษาอย่างปลอดภัย, รวมถึงสิ่งที่เข้ากันไม่ได้ใดๆ
- การจัดเก็บ
- ข้อกำหนดที่ต้องปฏิบัติตามสำหรับห้องเก็บและภาชนะบรรจุ ไม่มีข้อกำหนดพิเศษ
- ข้อมูลรายละเอียดด้านการจัดเก็บในสถานที่จัดเก็บรวม ไม่ได้กำหนด
- ข้อมูลรายละเอียดเพิ่มเติมด้านสภาพการจัดเก็บ เก็บโดยปิดผนึกอย่างแน่นหนา
- 7.3 การระบุถึงการสิ้นสุดการใช้ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

8 การควบคุมการทิ้งในลักษณะเปิด / การป้องกันภัยส่วนบุคคล

- ข้อมูลรายละเอียดเสริมสำหรับการออกแบบสิ่งอำนวยความสะดวกทางเทคนิค ไม่มีข้อมูลนอกเหนือจากนี้ดูรายการ 7
- 8.1 การควบคุมตัวแปร
- ส่วนผสมพร้อมค่าขอบเขตที่ต้องเฝ้าดูในสถานที่ปฏิบัติงาน ไม่ได้กำหนด
- ข้อมูลรายละเอียดเสริม รายการถูกต้องระหว่างที่จัดทำโดยอาศัยการใช้งานเป็นหลัก
- 8.2 การควบคุมการสัมผัส
- อุปกรณ์ป้องกันภัยส่วนบุคคล
- มาตรการการป้องกันและสุขอนามัยทั่วไป
เก็บให้ห่างจากสิ่งของที่เป็นอาหารเครื่องดื่มและอาหารสัตว์
ให้ถอดเสื้อผ้าที่เปื้อนและเจือปนออกทันที
ล้างมือก่อนที่จะหยุดพักและเมื่อสิ้นสุดเวลาทำงาน
เก็บชุดป้องกันแยกต่างหาก
หลีกเลี่ยงการสัมผัสลูกตาและผิวหนัง
- การป้องกันการสูดหายใจเข้าไป
ในกรณีที่อยู่เป็นเวลาสั้นหรืออากาศเป็นพิษระดับต่ำใช้หน้ากากกรองเพื่อช่วยหายใจในกรณีที่มีความเข้มข้นสูงหรืออยู่เป็นเวลานานให้ใช้เครื่องป้องกันที่มีอุปกรณ์ช่วยหายใจในตัว

(ต่อที่หน้า 4)

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· การป้องกันมือ



ถุงมือป้องกัน

วัสดุของถุงมือจะต้องไม่ให้อากาศผ่านเข้าออกและทนทานต่อผลิตภัณฑ์/ สาร/ การผลิต เนื่องจากขาดการทดสอบจึงไม่มีคำแนะนำสำหรับวัสดุที่ใช้ทำถุงมือสำหรับผลิตภัณฑ์/ การผลิต/ ของผสมเคมี เลือกวัสดุสำหรับถุงมือโดยพิจารณาจากเวลาที่ใช้ในการซึมผ่านอัตราการแพร่และการเสื่อม

· วัสดุที่ใช้ทำถุงมือ

การเลือกใช้ถุงมือที่เหมาะสมไม่เพียงแต่ขึ้นอยู่กับวัสดุแต่ยังขึ้นกับมาตรฐานด้านคุณภาพและข้อแตกต่างระหว่างผู้ผลิตแต่ละแห่ง

· เวลาที่ใช้ในการทะลุผ่านวัสดุที่ใช้ทำถุงมือ

ผู้ผลิตถุงมือป้องกันจะต้องทดสอบหาเวลาแน่นอนที่ใช้ในการทะลุผ่านและจะต้องมีการตรวจสอบติดตาม

· การป้องกันตา



แว่นตาที่ขอบปิดสนิท

9 คุณสมบัติทางกายภาพและเคมี

· 9.1 ข้อมูลคุณสมบัติพื้นฐานทางกายภาพและเคมี

· ข้อมูลรายละเอียดทั่วไป

· ลักษณะ :

รูปสัณฐาน

ของแข็ง

สี

สีขาว

กลิ่นกลิ่นกลิ่น

ไม่มีกลิ่น

· เกณฑ์กลิ่น :

ไม่ได้กำหนดไว้.

