

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/06/2022

Reviewed on 05/06/2022

1 Identification

- **Product identifier**
- **Trade name:** SILVER CONDUCTIVE PAINT, 503
- **Article number:** 12686-15, 12686-15-SP
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids 2

H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Carcinogenicity 2

H351 Suspected of causing cancer.



GHS07

Eye Irritation 2A

H319 Causes serious eye irritation.

Specific Target Organ Toxicity - Single Exposure 3 H335 May cause respiratory irritation.

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



GHS02



GHS07



GHS08

- **Signal word** Danger
- **Hazard-determining components of labeling:**
4-methylpentan-2-one
- **Hazard statements**
Highly flammable liquid and vapor.
Causes serious eye irritation.

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Suspected of causing cancer.

May cause respiratory irritation.

· Precautionary statements

Obtain special instructions before use.

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

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

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a poison center/doctor if you feel unwell.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use CO₂, powder or water spray to extinguish.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

· Classification system:

· NFPA ratings (scale 0 - 4)



Health = 2

Fire = 3

Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 2

Fire = 3

Reactivity = 0

· Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Mixtures

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

· Dangerous components:

108-10-1	4-methylpentan-2-one	>25-≤50%
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4 First-aid measures

- **Description of first aid measures**

- **General information:**

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

- **After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

- **After skin contact:** Generally the product does not irritate the skin.

- **After eye contact:**

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

- **After swallowing:** If symptoms persist consult doctor.

- **Information for doctor:**

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

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- **Special hazards arising from the substance or mixture** No further relevant information available.

- **Advice for firefighters**

- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

- **Environmental precautions:**

Dilute with plenty of water.

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

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

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

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:**

7440-22-4	silver	0.3 mg/m ³
108-10-1	4-methylpentan-2-one	75 ppm
9011-17-0	Poly(vinylidene fluoride-co-hexafluoropropylene)	30 mg/m ³

- **PAC-2:**

7440-22-4	silver	170 mg/m ³
108-10-1	4-methylpentan-2-one	500 ppm

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9011-17-0	Poly(vinylidene fluoride-co-hexafluoropropylene)	330 mg/m ³
· PAC-3:		
7440-22-4	silver	990 mg/m ³
108-10-1	4-methylpentan-2-one	3000* ppm
9011-17-0	Poly(vinylidene fluoride-co-hexafluoropropylene)	2,000 mg/m ³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

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

108-10-1 4-methylpentan-2-one

PEL	Long-term value: 410 mg/m ³ , 100 ppm
REL	Short-term value: 300 mg/m ³ , 75 ppm Long-term value: 205 mg/m ³ , 50 ppm
TLV	Short-term value: 75 ppm Long-term value: 20 ppm BEI, A3

- **Ingredients with biological limit values:**

108-10-1 4-methylpentan-2-one

BEI	1 mg/L Medium: urine Time: end of shift Parameter: MIBK
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- **Additional information:** The lists that were valid during the creation were used as basis.

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- **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.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

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

- **Protection of hands:**

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

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

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

- **Material of gloves**

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

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Silver-colored
Odor:	Solvent-like
Odor threshold:	Not determined.

- **pH-value at 20 °C (68 °F):** 7

- **Change in condition**

Melting point/Melting range:	<0 °C (<32 °F)
Boiling point/Boiling range:	116 °C (240.8 °F)

- **Flash point:** 16 °C (60.8 °F)

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

- **Ignition temperature:** 460 °C (860 °F)

- **Decomposition temperature:** Not determined.

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· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	8 Vol %
· Vapor pressure at 20 °C (68 °F):	20 hPa (15 mm Hg)
· Density at 20 °C (68 °F):	1.77 g/cm ³ (14.77065 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 at 20 °C (68 °F):	1,700 mPas
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	30.0 %
VOC content:	30.00 %
	531.0 g/l / 4.43 lb/gal
Solids content:	62.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

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

· LD/LC50 values that are relevant for classification:		
108-10-1 4-methylpentan-2-one		
Oral	LD50	2,080 mg/kg (rat)
Dermal	LD50	16,000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)

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- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**

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

- **Carcinogenic categories**

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

108-10-1	4-methylpentan-2-one	2B
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- **NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (Self-assessment): 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, ADR, IMDG, IATA** UNI245

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· **UN proper shipping name**
 · **DOT**
 · **ADR**
 · **IMDG**
 · **IATA**

Methyl isobutyl ketone
 1245 METHYL ISOBUTYL KETONE
 METHYL ISOBUTYL KETONE, MARINE POLLUTANT
 METHYL ISOBUTYL KETONE

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

· **Class**
 · **Label**

3 Flammable liquids
 3

· **ADR, IATA**

· **Class**
 · **Label**

3 Flammable liquids
 3

· **IMDG**

· **Class**
 · **Label**

3 Flammable liquids
 3

· **Packing group**· **DOT, ADR, IMDG, IATA** *II*· **Environmental hazards:**

· **Marine pollutant:**
Yes (DOT)
 Symbol (fish and tree)

· **Special precautions for user** *Warning: Flammable liquids*· **Hazard identification number (Kemler code):** *33*· **EMS Number:** *F-E,S-D*· **Stowage Category** *A*

· **Transport in bulk according to Annex II of
 MARPOL 73/78 and the IBC Code** *Not applicable.*

· **Transport/Additional information:**· **DOT**· **Quantity limitations** *On passenger aircraft/rail: 60 L**On cargo aircraft only: 220 L*· **Remarks:** *Special marking with the symbol (fish and tree).*

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· 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) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1245 METHYL ISOBUTYL KETONE, 3, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· **Sara**

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

None of the ingredients is listed.

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

7440-22-4	silver
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108-10-1	4-methylpentan-2-one
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· **TSCA (Toxic Substances Control Act):**

All components have the value ACTIVE.

· **Hazardous Air Pollutants**

108-10-1	4-methylpentan-2-one
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· **Proposition 65**

· **Chemicals known to cause cancer:**

108-10-1	4-methylpentan-2-one
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· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

108-10-1	4-methylpentan-2-one
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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

7440-22-4	silver	D
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108-10-1	4-methylpentan-2-one	I
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· **TLV (Threshold Limit Value)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

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Trade name: **SILVER CONDUCTIVE PAINT, 503**

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· **Hazard pictograms**· **Signal word** *Danger*· **Hazard-determining components of labeling:***4-methylpentan-2-one*· **Hazard statements***Highly flammable liquid and vapor.**Causes serious eye irritation.**Suspected of causing cancer.**May cause respiratory irritation.*· **Precautionary statements***Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**Ground/bond container and receiving equipment.**Use explosion-proof electrical/ventilating/lighting/equipment.**Use only non-sparking tools.**Take precautionary measures against static discharge.**Avoid breathing dust/fume/gas/mist/vapors/spray**Wash thoroughly after handling.**Use only outdoors or in a well-ventilated area.**Wear protective gloves/protective clothing/eye protection/face protection.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.**Continue rinsing.**IF exposed or concerned: Get medical advice/attention.**Call a poison center/doctor if you feel unwell.**If eye irritation persists: Get medical advice/attention.**In case of fire: Use CO₂, powder or water spray to extinguish.**Store in a well-ventilated place. Keep container tightly closed.**Store in a well-ventilated place. Keep cool.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*· **Chemical safety assessment:** *A Chemical Safety Assessment has not been carried out.*

16 Other information

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

· **Contact:**· **Date of preparation / last revision** 05/06/2022 / -· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

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*ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety **Health******TLV: Threshold Limit Value******PEL: Permissible Exposure Limit******REL: Recommended Exposure Limit******BEI: Biological Exposure Limit******Flammable Liquids 2: Flammable liquids – Category 2******Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A******Carcinogenicity 2: Carcinogenicity – Category 2******Specific Target Organ Toxicity - Single Exposure 3: Specific target organ toxicity (single exposure) – Category 3***

US

Safety Data Sheet

according to WHS Regulations

Printing date 06.05.2022

Revision: 06.05.2022

1 Identification

- **Product identifier**
- **Trade name:** SILVER CONDUCTIVE PAINT, 503
- **Article number:** 12686-15, 12686-15-SP
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- ProSciTech Pty Ltd
11 Carlton Street, Kirwan QLD 4817 Australia
Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)
Website: ems.proscitech.com
- Emgrid Australia Pty. Ltd.
P.O. Box 118
The Patch VIC 3792
Australia
Tel: 03 9752 1785
Fax: 03 9752 1784
Website: www.emgrid.com.au
- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) Identification

- **Classification of the substance or mixture**



GHS02 flame

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



GHS08 health hazard

Carc. 2 H351 Suspected of causing cancer.



GHS07

Eye Irritation 2A H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

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



GHS02 GHS07 GHS08

- **Signal word** *Danger*
- **Hazard-determining components of labelling:**
4-methylpentan-2-one
- **Hazard statements**
Highly flammable liquid and vapour.
Causes serious eye irritation.
Suspected of causing cancer.
May cause respiratory irritation.
- **Precautionary statements**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER/doctor if you feel unwell.
If eye irritation persists: Get medical advice/attention.
In case of fire: Use CO₂, powder or water spray for extinction.
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** *Not applicable.*
- **vPvB:** *Not applicable.*

3 Composition and Information on Ingredients

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

- **Dangerous components:**

108-10-1	4-methylpentan-2-one		>25-≤50%
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· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First Aid Measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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.
Prevent formation of aerosols.

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- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

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

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

108-10-1 4-methylpentan-2-one

WES	Short-term value: 307 mg/m ³ , 75 ppm
	Long-term value: 205 mg/m ³ , 50 ppm

- **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.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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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:	Liquid
· Colour:	Silver-coloured
· Odour:	Solvent-like
· Odour threshold:	Not determined.

· pH-value at 20 °C: 7

· Change in condition

· Melting point/freezing point:	<0 °C
· Initial boiling point and boiling range:	116 °C

· Flash point: 16 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 460 °C

· Decomposition temperature: Not determined.

· Auto-ignition temperature: Product is not selfigniting.

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

· Explosion limits:

· Lower:	1.2 Vol %
· Upper:	8 Vol %

· Vapour pressure at 20 °C: 20 hPa

· Density at 20 °C:	1.77 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 at 20 °C:	1,700 mPas
· Kinematic:	Not determined.