ค่าค่า pH

ไม่ได้กำหนดไว้.

· การเปลี่ยนสถานะ

จุดหลอมเหลว/ ขอบเขตการหลอมละลาย

734 °C

จุดเดือด/ ขอบเขตการเดือด

1,435 °C

· จุดวาบไฟ

ไม่สามารถใช้ได้

· ความสามารถติดไฟ (ของแข็งแกส)

ไม่สามารถใช้ได้

· อุณหภูมิละลายตัว

ไม่ได้กำหนดไว้.

· การเผาไหม้ด้วยตัวเอง

ไม่ได้กำหนดไว้.

· อันตรายจากการระเบิด

ผลิตภัณฑ์ไม่มีอันตรายจากการระเบิด

· ขอบเขตการระเบิด

ขั้นต่ำ

ไม่ได้กำหนดไว้.

ขั้นสูง

ไม่ได้กำหนดไว้.

· ความดันไอ

ไม่ได้กำหนดไว้.

· ความหนาแน่น ที่ 20 °C

2.75 g/cm³

· ความหนาแน่นสัมพัทธ์

ไม่ได้กำหนดไว้.

· ความหนาแน่นของไอ

ไม่ได้กำหนดไว้.

· อัตราการระเหย

ไม่ได้กำหนดไว้.

(ต่อหน้า 5)

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(ต่อหน้า 4)

· ความสามารถในการละลายใน / ความสามารถผสมเป็นสารละลายเนื้อเดียวทุกส่วนผสมกับน้ำ	ผสมกันได้อย่างเต็มที่
· สัมประสิทธิ์การแยกตัว (เอ็นเอชเคทานอลกับน้ำ)	ไม่ได้กำหนดไว้.
· ความหนืด (ไดนามิก) พลศาสตร์ (คินเมติก) จลนศาสตร์	ไม่ได้กำหนดไว้. ไม่ได้กำหนดไว้.
· ปริมาณส่วนประกอบตัวทำละลาย VOC (EC)	0.00 %
· ส่วนประกอบที่เป็นของแข็ง 9.2 ข้อมูลอื่นๆ	0.0 % ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

10 ความเสถียรและความสามารถในการทำปฏิกิริยา

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

11 ข้อมูลรายละเอียดเกี่ยวกับพิษวิทยา

- 11.1 ข้อมูลเกี่ยวกับผลกระทบทางพิษวิทยา
- ความเป็นพิษอย่างสาหัส: อันตรายหากมีการกลืนกิน , มีการสัมผัสกับผิวหนัง หรือ มีการสูดดม.
- อาการระคายเคืองเบื้องต้น
- บวมผิวหนัง เป็นสาเหตุให้เกิดการระคายเคืองผิวหนัง
- ที่ดวงตา เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
- การทำให้แพ้

12 ข้อมูลรายละเอียดเกี่ยวกับนิเวศวิทยา

- 12.1 ความเป็นพิษ
- ความเป็นพิษที่เกี่ยวข้องกับน้ำ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.2 การคงอยู่และการย่อยสลาย ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.3 การสะสมทางชีวภาพที่อาจเกิดขึ้น ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 12.4 การเปลี่ยนแปลงในดิน ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- ข้อมูลรายละเอียดเสริมเกี่ยวกับนิเวศวิทยา
- หมายเหตุทั่วไป เป็นอันตรายต่อน้ำชั้น 1 (กฎข้อบังคับของเยอรมัน)(การประเมินค่าตามรายการ):เป็นอันตรายเล็กน้อยกับน้ำ อย่ายปล่อยให้ผลิตภัณฑ์ที่ยังไม่ได้เจือจางหรือผลิตภัณฑ์เป็นจำนวนมาก ไปถึงน้ำผิวดินเส้นทางน้ำหรือระบบระบายน้ำเสีย
- 12.5 ผลของ PBT และการประเมิน vPvB
- PBT: ไม่สามารถใช้ได้

(ต่อหน้า 6)

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แผ่นข้อมูลความปลอดภัย

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ชื่อทางการค้า POTASSIUM BROMIDE


(ต่อหน้า 5)