· Solvent content:

· Organic solvents:	30.0 %
· VOC (EC)	30.00 %

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Solids content:	62.0 %
------------------------	--------

Other information	No further relevant information available.
--------------------------	--

10 Stability and Reactivity

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

11 Toxicological Information

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

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

108-10-1 4-methylpentan-2-one

Oral	LD50	2,080 mg/kg (rat)
Dermal	LD50	16,000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)

- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Irritant
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Carc. 2

12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): 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.

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- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

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

14 Transport information

· UN-Number · ADG, IMDG, IATA	UN1245
· UN proper shipping name · ADG · IMDG · IATA	1245 METHYL ISOBUTYL KETONE METHYL ISOBUTYL KETONE, MARINE POLLUTANT METHYL ISOBUTYL KETONE
· Transport hazard class(es) · ADG, IATA	
	
· Class · Label	3 Flammable liquids. 3
· IMDG	
 	
· Class · Label	3 Flammable liquids. 3
· Packing group · ADG, IMDG, IATA	II
· Environmental hazards: · Marine pollutant:	Yes (DOT) Symbol (fish and tree)
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids. 33 F-E,S-D A

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- | | |
|---|--|
| · Transport in bulk according to Annex II of Marpol and the IBC Code | Not applicable. |
| · Transport/Additional information: | |
| · ADG | |
| · 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 | 3 |
| · 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 1245 METHYL ISOBUTYL KETONE, 3, II |

15 Regulatory information

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

- Australian Inventory of Industrial Chemicals**

All ingredients are listed.

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

7440-22-4 silver

S2

108-10-1 4-methylpentan-2-one

S5

- Australia: Priority Existing Chemicals**

None of the ingredients is listed.

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

- Hazard pictograms**



GHS02

GHS07

GHS08

- Signal word** Danger

- Hazard-determining components of labelling:**

4-methylpentan-2-one

- Hazard statements**

Highly flammable liquid and vapour.

Causes serious eye irritation.

Suspected of causing cancer.

May cause respiratory irritation.

- Precautionary statements**

Obtain special instructions before use.

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

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

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Ground/bond container and receiving equipment.
 Use explosion-proof electrical/ventilating/lighting equipment.
 Use only non-sparking tools.
 Take precautionary measures against static discharge.
 Avoid breathing dust/fume/gas/mist/vapours/spray.
 Wash thoroughly after handling.
 Use only outdoors or in a well-ventilated area.
 Wear protective gloves/protective clothing/eye protection/face protection.
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
 Continue rinsing.
 IF exposed or concerned: Get medical advice/attention.
 Call a POISON CENTER/doctor if you feel unwell.
 If eye irritation persists: Get medical advice/attention.
 In case of fire: Use CO₂, powder or water spray for extinction.
 Store in a well-ventilated place. Keep container tightly closed.
 Store in a well-ventilated place. Keep cool.
 Store locked up.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category P5c FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t**
- **Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t**
- **Chemical safety assessment: A Chemical Safety Assessment has not been carried out.**

16 Other information

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

- **Contact:**
- **Abbreviations and acronyms:**
 ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Flam. Liq. 2: Flammable liquids – Category 2
 Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
 Carc. 2: Carcinogenicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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1 Identification

- **Product identifier**
- **Trade name:** SILVER CONDUCTIVE PAINT, 503
- **Article number:** 12686-15, 12686-15-SP
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard identification

- **Classification of the substance or mixture**



GHS02 Flame

Flammable Liquids - Category 2

H225 Highly flammable liquid and vapour.



GHS08 Health hazard

Carcinogenicity – Category 2

H351 Suspected of causing cancer.



GHS07

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

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

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

4-methylpentan-2-one

- **Hazard statements**

Highly flammable liquid and vapour.

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Causes serious eye irritation.

Suspected of causing cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Ground and bond container and receiving equipment.

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

Use non-sparking tools.

Take actions to prevent static discharges.

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a poison center/doctor if you feel unwell.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use CO₂, powder or water spray to extinguish.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 0

3 Composition/Information on ingredients

· **Chemical characterization: Mixtures**

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

· **Dangerous components:**

108-10-1	4-methylpentan-2-one	10-30% w/w *
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* Actual concentration ranges are withheld as a trade secret.

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4 First-aid measures

- **Description of first aid measures**
- **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.

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Protect from heat.

Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**

· **Storage:**

· **Requirements to be met by storerooms and receptacles:** Store in a cool location.

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

· **Further information about storage conditions:**

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

Protect from heat and direct sunlight.

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

8 Exposure controls/ Personal protection

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

· **Control parameters**

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

108-10-1 4-methylpentan-2-one

EL STEL: 75 ppm

TWA: 20 ppm

IARC 2B

EV STEL: 75 ppm

TWA: 205 mg/m³, 50 ppm

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

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

· **Protection of hands:**

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

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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:	Liquid
· Color:	Silver-colored
· Odor:	Solvent-like
· Odor threshold:	Not determined.

· **pH-value at 20 °C:** 7· **Change in condition**

· Melting point/Melting range:	<0 °C
· Boiling point/Boiling range:	116 °C

· **Flash point:** 16 °C· **Flammability (solid, gaseous):** Not flammable.· **Ignition temperature:** 460 °C· **Decomposition temperature:** Not determined.· **Auto igniting:** Product is not selfigniting.· **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.· **Explosion limits:**

· Lower:	1.2 Vol %
· Upper:	8 Vol %

· **Vapor pressure at 20 °C:** 20 hPa

· Density at 20 °C:	1.77 g/cm ³
· 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 at 20 °C:	1,700 mPas
· Kinematic:	Not determined.

· **Solvent content:**· **Organic solvents:** 30.0 %· **Solids content:** 62.0 %

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

10 Stability and reactivity

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

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

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

108-10-1 4-methylpentan-2-one

Oral	LD50	2,080 mg/kg (rat)
Dermal	LD50	16,000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)

· **Primary irritant effect:**

· **on the skin:** No irritant effect.

· **on the eye:** Irritating effect.

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

· **Additional toxicological information:**

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

Harmful

Irritant

· **Carcinogenic categories**

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

108-10-1 4-methylpentan-2-one

2B

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

12 Ecological information

· **Toxicity**

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

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

· **Behavior in environmental systems:**

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

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

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

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- **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

- | | |
|--|--|
| <ul style="list-style-type: none"> · UN-Number · DOT/TDG, ADR, IMDG, IATA | <p style="margin-left: 20px;">UN1245</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT/TDG · ADR · IMDG · IATA | <p style="margin-left: 20px;">Methyl isobutyl ketone
1245 METHYL ISOBUTYL KETONE
METHYL ISOBUTYL KETONE, MARINE POLLUTANT
METHYL ISOBUTYL KETONE</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT/TDG (Transport dangerous goods): | <div style="display: flex; align-items: center; margin-bottom: 10px;">   </div> <ul style="list-style-type: none"> · Class 3 Flammable liquids · Label 3 |
| <ul style="list-style-type: none"> · ADR, IATA | <div style="display: flex; align-items: center; margin-bottom: 10px;">  </div> <ul style="list-style-type: none"> · Class 3 Flammable liquids · Label 3 |
| <ul style="list-style-type: none"> · IMDG | <div style="display: flex; align-items: center; margin-bottom: 10px;">   </div> <ul style="list-style-type: none"> · Class 3 Flammable liquids · Label 3 |

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· Packing group · DOT/TDG, ADR, IMDG, IATA	II
· Environmental hazards: · Marine pollutant:	Yes (DOT) Symbol (fish and tree)
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids 33 F-E,S-D A
· Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
· Transport/Additional information: · DOT/TDG · Quantity limitations · Remarks:	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L Special marking with the symbol (fish and tree).
· 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) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1245 METHYL ISOBUTYL KETONE, 3, II

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
No further relevant information available.

· **Sara**

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

None of the ingredients is listed.

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

7440-22-4 silver

108-10-1 4-methylpentan-2-one

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

All components have the value ACTIVE.

· **Canadian substance listings:**

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

All ingredients are listed.

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

None of the ingredients is listed.

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

None of the ingredients is listed.

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

7440-22-4 silver

108-10-1 4-methylpentan-2-one

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

· **Hazard pictograms**



GHS02

GHS07

GHS08

· **Signal word** Danger

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

4-methylpentan-2-one

· **Hazard statements**

Highly flammable liquid and vapour.

Causes serious eye irritation.

Suspected of causing cancer.

May cause respiratory irritation.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Ground and bond container and receiving equipment.

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

Use non-sparking tools.

Take actions to prevent static discharges.

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

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

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

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

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

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

Continue rinsing.

IF exposed or concerned: Get medical advice/attention.

Call a poison center/doctor if you feel unwell.

If eye irritation persists: Get medical advice/attention.

In case of fire: Use CO₂, powder or water spray to extinguish.

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

Store in a well-ventilated place. Keep cool.

Store locked up.

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

· **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.

(Contd. on page 10)

Safety Data Sheet
according to HPR, Schedule 1

Printing date 05/06/2022

Reviewed on 05/06/2022

Trade name: SILVER CONDUCTIVE PAINT, 503

(Contd. of page 9)

· **Contact:**

· **Date of the latest revision of the safety data sheet** 05/06/2022 / -

· **Abbreviations and acronyms:**

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

CA

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

Printing date 06.05.2022

Revision: 06.05.2022

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

- **1.1 Product identifier**
- **Trade name:** SILVER CONDUCTIVE PAINT, 503
- **Article number:** 12686-15, 12686-15-SP
- **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**



flame

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



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 product is classified and labelled according to the CLP regulation.
- **Hazard pictograms**



GHS02 GHS07

- **Signal word** Danger
- **Hazard-determining components of labelling:**
4-methylpentan-2-one
- **Hazard statements**
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.05.2022

Revision: 06.05.2022

Trade name: SILVER CONDUCTIVE PAINT, 503

(Contd. of page 1)

· Precautionary statements

- P210 *Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.*
- P241 *Use explosion-proof [electrical/ventilating/lighting] equipment.*
- P303+P361+P353 *IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*
- P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
- P405 *Store locked up.*
- P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

· 2.3 Other hazards
· Results of PBT and vPvB assessment

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

SECTION 3: Composition/information on ingredients

· 3.2 Chemical characterisation: Mixtures

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

· Dangerous components:

CAS: 108-10-1	4-methylpentan-2-one	>25-≤50%
EINECS: 203-550-1	⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	

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

SECTION 4: First aid measures

· 4.1 Description of first aid measures
· General information:

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

· After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness place patient stably in side position for transportation.

· After skin contact: Generally the product does not irritate the skin.

· After eye contact:

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

· After swallowing: If symptoms persist consult doctor.

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

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

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media
· Suitable extinguishing agents:

CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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

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Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.05.2022

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Trade name: **SILVER CONDUCTIVE PAINT, 503**

(Contd. of page 2)

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

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:**
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

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

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

108-10-1 4-methylpentan-2-one

WEL	Short-term value: 416 mg/m ³ , 100 ppm
	Long-term value: 208 mg/m ³ , 50 ppm
	Sk, BMGV

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-GB-

Safety data sheet

according to 1907/2006/EC, Article 31

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Trade name: **SILVER CONDUCTIVE PAINT, 503**

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· **Ingredients with biological limit values:**

108-10-1 4-methylpentan-2-one

BMGV	20 µmol/L
	Medium: urine
	Sampling time: post shift
	Parameter: 4-methylpentan-2-one

· **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.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

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

· **Protection of hands:**

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

SECTION 9: Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:	Liquid
Colour:	Silver-coloured
Odour:	Solvent-like
Odour threshold:	Not determined.

· **pH-value at 20 °C:** 7

· **Change in condition**

Melting point/freezing point:	<0 °C
Initial boiling point and boiling range:	116 °C

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Safety data sheet
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· Flash point:	16 °C
· Flammability (solid, gas):	Not applicable.
· Ignition temperature:	460 °C
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	1.2 Vol %
Upper:	8 Vol %
· Vapour pressure at 20 °C:	20 hPa
· Density at 20 °C:	1.77 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 at 20 °C:	1,700 mPas
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	30.0 %
VOC (EC)	30.00 %
Solids content:	62.0 %
· 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** Based on available data, the classification criteria are not met.

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Trade name: **SILVER CONDUCTIVE PAINT, 503**

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

108-10-1 4-methylpentan-2-one

Oral	LD50	2,080 mg/kg (rat)
Dermal	LD50	16,000 mg/kg (rab)
Inhalative	LC50/4 h	8.3-16.6 mg/l (rat)

· **Primary irritant effect:**

· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.

· **Serious eye damage/irritation**

Causes serious eye irritation.

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

· **Additional toxicological information:**

· **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.

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

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): 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.

GB

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according to 1907/2006/EC, Article 31




Printing date 06.05.2022

Revision: 06.05.2022

Trade name: **SILVER CONDUCTIVE PAINT, 503**

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SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN1245
· 14.2 UN proper shipping name · ADR · IMDG · IATA	1245 METHYL ISOBUTYL KETONE METHYL ISOBUTYL KETONE, MARINE POLLUTANT METHYL ISOBUTYL KETONE
· 14.3 Transport hazard class(es) · ADR, IATA	
	
· Class · Label	3 Flammable liquids. 3
· IMDG	
 	
· Class · Label	3 Flammable liquids. 3
· 14.4 Packing group · ADR, IMDG, IATA	II
· 14.5 Environmental hazards: · Marine pollutant:	Symbol (fish and tree)
· 14.6 Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Warning: Flammable liquids. 33 F-E,S-D A
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Transport category · Tunnel restriction code	3 E
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml

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· UN "Model Regulation":

UN 1245 METHYL ISOBUTYL KETONE, 3, II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category P5c** FLAMMABLE LIQUIDS
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

· **Relevant phrases**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

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

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

化学品安全技术说明书

根据 GB/T 16483-2008, GB/T 17519-2013

打印日期 2022.05.06

在 2022.05.06 审核

1 化学品及企业标识

- 产品识别者
- 化学品中文(英文)名称, 化学品俗名或商品名: **SILVER CONDUCTIVE PAINT, 503**
- 商品编号: 12686-15, 12686-15-SP
- 相应纯物质或者混合物的相关下位用途及禁止用途 无相关详细资料。
- 物质或混合物的用途 实验室化学物
- 安全技术说明书内供应商详细信息
- 企业名称:
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- 可获取更多资料的部门: Product safety department
- 紧急联系电话号码:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 危险性概述

· 紧急情况概述:

银色的, 液体, 高度易燃液体和蒸气。吸入可能有害。造成严重眼刺激。可引起呼吸道刺激。

· GHS危险性类别



火焰

易燃液体 第2类

H225 高度易燃液体和蒸气



严重眼损伤/眼刺激 类别2A

H319 造成严重眼刺激

特定靶器官系统毒性(单次接触) 第3类 H335 可引起呼吸道刺激

急性毒性(吸入) 第5类

H333 吸入可能有害

· 标签要素

· GHS卷标元素 本产品根据化学物质分类及标记全球协调制度(GHS)进行了分类及标记。

· 象形图



GHS02 GHS07

· 警示词 危险

· 标签上辨别危险的成份:

异己酮 (>25-≤50 %)

· 危险性说明

高度易燃液体和蒸气

吸入可能有害

(在 2 页继续)

化学品安全技术说明书

根据 GB/T 16483-2008, GB/T 17519-2013

打印日期 2022.05.06

在 2022.05.06 审核

化学品中文(英文)名称, 化学品俗名或商品名: SILVER CONDUCTIVE PAINT, 503

(在 1 页继续)

造成严重眼刺激

可引起呼吸道刺激

· 防范说明

· 预防措施

远离热源/火花/明火/热表面。禁止吸烟

使用防爆的电气/通风/照明/设备

· 事故响应

如皮肤(或头发)沾染:立即脱掉所有沾染的衣服。用水清洗皮肤/淋浴

如进入眼睛:用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出,取出隐形眼镜。继续冲洗

· 安全储存

存放处须加锁

· 废弃处置

处置内装物/容器按照地方/区域/国家/国际规章

· 其他有害性

· PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质)评价结果

· PBT(残留性、生物浓缩性、毒性物质) 不适用的



· vPvB(高残留性、高生物浓缩性物质): 不适用的

3 成分/组成信息

· 混合物

· 描述: 由以下含有无害添加剂的成分组成的混合物

· 危险的成分:

108-10-1	异己酮 4-methylpentan-2-one	>25-≤50%
	 易燃液体 第2类, H225;  急性毒性(吸入) 第4类, H332; 严重眼睛损伤/眼睛刺激性 第2类, H319; 特定靶器官系统毒性(单次接触) 第3类, H335; 急性毒性(经口) 第5类, H303	

4 急救措施

· 应急措施要领

· 总说明: 中毒的症状可能会在几个小时以后才出现;因此在发生事故之后起码要有 48 小时的医疗观察。

· 吸入:

供给新鲜空气. 如有需要,提供人工呼吸. 让病人保暖. 如果症状持续则询问医生.

万一病人不清醒时,请让病人侧躺以便移动.

· 皮肤接触: 一般的产品不会刺激皮肤.

· 眼睛接触: 张开眼睛在流水下冲洗数分钟. 如果症状仍然持续,请咨询医生.

· 食入: 如果症状仍然持续,请咨询医生.

· 给医生的资料:

· 最重要的急慢性症状及其影响 无相关详细资料。

· 需要及时的医疗处理及特别处理的症状 无相关详细资料。

5 消防措施

· 灭火方法

· 灭火的方法和灭火剂: 二氧化碳 (CO₂)、灭火粉末或洒水. 使用洒水或抗酒精泡沫灭火剂扑灭较大的火种.

· 特别危险性 无相关详细资料。

(在 3 页继续)

化学品安全技术说明书

根据 GB/T 16483-2008, GB/T 17519-2013

打印日期 2022.05.06

在 2022.05.06 审核

化学品中文(英文)名称, 化学品俗名或商品名: SILVER CONDUCTIVE PAINT, 503

(在 2 页继续)

- 特殊灭火方法
- 消防人员特殊的防护装备: 口腔呼吸保护装置.

6 泄漏应急处理

- 保护措施 带上保护仪器. 让未受到保护的人们远离.
- 环境保护措施:
 - 用大量的水进行稀释.
 - 切勿让其进入下水道/水面或地下水.
- 密封及净化方法和材料:
 - 吸收液体粘合原料 (沙粒、硅藻土、酸性粘合剂、通用粘合剂、锯屑).
 - 根据第 13 条条款弃置受污染物.
 - 确保有足够的通风装置.
- 参照其他部分
 - 有关安全处理的资料请参阅第 7 节.
 - 有关个人防护装备的资料请参阅第 8 节.
 - 有关弃置的资料请参阅第 13 节.

7 操作处置与储存

- 操作处置
- 储存
 - 确保工作间有良好的通风/排气装置.
 - 防止气溶胶的形成.
- 有关火灾及防止爆炸的资料:
 - 远离火源一切勿吸烟.
 - 防热.
 - 防静电.
- 混合危险性等安全储存条件
- 储存:
 - 储存库和容器须要达到的要求: 储存在阴凉的位置.
 - 有关使用一个普通的储存设施来储存的资料: 不需要.
 - 有关储存条件的更多资料:
 - 将容器密封.
 - 储存密封的贮藏器内,并放在阴凉、干爽的位置.
 - 免受接触热力和直接受阳光照射.
 - 具体的最终用户 无相关详细资料.

8 接触控制和个体防护

- 工程控制方法: 没有进一步数据;见第 7 项.
- 控制变数

在工作场需要监控的限值成分

108-10-1 异己酮

PEL (TW) | PC-TWA: 205 mg/m³, 50 ppm

- 额外的资料: 制作期间有效的清单将作为基础来使用.

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(在 3 页继续)

· 泄漏控制

· 个人防护设备:

· 一般保护和卫生措施:

远离食品、饮料和饲料.

立即除去所有的不洁的和被污染的衣服.

在休息之前和工作完毕后请清洗双手.

避免和眼睛接触.

避免和眼睛及皮肤接触.

· 呼吸系统防护:

如果曾短暂接触或在低污染的情况下

请使用呼吸过滤装置

如果曾深入或较长时间接触, 请使用独立的呼吸保护装置.

· 手防护:

手套的物料必须是不渗透性的, 且能抵抗该产品/物质/添加剂.