- vPvB: ไม่สามารถใช้ได้
- 12.6 ผลข้างเคียงอื่นๆ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

13 การพิจารณาการกำจัด

- 13.1 วิธีการกำจัดของเสีย
- คำแนะนำ ต้องไม่ทิ้งไปพร้อมกับขยะจากบ้านเรือนอย่าปล่อยให้ผลิตภัณฑ์เข้าถึงระบบระบายน้ำเสีย
- ภาชนะบรรจุที่ยังไม่ได้ล้างทำความสะอาด
- คำแนะนำ การกำจัดจะต้องทำตามกฎระเบียบที่เป็นทางการ
- สารทำความสะอาดที่แนะนำ นำถ้าจำเป็นใช้คู่กับสารทำความสะอาด

14 ข้อมูลรายละเอียดในการขนส่ง

- 14.1 เลขที่ UN
· ADR, IMDG, IATA UN3287
- 14.2 ชื่อการจัดส่งสินค้าที่เหมาะสมของ UN
· ADR 3287 TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide)
· IMDG, IATA TOXIC LIQUID, INORGANIC, N.O.S. (potassium bromide)
- 14.3 ชั้นเรียนอันตรายจากการขนส่ง
· ADR, IMDG, IATA

- ประเภท 6.1 สารมีพิษ
· ฉลากสิ่งที่เป็นอันตราย 6.1
- 14.4 กลุ่มของภาชนะบรรจุ
· ADR, IMDG, IATA III
- 14.5 สิ่งที่เป็นอันตรายต่อสภาพแวดล้อม ไม่สามารถใช้ได้
- 14.6 การป้องกันพิเศษล่วงหน้าสำหรับผู้ใช้ คำเตือน !: สารมีพิษ
· รหัสความอันตราย: 60
· หมายเลข EMS F-A,S-A
· Stowage Category A
· Stowage Code SW2 Clear of living quarters.
- 14.7 การขนส่งขนาดใหญ่ตามภาคผนวกของของ MARPOL73/78 และรหัส IBC ไม่สามารถใช้ได้
- การขนส่ง/ข้อมูลรายละเอียดเสริม
- ADR
- ปริมาณที่จำกัด (LQ) 5L
- Excepted quantities (EQ) Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml
- หมวดหมู่การขนส่ง 2
- รหัสควบคุมการผ่านอุโมงค์ E

(ต่อหน้า 7)

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แผ่นข้อมูลความปลอดภัย

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ชื่อทางการค้า POTASSIUM BROMIDE

(ต่อหน้า 6)

· 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
· “กฎระเบียบต้นแบบ” ของ IATA	UN 3287 TOXIC LIQUID, INORGANIC, N.O.S. (POTASSIUM BROMIDE), 6.1, III

15 ข้อมูลรายละเอียดของกฎระเบียบ

- 15.1 ความปลอดภัย สุขภาพและระเบียบ/กฎหมายสิ่งแวดล้อมโดยเฉพาะของสารหรือสารผสม
- บัญชีรายชื่อวัตถุอันตราย

· กรมวิชาการเกษตร

สารที่ไม่ได้อยู่ในรายการ

· กรมประมง

สารที่ไม่ได้อยู่ในรายการ

· กรมปศุสัตว์

สารที่ไม่ได้อยู่ในรายการ

· อาหารและยา

สารที่ไม่ได้อยู่ในรายการ

· กรมโรงงานอุตสาหกรรม

สารที่ไม่ได้อยู่ในรายการ

· กรมธุรกิจพลังงาน

สารที่ไม่ได้อยู่ในรายการ

- 15.2 การประเมินความปลอดภัยของสารเคมี: ไม่ได้ดำเนินการตามการประเมินความปลอดภัยของสารเคมี

16 ข้อมูลรายละเอียดอื่นๆ

ข้อมูลรายละเอียดนี้ใช้ความรู้ปัจจุบันของเราเป็นหลัก อย่างไรก็ตามข้อมูลนี้ไม่ใช่การรับประกันจากสถาบันต่อคุณสมบัติเฉพาะของผลิตภัณฑ์และไม่สามารถยืนยันการบังคับใช้ตามกฎหมายที่เกี่ยวข้องกับสัญญา

· คำย่อและชื่อย่อที่ผสมขึ้น

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

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

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

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3