基于缺乏测试, 对于产品/制剂/化学混合物, 并不会提供手套材料的建议

选择手套材料时, 请注意材料的渗透时间, 渗透率和降解参数

· 手套材料

选择合适的手套不单取决于材料, 亦取决于质量特征, 以及来自哪一间生产厂家, 因为该产品是由很多材料配制而成, 手套材料的抵抗力并不可预计, 所以, 必须在使用之前进行检查

· 渗入手套材料的时间 请向劳保手套生产厂家获取准确的破裂时间并观察实际的破裂时间

· 眼睛防护:



密封的护目镜

9 理化特性

· 有关基本物理及化学特性的信息

· 一般说明

· 外观:

· 形状: 液体

· 颜色: 银色的

· 气味: 类似溶剂

· 嗅觉阈限 未决定.

· pH值 在 20 °C: 7

· 条件的更改

· 熔点: <0 °C

· 沸点/初沸点和沸程: 116 °C

· 闪点: 16 °C

· 可燃性 (固体、气体): 不适用的

· 点火温度: 460 °C

· 分解温度: 未决定.

· 自燃温度: 该产品是不自燃的

· 爆炸的危险性: 该产品并非爆炸性的然而有可能形成可爆炸性的空气/蒸汽混合物

· 爆炸极限:

· 较低: 1.2 Vol %

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· 较高:	8 Vol %
· 蒸气压 在 20 °C:	20 hPa
· 密度 在 20 °C:	1.77 g/cm ³
· 相对密度	未决定.
· 蒸气密度	未决定.
· 蒸发速率	未决定.
· 溶解性	
水:	完全可拌和的
· n-辛醇/水分配系数:	未决定.
· 黏性:	
动态 在 20 °C:	1,700 mPas
运动学的:	未决定.
· 溶剂成份:	
有机溶剂:	30.0 %
固体成份:	62.0 %
· 其他信息	无相关详细资料。

10 稳定性和反应性

- 反应性 无相关详细资料。
- 稳定性
- 热分解/要避免的情况: 如果遵照规格使用则不会分解.
- 有害反应可能性 未有已知的危险反应.
- 应避免的条件 无相关详细资料。
- 不相容的物质: 无相关详细资料。
- 危险的分解产物: 未知有危险的分解产品.

11 毒理学信息

- 对毒性学影响的信息
- 急性毒性:

· 与分类相关的 LD/ LC50 值:

108-10-1 异己酮

口腔	LD50	2,080 mg/kg (rat)
皮肤	LD50	16,000 mg/kg (rab)
吸入	LC50/4 h	8.3-16.6 mg/l (rat)

- 主要的刺激性影响:
- 皮肤: 没有刺激性影响.
- 在眼睛上面: 刺激的影响.
- 致敏作用: 没有已知的敏化影响.
- 更多毒物的资料:

根据有关配制的一般欧盟分类指南的计算方法(刊印在最新版本),该产品显示以下的危险:
有害的

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刺激性的

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12 生态学信息

- 生态毒性
- 水生毒性: 无相关详细资料。
- 持久性和降解性 无相关详细资料。
- 环境系统习性:
- 潜在的生物累积性 无相关详细资料。
- 土壤内移动性 无相关详细资料。
- 额外的生态学资料:
- 总括注解:
水危害级别 1(德国规例) (通过名单进行自我评估): 对水是稍微危害的
不要让未稀释或大量的产品接触地下水、水道或者污水系统。
- PBT(残留性、生物浓缩性、毒性物质) 及 vPvB(高残留性、高生物浓缩性物质)评价结果
- PBT(残留性、生物浓缩性、毒性物质) 不适用的
- vPvB(高残留性、高生物浓缩性物质): 不适用的
- 其他副作用 无相关详细资料。

13 废弃处置

- 废弃处置方法
- 建议: 不能将该产品和家居垃圾一起丢弃. 不要让该产品接触污水系统.
- 受污染的容器和包装:
- 建议: 必须根据官方的规章来丢弃.
- 建议的清洗剂: 如有必要请使用水及清洁剂进行清洁.

14 运输信息

- | | |
|---|--------------------------------|
| · 联合国危险货物编号(UN号) | UN1245 |
| · ADR, IMDG, IATA | |
| · UN适当装船名 | 1245 甲基·异丁基酮 |
| · ADR | METHYL ISOBUTYL KETONE, MARINE |
| · IMDG | POLLUTANT |
| · IATA | METHYL ISOBUTYL KETONE |
| · 运输危险等级 | |
| · ADR, IATA | |
|  | |
| · 级别 | 3 易燃液体 |

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· 标签	3
· IMDG	
· Class	3 易燃液体
· Label	3
· 包装组别	
· ADR, IMDG, IATA	II
· 环境危害	
· 海运污染物质:	象征符号 (鱼和树)
· 用户特别预防措施	警告: 易燃液体
· 危险编码:	33
· EMS 号码:	F-E,S-D
· Stowage Category	A
· MARPOL73/78(针对船舶引起的海洋污染预防协议)附件书2及根据IBC Code(国际装船货物编码)的大量运送	不适用的
· 运输/额外的资料:	
· 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 "标准规定":	UN 1245 甲基·异丁基酮, 3, II

15 法规信息

· 对相应纯物质或者混合物的安全、保健及环境法规/法律 无相关详细资料。

· 危险化学品安全管理条例

· 危险化学品目录

108-10-1 异己酮

· 化学品首次进口及有毒化学品进出口环境管理规定

· 新化学物质环境管理办法

· 中国现有化学物质名录

列出所有成分

· GHS卷标元素 本产品根据化学物质分类及标记全球协调制度(GHS)进行了分类及标记。

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· 象形图



GHS02 GHS07

· 警示词 危险

· 标签上辨别危险的成份:

异己酮 (>25-≤50 %)

· 危险性说明

高度易燃液体和蒸气

吸入可能有害

造成严重眼刺激

可引起呼吸道刺激

· 防范说明

· 预防措施

远离热源/火花/明火/热表面。禁止吸烟

使用防爆的电气/通风/照明/设备

· 事故响应

如皮肤(或头发)沾染:立即脱掉所有沾染的衣服。用水清洗皮肤/淋浴

如进入眼睛:用水小心冲洗几分钟。如戴隐形眼镜并可方便地取出,取出隐形眼镜。继续冲洗

· 安全储存

存放处须加锁

· 废弃处置

处置内装物/容器按照地方/区域/国家/国际规章

· 化学物质安全性评价: 尚未进行化学物质安全性评价

16 其他信息

该资料是基于我们目前的知识

然而,这并不构成对任何特定产品特性的担保并且不建立一个法律上有效的合同关系。

· 联络:

· 缩写:

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: 持久性生物累积性有毒物质

vPvB: very Persistent and very Bioaccumulative

易燃液体 第2类: Flammable liquids – Category 2

急性毒性(径口) 第5类: Acute toxicity – Category 5

急性毒性(吸入) 第4类: Acute toxicity – Category 4

严重眼睛损伤/眼睛刺激性 第2类: Serious eye damage/eye irritation – Category 2

严重眼损伤/眼刺激 类别2A: Serious eye damage/eye irritation – Category 2A

特定靶器官系统毒性(单次接触) 第3类: Specific target organ toxicity (single exposure) – Category 3

Bezpečnostní list

podle 1907/2006/ES, Článek 31

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Revize: 06.05.2022

ODDÍL 1: Identifikace látky/směsi a společnosti/podniku

- **1.1 Identifikátor výrobku**
- **Obchodní označení:** SILVER CONDUCTIVE PAINT, 503
- **Číslo výrobku:** 12686-15, 12686-15-SP
- **UFI:** R7Q1-Y0Q5-X00D-XPWD
- **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**



GHS02 plamen

Flam. Liq. 2 H225 Vysoce hořlavá kapalina a páry.



GHS07

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** Produkt je klasifikován a označen podle nařízení CLP.
- **Výstražné symboly nebezpečnosti**



GHS02 GHS07

- **Signální slovo** Nebezpečí
- **Nebezpečné komponenty k etiketování:**
methylisobutylketon
- **Standardní věty o nebezpečnosti**
H225 Vysoce hořlavá kapalina a páry.
H319 Způsobuje vážné podráždění očí.
H335 Může způsobit podráždění dýchacích cest.

(pokračování na straně 2)

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Obchodní označení: SILVER CONDUCTIVE PAINT, 503

(pokračování strany 1)

· Pokyny pro bezpečné zacházení

- P210** Chraňte před teplem, horkými povrchy, jiskrami, otevřeným plamenem a jinými zdroji zapálení. Zákaz kouření.
- P241** Používejte [elektrické/ventilační/osvětlovací] zařízení do výbušného prostředí.
- P303+P361+P353** PŘI STYKU S KŮŽÍ (nebo s vlasy): Veškeré kontaminované části oděvu okamžitě svlékněte. Opláchněte kůži vodou [nebo osprchujte].
- 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

· 3.2 Chemická charakteristika: Směsi

- **Popis:** Směs obsahuje následné látky bez nebezpečných příměsí.

· Výrobek obsahuje tyto nebezpečné látky:

CAS: 108-10-1	methylisobutylketon	>25-≤50%
EINECS: 203-550-1	Flam. Liq. 2, H225; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	

- **Dodatečná upozornění:** Znění uvedených údajů o nebezpečnosti látky je uvedeno v kapitole 16.

ODDÍL 4: Pokyny pro první pomoc

· 4.1 Popis první pomoci

· Všeobecné pokyny:

Příznaky otravy se mohou projevit až po mnoha hodinách, proto je nutný lékařský dohled nejméně 48 hodin po nehodě.

· Při nadýchání:

Přívod čerstvého vzduchu, případně kyslíkový přístroj, teplo. Při déle trvajících potížích konzultovat lékaře. Při bezvědomí uložit a přepravit ve stabilní poloze na boku.

· Při styku s kůží: Tento produkt nemá všeobecně dráždicí účinek na pokožku.

· Při zasažení očí:

Oči s otevřenými víčky vyplachovat po více minut proudem tekoucí vody. Při přetrvávajících potížích se poradit s lékařem.

· Při požití: Při přetrvávajících potížích konzultovat s lékařem.

· 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:

CO₂, hasící prášek nebo rozstříkované vodní paprsky. Větší ohně zdotat rozstříkovanými vodními paprsky nebo pěnou odolnou vůči alkoholu.

· 5.2 Zvláštní nebezpečnost vyplývající z látky nebo směsi Další relevantní informace nejsou k dispozici.

(pokračování na straně 3)

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(pokračování strany 2)

- **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**
Nosit ochrannou výstroj. Nechráněné osoby se nesmí přibližovat.
- **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, universální 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.
Zamezit vytváření aerosolů.
- **Upozornění k ochraně před ohněm a explozí:**
Nepřibližovat se ze zápalnými zdroji - nekouřit.
Chránit před horkem.
Zajistit proti elektrostatickému náboji.
- **7.2 Podmínky pro bezpečné skladování látek a směsí včetně neslučitelných látek a směsí**
- **Pokyny pro skladování:**
- **Požadavky na skladovací prostory a nádoby:** Skladovat na chladném místě.
- **Upozornění k hromadnému skladování:** Není nutné.
- **Další údaje k podmínkám skladování:**
Nádrž držet neprodyšně uzavřenou.
Skladovat v dobře uzavřených nádobách v chladu a suchu.
Chránit před horkem a přímým slunečním světlem.
- **7.3 Specifické konečné / specifická konečná použití** Další relevantní informace nejsou k dispozici.

ODDÍL 8: Omezování expozice / osobní ochranné prostředky

- **8.1 Kontrolní parametry**
- **Technická opatření:** Žádné další údaje, viz bod 7.

· **Kontrolní parametry:**

108-10-1 methylisobutylketon

NPK	Krátkodobá hodnota: 200 mg/m ³ Dlouhodobá hodnota: 80 mg/m ³ D, I
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- **Další upozornění:** Jako podklad sloužily při zhotovení platné listiny.

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- **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.
Zamezit styku se zrakem.
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.
- **Ochrana rukou:**
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. Protože je výrobek směs více látek, nelze materiál rukavic předem vypočítat a je nutno udělat před použitím zkoušku.
- **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:	Tekutina
Barva:	Stříbrná
Zápach:	Po ředidlech
Prahová hodnota zápachu:	Není určeno.
- **Hodnota pH při 20 °C:** 7
- **Změna stavu**

Bod tání/bod tuhnutí:	<0 °C
Počáteční bod varu a rozmezí bodu varu:	116 °C
- **Bod vzplanutí:** 16 °C
- **Hořlavost (pevné látky, plyny):** Nedá se použít.
- **Zápalná teplota:** 460 °C
- **Teplota rozkladu:** Není určeno.
- **Teplota samovznícení:** Produkt není samozápalný.
- **Výbušné vlastnosti:** I když produktu nehrozí nebezpečí exploze, je přesto možné nebezpečí exploze ve směsi par se vzduchem.

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· Meze výbušnosti:	
Dolní mez:	1,2 Vol %
Horní mez:	8 Vol %
· Tlak páry při 20 °C:	20 hPa
· Hustota při 20 °C:	1,77 g/cm ³
· Relativní hustota	Není určeno.
· Hustota páry:	Není určeno.
· Rychlost odpařování	Není určeno.
· Rozpustnost ve / směsitelnost s vodě:	Úplně mísitelná.
· Rozdělovací koeficient: n-oktanol/voda:	Není určeno.
· Viskozita:	
Dynamicky při 20 °C:	1.700 mPas
Kinematicky:	Není určeno.
· Obsah ředidel:	
Organická ředidla:	30,0 %
VOC (EC)	30,00 %
Obsah netěkavých složek:	62,0 %
· 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** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.

· **Zařazení relevantní hodnoty LD/LC 50:**

108-10-1 methylisobutylketon

Orálně	LD50	2.080 mg/kg (rat)
Pokožkou	LD50	16.000 mg/kg (rab)
Inhalováním	LC50/4 h	8,3-16,6 mg/l (rat)

- **Primární dráždivé účinky:**
- **Žíravost/dráždivost pro kůži** Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Vážné poškození očí / podráždění očí**
Způsobuje vážné podráždění očí.

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- **Senzibilizace dýchacích cest / senzibilizace kůže**
Na základě dostupných údajů nejsou kritéria pro klasifikaci splněna.
- **Doplňující toxikologická upozornění:**
- **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.
- **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 I (Samozářazení): slabé ohrožení vody
Nesmí se dostat nezředitý 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>UN1245</p> |
| <ul style="list-style-type: none"> · 14.2 Oficiální (OSN) pojmenování pro přepravu · ADR · IMDG · IATA | <p>1245 METHYLISOBUTYLKETON
METHYL ISOBUTYL KETONE, MARINE POLLUTANT
METHYL ISOBUTYL KETONE</p> |

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· 14.3 Třída/třídy nebezpečnosti pro přepravu

· ADR, IATA



· třída

3 Hořlavé kapaliny

· Etiketa

3

· IMDG



· Class

3 Hořlavé kapaliny

· Label

3

· 14.4 Obalová skupina

· ADR, IMDG, IATA

II

· 14.5 Nebezpečnost pro životní prostředí:

· Látka znečišťující moře:

Symbol (ryba a strom)

· 14.6 Zvláštní bezpečnostní opatření pro uživatele

Varování: Hořlavé kapaliny

· Identifikační číslo nebezpečnosti (Kemlerovo číslo):

33

· EMS-skupina:

F-E,S-D

· Stowage Category

A

· 14.7 Hromadná přeprava podle přílohy II úmluvy

MARPOL a předpisu IBC

Nedá se použít.

· 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

· Přepravní kategorie

3

· 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 1245 METHYLISOBUTYLKETON, 3, II

CZ

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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** Žádná z obsažených látek není na seznamu.
- **Kategorie Seveso P5c HOŘLAVÉ KAPALINY**
- **Kvalifikační množství (v tunách) při uplatnění požadavků pro podlimitní množství 5.000 t**
- **Kvalifikační množství (v tunách) při uplatnění požadavků pro nadlimitní množství 50.000 t**
- **Rady (ES) č. 1907/2006 PŘÍLOHA XVII** Omezující podmínky: 3
- **Směrnice 2011/65/EU o omezení používání některých nebezpečných látek v elektrických a elektronických zařízeních - Příloha II**
- Žádná z obsažených látek není na seznamu.
- **NAŘÍZENÍ (EU) 2019/1148**
- **Příloha I - PREKURZORY VÝBUŠNIN PODLÉHAJÍCÍ OMEZENÍ (Horní mezní hodnota pro účely povolení podle čl. 5 odst. 3)**
- Žádná z obsažených látek není na seznamu.
- **Příloha II - PREKURZORY VÝBUŠNIN PODLÉHAJÍCÍ OZNAMOVÁNÍ**
- Žádná z obsažených látek není na seznamu.
- **Nariadení (ES) č. 273/2004 o prekursorech drog**
- Žádná z obsažených látek není na seznamu.
- **Nariadení (ES) č. 111/2005 kterým se stanoví pravidla pro sledování obchodu s prekursory drog mezi Společenstvím a třetími zeměmi**
- Žádná z obsažených látek není na seznamu.
- **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.

· Relevantní věty

- H225 Vysoce hořlavá kapalina a páry.
- H319 Způsobuje vážné podráždění očí.
- H332 Zdraví škodlivý při vdechování.
- H335 Může způsobit podráždění dýchacích cest.

· Zkratky a akronymy:

- ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- Flam. Liq. 2: Hořlavé kapaliny – Kategorie 2
- Acute Tox. 4: Akutní toxicita – Kategorie 4
- Eye Irrit. 2: Vážné poškození očí / podráždění očí – Kategorie 2
- STOT SE 3: Toxicita pro specifické cílové orgány (jednorázová expozice) – Kategorie 3

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

- **1.1 Productidentificatie**
- **Handelsnaam:** SILVER CONDUCTIVE PAINT, 503
- **Artikelnummer:** 12686-15, 12686-15-SP
- **UFI:** R7Q1-Y0Q5-X00D-XPWD
- **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**



Flam. Liq. 2 H225 Licht ontvlambare vloeistof en damp.



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

(Vervolg op blz. 2)

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(Vervolg van blz. 1)

· Gevarenpictogrammen



GHS02 GHS07

· Signaalwoord Gevaar

· Gevaaraanduidende componenten voor de etikettering:

4-methylpentaan-2-on

· Gevarenaanduidingen

H225 Licht ontvlambare vloeistof en damp.

H319 Veroorzaakt ernstige oogirritatie.

H335 Kan irritatie van de luchtwegen veroorzaken.

· Veiligheidsaanbevelingen

P210 Verwijderd houden van warmte, hete oppervlakken, vonken, open vuur en andere ontstekingsbronnen. Niet roken.

P241 Explosieveilige [elektrische/ventilatie-/verlichtings-]apparatuur gebruiken.

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

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

P405 Achter slot bewaren.

P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

· 2.3 Andere gevaren

· Resultaten van PBT- en zPzB-beoordeling

· **PBT:** Niet bruikbaar.

· **zPzB:** Niet bruikbaar.

RUBRIEK 3: Samenstelling en informatie over de bestanddelen

· 3.2 Chemische karakterisering: Mengsels

· **Beschrijving:** Mengsel van na elkaar aangevoerde stoffen met ongevaarlijke bijmengingen.

· Gevaarlijke inhoudstoffen:

CAS: 108-10-1	4-methylpentaan-2-on	>25-≤50%
EINECS: 203-550-1	⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; ⚠ Eye Irrit. 2, H319; STOT SE 3, H335	

· Aanvullende gegevens:

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

RUBRIEK 4: Eerstehulpmaatregelen

· 4.1 Beschrijving van de eerstehulpmaatregelen

· Algemene informatie:

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

· Na het inademen:

Frisse lucht toedienen, eventueel beademing, warmte. Wanneer de klachten niet ophouden, een arts raadplegen.

Bij bewusteloosheid ligging en vervoer in stabiele zijligging.

· Na huidcontact: Over het algemeen is het produkt niet prikkelend voor de huid

(Vervolg op blz. 3)

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

RUBRIEK 5: Brandbestrijdingsmaatregelen

- **5.1 Blusmiddelen**
- **Geschikte blusmiddelen:**
CO₂, bluspoeder of waterstraal. Grotere brand met waterstraal bestrijden of met schuim, dat tegen alcohol bestand is.
- **5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt**
Geen verdere relevante informatie verkrijgbaar.
- **5.3 Advies voor brandweerlieden**
- **Speciale beschermende kleding:** Ademhalingstoestel aantrekken.

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

- **6.1 Persoonlijke voorzorgsmaatregelen, beschermingsmiddelen en noodprocedures**
Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.
- **6.2 Milieuvoorzorgsmaatregelen:**
Met veel water verdunnen.
Niet in de riolering/het oppervlaktewater/het grondwater laten terecht komen.
- **6.3 InsluTINGS- 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.
Aërosolvorming vermijden.
- **Informatie m.b.t. brand- en ontploffingsgevaar:**
Onststekingsbronnen op afstand houden - niet roken.
Beschermen tegen hitte.
Maatregelen treffen tegen ontlading van statische elektriciteit.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Op een koele plaats bewaren.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:**
Tanks ondoordringbaar gesloten houden.
Koel en droog bewaren in goed gesloten vaten.

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Tegen hitte en directe zonnestralen beschermen.

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

RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

· 8.1 **Controleparameters**· **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.· **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:****108-10-1 4-methylpentaan-2-on**

WGW	Korte termijn waarde: 208 mg/m ³ , 50 ppm
	Lange termijn waarde: 104 mg/m ³ , 25 ppm

· **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.· 8.2 **Maatregelen ter beheersing van blootstelling**· **Persoonlijke beschermingsvoorzieningen:**· **Algemene beschermings- en gezondheidsmaatregelen:**

Verwijderd houden van eet- en drinkwaren.

Verontreinigde kleding onmiddellijk uittrekken.

Vóór de pauze en aan het einde van werktijd handen wassen.

Aanraking met de ogen vermijden.

Aanraking met de ogen en de huid vermijden.

· **Ademhalingsbescherming:**

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

· **Handbescherming:**

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

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

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

· **Handschoenmateriaal**

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

· **Doordringingstijd van het handschoenmateriaal**

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

· **Oogbescherming:**

Nauw aansluitende veiligheidsbril

RUBRIEK 9: Fysische en chemische eigenschappen

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

Vloeistof

Kleur:

Zilverkleurig

· **Geur:**

Oplosmiddelachtig

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· Geurdrempelwaarde:	Niet bepaald.
· pH-waarde bij 20 °C:	7
· Toestandsverandering Smelt-/vriespunt:	<0 °C
Beginkookpunt en kooktraject:	116 °C
· Vlampunt:	16 °C
· Ontvlambaarheid (vast, gas):	Niet bruikbaar.
· Ontstekingstemperatuur:	460 °C
· Ontledingstemperatuur:	Niet bepaald.
· Zelfontbrandingstemperatuur:	Het produkt ontbrandt niet uit zichzelf.
· Ontploffingseigenschappen:	Het produkt is niet ontploffingsgevaarlijk, maar de vorming van ontploffingsgevaarlijke damp-/luchtmengsels is mogelijk.
· Ontploffingsgrenzen: Onderste:	1,2 Vol %
Bovenste:	8 Vol %
· Dampspanning bij 20 °C:	20 hPa
· Dichtheid bij 20 °C:	1,77 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 bij 20 °C:	1.700 mPas
Kinematisch:	Niet bepaald.
· Oplosmiddelgehalte: Organisch oplosmiddel:	30,0 %
VOC (EG)	30,00 %
Gehalte aan vaste bestanddelen:	62,0 %
· 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.

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RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

- **Indelingsrelevantie LD/LC50-waarden:**

108-10-1 4-methylpentaan-2-on

Oraal	LD50	2.080 mg/kg (rat)
Dermaal	LD50	16.000 mg/kg (rab)
Inhalatief	LC50/4 h	8,3-16,6 mg/l (rat)

- **Primaire aandoening:**
- **Huidcorrosie/-irritatie** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Ernstig oogletsel/oogirritatie**
Veroorzaakt ernstige oogirritatie.
- **Sensibilisatie van de luchtwegen/de huid**
Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **Aanvullende toxicologische informatie:**
- **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) (Zelfclassificatie): 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.

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· Aanbevolen reinigingsmiddel: Water, eventueel met toevoeging van reinigingsmiddelen.

RUBRIEK 14: Informatie met betrekking tot het vervoer

· 14.1 VN-nummer
· ADR, IMDG, IATA

UNI245

· 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN

· ADR 1245 METHYLISOBUTYLKETON
· IMDG METHYL ISOBUTYL KETONE, MARINE POLLUTANT
· IATA METHYL ISOBUTYL KETONE

· 14.3 Transportgevarenklasse(n)

· ADR, IATA



· klasse 3 Brandbare vloeistoffen
· Etiket 3

· IMDG



· Class 3 Brandbare vloeistoffen
· Label 3

· 14.4 Verpakkingsgroep:

· ADR, IMDG, IATA II

· 14.5 Milieugevaren:

· Marine pollutant: Symbool (vis en boom)

· 14.6 Bijzondere voorzorgen voor de gebruiker Waarschuwing: Brandbare vloeistoffen

· Gevaarsidentificatienummer (Kemler-getal): 33

· EMS-nummer: F-E,S-D

· Stowage Category A

· 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 3

· Tunnelbeperkingscode E

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- | | |
|--|---|
| <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"> · VN "Model Regulation": | <p style="margin: 0;">UN 1245 METHYLISOBUTYLKETON, 3, II</p> |

RUBRIEK 15: Regelgeving

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

- **SZW-lijst van kankerverwekkende stoffen**

geen der bestanddelen staat op de lijst.

- **SZW-lijst van mutagene stoffen**

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

- **Richtlijn 2012/18/EU**

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

- **Seveso-categorie P5c ONTVLAMBARE VLOEISTOFFEN**

- **Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen 5.000 t**

- **Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen 50.000 t**

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

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

geen der bestanddelen staat op de lijst.

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

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

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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

geen der bestanddelen staat op de lijst.

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- **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.

- **Relevante zinnen**

- H225 Licht ontvlambare vloeistof en damp.*
- H319 Veroorzaakt ernstige oogirritatie.*
- H332 Schadelijk bij inademing.*
- H335 Kan irritatie van de luchtwegen veroorzaken.*

- **Afkortingen en acroniemen:**

- ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)*
- IMDG: International Maritime Code for Dangerous Goods*
- IATA: International Air Transport Association*
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals*
- EINECS: European Inventory of Existing Commercial Chemical Substances*
- ELINCS: European List of Notified Chemical Substances*
- CAS: Chemical Abstracts Service (division of the American Chemical Society)*
- VOC: Volatile Organic Compounds (USA, EU)*
- LC50: Lethal concentration, 50 percent*
- LD50: Lethal dose, 50 percent*
- PBT: Persistent, Bioaccumulative and Toxic*
- vPvB: very Persistent and very Bioaccumulative*
- Flam. Liq. 2: Ontvlambare vloeistoffen – Categorie 2*
- Acute Tox. 4: Acute toxiciteit – Categorie 4*
- Eye Irrit. 2: Ernstig oogletsel/oogirritatie – Categorie 2*
- STOT SE 3: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 3*

-NL-

Käyttöturvallisuustiedote

1907/2006/EY, 31 artikla mukainen

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KOHTA 1: Aineen tai seoksen ja yhtiön tai yrityksen tunnistetiedot

- **1.1 Tuotetunniste**
- **Kauppanimike:** SILVER CONDUCTIVE PAINT, 503
- **Artikkelinumero:** 12686-15, 12686-15-SP
- **UFI:** R7Q1-Y0Q5-X00D-XPWD
- **1.2 Aineen tai seoksen merkitykselliset tunnistetut käytöt ja käytöt, joita ei suositella**
Merkittäviä lisätietoja ei ole saatavilla.
- **Aineen / valmisteen käyttö** Laboratoriokemikaalit
- **1.3 Käyttöturvallisuustiedotteen toimittajan tiedot**
- **Valmistaja/toimittaja:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- **Tietoja antaa:** Product safety department
- **1.4 Häät puhelinnumero:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

KOHTA 2: Vaaran yksilöinti

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



GHS02 liekki

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



GHS07

Eye Irrit. 2 H319 Ärsyttää voimakkaasti silmiä.

STOT SE 3 H335 Saattaa aiheuttaa hengitysteiden ärsytystä.

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



GHS02 GHS07

- **Huomiosana** Vaara
- **Vaaran määräävät komponentit etiketeissä:**
4-metyylipentan-2-oni
- **Vaaralausekkeet**
H225 Helposti syttyvä neste ja höyry.
H319 Ärsyttää voimakkaasti silmiä.
H335 Saattaa aiheuttaa hengitysteiden ärsytystä.

(jatkuu sivulla 2)

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(jatkuu sivulla 1)

- **Turvalausekkeet**
- P210 Suojaa lämmöltä, kuumilta pinnoilta, kipinöiltä, avotulelta ja muilta sytytyslähteiltä. Tupakointi kielletty.
- P241 Käytä räjähdysturvallisia [sähkö/ilmanvaihto/valaisin]laitteita.
- P303+P361+P353 JOS KEMIKAALIA JOUTUU IHOLLE (tai hiuksiin): Riisu saastunut vaatetus välittömästi. Huuhto iho vedellä [tai suihkuta].
- P305+P351+P338 JOS KEMIKAALIA JOUTUU SILMIIN: Huuhto huolellisesti vedellä usean minuutin ajan. Poista mahdolliset piilolinssit, jos sen voi tehdä helposti. Jatka huuhtomista.
- P405 Varastoi lukitussa tilassa.
- P501 Hävitä säiliö(t) noudattaen paikallisia/alueellisia/kansallisia/kansainvälisiä määräyksiä.
- **2.3 Muut vaarat**
- **PBT- ja vPvB-arvioinnin tulokset**
- **PBT:** Ei voida käyttää.
- **vPvB:** Ei voida käyttää.

KOHTA 3: Koostumus ja tiedot aineosista

- **3.2 Kemialliset ominaisuudet: Seokset**
- **Selostus:** Seuraavista aineista koostuva seos, jossa vaarattomia lisäaineita.

· Sisältää vaarallisia aineita:

CAS: 108-10-1	4-metyylipentan-2-oni	>25-≤50%
EINECS: 203-550-1	⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	

- **Lisätietoja:** Annettujen turvaohjeiden sanamuoto kappaleesta 16.

KOHTA 4: Ensiaputoimenpiteet

- **4.1 Ensiaputoimenpiteiden kuvaus**
- **Yleisohjeet:**
Myrkytysoireet voivat ilmaantua vasta useiden tuntien kuluttua. Tästä syystä henkilöt on pidettävä lääkärin tarkkailun alaisena ainakin 48 tuntia onnettomuuden jälkeen.
- **Hengitettynä:**
Huolehdi raittiin ilman saannista, tarvittaessa annettava tekohengitystä, pidettävä lämpimänä. Oireiden jatkuessa pyydettyä lääkärin apua.
Tajuton pidettävä ja kuljetettava kyljellään.
- **Ihokosketuksessa:** Aine ei yleensä ärsytä ihoa.
- **Aineen päästyä silmiin:**
Silmiä huuhdotaan luomet auki juoksevan veden alla useita minuutteja. Oireiden kestäessä käännetään lääkärin puoleen.
- **Nieltyä:** Käännä lääkärin puoleen oireiden jatkuessa.
- **4.2 Tärkeimmät oireet ja vaikutukset, sekä välittömät että viivästyneet** Merkittäviä lisätietoja ei ole saatavilla.
- **4.3 Mahdollisesti tarvittavaa välitöntä lääketieteellistä apua ja erityishoitoa koskevat ohjeet**
Merkittäviä lisätietoja ei ole saatavilla.

KOHTA 5: Palontorjuntatoimenpiteet

- **5.1 Sammutusaineet**
- **Sopivat sammutusaineet:**
CO₂, kuivakemikaalisammutin tai vesisuihku. Suuremmat palot torjutaan vesisuihulla tai alkoholeja kestäväällä vaahdolla.
- **5.2 Aineesta tai seoksesta johtuvat erityiset vaarat** Merkittäviä lisätietoja ei ole saatavilla.

(jatkuu sivulla 3)

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(jatkuu sivulla 2)

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

KOHTA 6: Toimenpiteet onnettomuuspäästöissä

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

KOHTA 7: Käsittely ja varastointi

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

KOHTA 8: Altistumisen ehkäiseminen ja henkilönsuojaimet

- **8.1 Valvontaa koskevat muuttujat**
- **Lisäohjeita teknisten laitteiden varustukseen:** Ei muita tietoja, ks. kohta 7.

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

108-10-1 4-metyylipentan-2-oni

HTP Lyhytaikaisarvo: 210 mg/m³, 50 ppm
Pitkäaikaisarvo: 80 mg/m³, 20 ppm

- **Lisäohjeet:** Tiedot perustuvat valmistushetkellä voimassaoleviin luetteluihin.

(jatkuu sivulla 4)

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- **8.2 Altistumisen ehkäiseminen**
- **Henkilökohtainen suojavarustus:**
- **Yleiset suoja- ja hygieniatoimenpiteet:**
 Pidettävä loitolla elintarvikkeista, juomista ja rehuista.
 Likaantuneet, aineen saastuttamat vaatekappaleet on riisuttava välittömästi.
 Kädet on pestävä ennen taukoja ja työn päätyttyä.
 Vältettävä kosketusta silmiin.
 Vältettävä ihokosketusta ja kosketusta silmiin.
- **Hengityssuoja:**
 Lyhytaikaisessa tai vähäisessä altistuksessa hengityssuojasuodin; intensiivisessä tai pitkäaikaisessa rasituksessa ulkoilmasta riippumaton hengityssuojain.
- **Käsisuojus:**
 Käsinemateriaalin tulee olla tuotetta/ainetta/valmistetta kestävä ja läpäisemätöntä.
 Puuttuvien testien vuoksi suositusta soveltuvasta suojakäsinemateriaalista tuotteelle/ valmisteelle / kemikaalisekoitteelle ei voida antaa.
 Suojakäsinemateriaalin valinnassa on otettava huomioon läpäisyajat, läpäisevyyskerroin ja kuluminen.
- **Käsinemateriaali**
 Soveltuvan käsinetyypin valikoima ei riipu yksinomaan materiaalista vaan myös muista laatuominaisuuksista ja vaihtelee eri valmistajilla. Koska tuote on valmiste, joka koostuu eri aineista, ei suojakäsinemateriaalin kestävyys ole ennalta arvioitavissa vaan pitää tarkistaa ennen käyttöä.
- **Käsinemateriaalin läpäisy aika**
 Tarkka läpäisy aika on selvitettävä suojakäsinemateriaalin valmistajalta ja sitä on noudatettava.
- **Silmäsuojus:**



Tiiviit suojalasit

KOHTA 9: Fysikaaliset ja kemialliset ominaisuudet

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

- Yleiset ohjeet

- **Olomuoto:**

Muoto: Neste

Väri: Hopeanvärinen

- **Haju:** Liuoteainemäinen

- **Hajukynnys:** Ei määrätty.

- **pH-arvo 20 °C lämpötilassa:** 7

- **Tilanmuutos**

Sulamis- tai jäätymispiste: <0 °C

Kiehumispiste ja kiehumisalue: 116 °C

- **Leimahduspiste:** 16 °C

- **Syttyvyys (kiinteät aineet, kaasut):** Ei voida käyttää.

- **Syttymislämpötila:** 460 °C

- **Hajoamislämpötila:** Ei määrätty.

- **Itsesyttymislämpötila:** Tuote ei ole itsestään syttyvä.

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· Räjähätvyys:	Tuote ei ole räjähdysvaarallinen, kuitenkin räjähdysvaarallisten höyry-/ilmaseosten muodostuminen mahdollista.
· Räjähdysrajat:	
Alempi:	1,2 Vol %
Ylempi:	8 Vol %
· Höyrypaine 20 °C lämpötilassa:	20 hPa
· Tiheys 20 °C lämpötilassa:	1,77 g/cm ³
· Suhteellinen tiheys	Ei määrätty.
· Höyryntiheys:	Ei määrätty.
· Haihtumisnopeus:	Ei määrätty.
· Liukenevuus/sekoittuvuus veteen:	Täydellisesti sekoittuva.
· Jakautumiskerroin: n-oktanolivesi:	Ei määrätty.
· Viskositeetti:	
Dynaaminen 20 °C lämpötilassa:	1.700 mPas
Kinemaattinen:	Ei määrätty.
· Liuteainepitoisuus:	
Orgaaniset liuteaineet:	30,0 %
VOC (EY)	30,00 %
Kiinteainepitoisuus:	62,0 %
· 9.2 Muut tiedot	Merkittäviä lisätietoja ei ole saatavilla.

KOHTA 10: Stabiilisuus ja reaktiivisuus

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

KOHTA 11: Myrkyllisyyteen liittyvät tiedot

- **11.1 Tiedot myrkyllisistä vaikutuksista**
- **Välitön myrkyllisyys** Saatavilla olevien tietojen perusteella luokituskriteerit eivät täyty.

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

108-10-1 4-metyylipentan-2-oni

Oraali	LD50	2.080 mg/kg (rat)
Dermaali	LD50	16.000 mg/kg (rab)
Inhaloituna	LC50/4 h	8,3-16,6 mg/l (rat)

- **Ensisijainen ärsyttävä vaikutus:**
- **Ihosityttövyys/ihoärsytys** Saatavilla olevien tietojen perusteella luokituskriteerit eivät täyty.
- **Vakava silmävaurio/silmä-ärsytys**
Ärsyttää voimakkaasti silmiä.

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- **Hengitysteiden tai ihon herkistyminen** Saatavilla olevien tietojen perusteella luokituskriteerit eivät täyty.
- **Toksikologisia lisätietoja:**
- **CMR-vaikutukset eli syöpää aiheuttavat, perimää vaurioittavat ja lisääntymiselle vaaralliset vaikutukset**
- **Sukusolujen perimää vaurioittavat vaikutukset** Saatavilla olevien tietojen perusteella luokituskriteerit eivät täyty.
- **Syöpää aiheuttavat vaikutukset** Saatavilla olevien tietojen perusteella luokituskriteerit eivät täyty.
- **Lisääntymiselle vaaralliset vaikutukset** Saatavilla olevien tietojen perusteella luokituskriteerit eivät täyty.
- **Elinkohtainen myrkyllisyys – kerta-altistuminen**
Saattaa aiheuttaa hengitysteiden ärsytystä.
- **Elinkohtainen myrkyllisyys – toistuva altistuminen**
Saatavilla olevien tietojen perusteella luokituskriteerit eivät täyty.
- **Aspiraatiovaara** Saatavilla olevien tietojen perusteella luokituskriteerit eivät täyty.

KOHTA 12: Tiedot vaarallisuudesta ympäristölle

- **12.1 Myrkyllisyys**
- **Vesimyrkyllisyys:** Merkittäviä lisätietoja ei ole saatavilla.
- **12.2 Pysyvyys ja hajoavuus** Merkittäviä lisätietoja ei ole saatavilla.
- **12.3 Biokertyvyys** Merkittäviä lisätietoja ei ole saatavilla.
- **12.4 Liikkuvuus maaperässä** Merkittäviä lisätietoja ei ole saatavilla.
- **Ekologisia lisätietoja:**
- **Yleisohjeita:**
Vesistövaarallisuusluokka 1 (Oma luokitus): lievästi vesistöä vaarantava
Estetään aineen pääsy ohentamattomana tai suurina määrinä pohjaveteen, vesistöihin, viemäristöön.
- **12.5 PBT- ja vPvB-arvioinnin tulokset**
- **PBT:** Ei voida käyttää.
- **vPvB:** Ei voida käyttää.
- **12.6 Muut haitalliset vaikutukset** Merkittäviä lisätietoja ei ole saatavilla.

KOHTA 13: Jätteiden käsittelyyn liittyvät näkökohdat

- **13.1 Jätteiden käsittelymenetelmät**
- **Suositus:** Ei voida hävittää yhdessä talousjätteiden kanssa. Ei saa päästää viemäristöön.
- **Puhdistamattomat pakkaukset:**
- **Suositus:** Hävitettävä virallisten määräysten mukaisesti.
- **Suosittelava puhdistusaine:** Vesi, johon tarvittaessa lisätään puhdistusaineita.

KOHTA 14: Kuljetustiedot

- | | |
|--|--|
| · 14.1 YK-numero | |
| · ADR, IMDG, IATA | UN1245 |
| · 14.2 Kuljetuksessa käytettävä virallinen nimi | |
| · ADR | 1245 METYYLI-ISOBUTYYLIKETONI |
| · IMDG | METHYL ISOBUTYL KETONE, MARINE POLLUTANT |
| · IATA | METHYL ISOBUTYL KETONE |

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· 14.3 Kuljetuksen vaaraluokka

· ADR, IATA



· Luokka

3 Palavat nesteet

· Lipuke

3

· IMDG



· Class

3 Palavat nesteet

· Label

3

· 14.4 Pakkausryhmä

· ADR, IMDG, IATA

II

· 14.5 Ympäristövaarat:

· Marine pollutant:

Symboli (kala ja puu)

· 14.6 Erityiset varotoimet käyttäjälle

Varoitus: Palavat nesteet

· Vaaran tunnus-nro (Kemler-luku):

33

· EMS-numero:

F-E,S-D

· Stowage Category

A

· 14.7 Kuljetus irtolastina Marpol-sopimuksen II liitteen ja IBC-säännösten mukaisesti

Ei voida käyttää.

· Kuljetus/lisätietoja:

· ADR

· Rajoitetut määrät (LQ)

5L

· Poikkeusmäärät (EQ)

Koodi: E1

Enimmäisnettomäärä sisäpakkausta kohti: 30 ml

Enimmäisnettomäärä ulkopakkausta kohti: 1000 ml

· Kuljetuskategoria

3

· Tunnelirajoituskoodi:

E

· IMDG

· Limited quantities (LQ)

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· UN "Model Regulation":

UN 1245 METYYLI-ISOBUTYYLIKETONI, 3, II

KOHTA 15: Lainsäädäntöä koskevat tiedot

· 15.1 Nimenomaisesti ainetta tai seosta koskevat turvallisuus-, terveys- ja ympäristösäännökset tai -lainsäädäntö

· Direktiivi 2012/18/EU

· Nimetyt vaaralliset aineet - LIITE I sisältäviä aineita ei ole lueteltu

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- **Seveso-luokka P5c SYTTYVÄT NESTEET**
- **Soveltamisen vähimmäismäärät (tonneina) alemman tason vaatimukset 5.000 t**
- **Soveltamisen vähimmäismäärät (tonneina) ylemmän tason vaatimukset 50.000 t**
- **NEUVOSTON ASETUS (EY) N:o 1907/2006 LIITE XVII Rajoitusehdot: 3**

· **Direktiivi 2011/65/EU tiettyjen vaarallisten aineiden käytön rajoittamisesta sähkö- ja elektroniikkalaitteissa - Liite II**

sisältäviä aineita ei ole lueteltu

· **ASETUS (EU) 2019/1148**

· **Liite I - RAJOITETUT RÄJÄHTEIDEN LÄHTÖAINEET (Yläraja-arvo lupien myöntämiseksi 5 artiklan 3 kohdan mukaisesti)**

sisältäviä aineita ei ole lueteltu

· **Liite II - ILMOITETTAVAT RÄJÄHTEIDEN LÄHTÖAINEET**

sisältäviä aineita ei ole lueteltu

· **Asetus (EY) N:o 273/2004 huumausaineiden lähtöaineista**

sisältäviä aineita ei ole lueteltu

· **Asetus (EY) N:o 111/2005 yhteisön ja kolmansien maiden välisen huumausaineiden lähtöaineiden kaupan valvontaa koskevista säännöistä**

sisältäviä aineita ei ole lueteltu

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

KOHTA 16: Muut tiedot

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

· **Asiaankuuluvat lausekkeet**

H225 Helposti syttyvä neste ja höyry.

H319 Ärsyttää voimakkaasti silmiä.

H332 Haitallista hengitettynä.

H335 Saattaa aiheuttaa hengitysteiden ärsytystä.

· **Lyhenteet ja lyhytnimet:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Syttyvät nesteet – Katgoria 2

Acute Tox. 4: Välitön myrkyllisyys – Katgoria 4

Eye Irrit. 2: Vakava silmävaurio/silmä-ärsytys – Katgoria 2

STOT SE 3: Elinkahtainen myrkyllisyys (kerta-altistuminen) – Katgoria 3

Fiche de données de sécurité

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

- **1.1 Identificateur de produit**
- **Nom du produit:** *SILVER CONDUCTIVE PAINT, 503*
- **Code du produit:** 12686-15, 12686-15-SP
- **UFI:** R7Q1-Y0Q5-X00D-XPWD
- **1.2 Utilisations identifiées pertinentes de la substance ou du mélange et utilisations déconseillées**
Pas d'autres informations importantes disponibles.
- **Emploi de la substance / de la préparation** Produits chimiques pour laboratoires
- **1.3 Renseignements concernant le fournisseur de la fiche de données de sécurité**
- **Producteur/fournisseur:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

RUBRIQUE 2: Identification des dangers

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



GHS02 flamme

Flam. Liq. 2 H225 Liquide et vapeurs très inflammables.



GHS07

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** Le produit est classifié et étiqueté selon le règlement CLP.
- **Pictogrammes de danger**



GHS02



GHS07

- **Mention d'avertissement** Danger
- **Composants dangereux déterminants pour l'étiquetage:**
4-méthylpentane-2-one
- **Mentions de danger**
H225 Liquide et vapeurs très inflammables.
H319 Provoque une sévère irritation des yeux.
H335 Peut irriter les voies respiratoires.

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· **Conseils de prudence**

- P210 Tenir à l'écart de la chaleur, des surfaces chaudes, des étincelles, des flammes nues et de toute autre source d'inflammation. Ne pas fumer.
- P241 Utiliser du matériel [électrique/de ventilation/d'éclairage] antidéflagrant.
- P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau [ou se doucher].
- P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
- P405 Garder sous clef.
- P501 Éliminer le contenu/réceptacle conformément à la réglementation locale/régionale/nationale/internationale.

· **2.3 Autres dangers**

· **Résultats des évaluations PBT et vPvB**

- **PBT:** Non applicable.
- **vPvB:** Non applicable.

RUBRIQUE 3: Composition/informations sur les composants

· **3.2 Caractérisation chimique: Mélanges**

- **Description:** Mélange des substances mentionnées à la suite avec des additifs non dangereux.

· **Composants dangereux:**

CAS: 108-10-1	4-méthylpentane-2-one	>25-≤50%
EINECS: 203-550-1	⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	

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

RUBRIQUE 4: Premiers secours

· **4.1 Description des premiers secours**

· **Remarques générales:**

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

· **Après inhalation:**

Donner de l'air frais. Assistance respiratoire si nécessaire. Tenir le malade au chaud. Si les troubles persistent, consulter un médecin.

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

· **Après contact avec la peau:** En règle générale, le produit n'irrite pas la peau.

· **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:** Si les troubles persistent, consulter 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:**
CO₂, poudre d'extinction ou eau pulvérisée. Combattre les foyers importants avec de l'eau pulvérisée ou de la mousse résistant à l'alcool.
- **5.2 Dangers particuliers résultant de la substance ou du mélange**
Pas d'autres informations importantes disponibles.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** *Porter un appareil de protection respiratoire.*

RUBRIQUE 6: Mesures à prendre en cas de dispersion accidentelle

- **6.1 Précautions individuelles, équipement de protection et procédures d'urgence**
Porter un équipement de sécurité. Eloigner les personnes non protégées.
- **6.2 Précautions pour la protection de l'environnement:**
*Diluer avec beaucoup d'eau.
Ne pas rejeter dans les canalisations, dans les eaux de surface et dans les nappes d'eau souterraines.*
- **6.3 Méthodes et matériel de confinement et de nettoyage:**
*Recueillir les liquides à l'aide d'un produit absorbant (sable, kieselguhr, neutralisant d'acide, liant universel, sciure).
Evacuer 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.
Eviter la formation d'aérosols.*
- **Préventions des incendies et des explosions:**
*Tenir à l'abri des sources d'inflammation - ne pas fumer.
Tenir à l'abri de la chaleur.
Prendre des mesures contre les charges électrostatiques.*
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** *Stocker dans un endroit frais.*
- **Indications concernant le stockage commun:** *Pas nécessaire.*
- **Autres indications sur les conditions de stockage:**
*Tenir les emballages hermétiquement fermés.
Stocker au frais et au sec dans des fûts bien fermés.
Protéger de la forte chaleur et du rayonnement direct du soleil.*
- **7.3 Utilisation(s) finale(s) particulière(s)** *Pas d'autres informations importantes disponibles.*

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RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

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

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

108-10-1 4-méthylpentane-2-one

VLEP	Valeur momentanée: 208 mg/m ³ , 50 ppm
	Valeur à long terme: 83 mg/m ³ , 20 ppm

- **Remarques supplémentaires:**
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
- **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.
Éviter tout contact avec les yeux.
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:**
Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.
À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.
Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.
- **Matériau des gants**
Le choix de gants appropriés dépend non seulement du matériau, mais aussi d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre. Puisque le produit représente une préparation composée de plusieurs substances, la résistance des matériaux des gants ne peut pas être calculée à l'avance et doit, alors, être contrôlée avant l'utilisation.
- **Temps de pénétration du matériau des gants**
Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.
- **Protection des yeux:**



Lunettes de protection hermétiques

RUBRIQUE 9: Propriétés physiques et chimiques

- **9.1 Informations sur les propriétés physiques et chimiques essentielles**
- **Indications générales**
- **Aspect:**
- **Forme:** Liquide
- **Couleur:** Argenté
- **Odeur:** De type solvanté
- **Seuil olfactif:** Non déterminé.

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· valeur du pH à 20 °C:	7
· Changement d'état Point de fusion/point de congélation:	<0 °C
Point initial d'ébullition et intervalle d'ébullition:	116 °C
· Point d'éclair	16 °C
· Inflammabilité (solide, gaz):	Non applicable.
· Température d'inflammation:	460 °C
· Température de décomposition:	Non déterminé.
· Température d'auto-inflammabilité:	Le produit ne s'enflamme pas spontanément.
· Propriétés explosives:	Le produit n'est pas explosif; toutefois, des mélanges explosifs vapeur-air peuvent se former.
· Limites d'explosion: Inférieure:	1,2 Vol %
Supérieure:	8 Vol %
· Pression de vapeur à 20 °C:	20 hPa
· Densité à 20 °C:	1,77 g/cm ³
· Densité relative	Non déterminé.
· Densité de vapeur:	Non déterminé.
· Taux d'évaporation:	Non déterminé.
· Solubilité dans/miscibilité avec l'eau:	Entièrement miscible
· Coefficient de partage: n-octanol/eau:	Non déterminé.
· Viscosité: Dynamique à 20 °C:	1.700 mPas
Cinématique:	Non déterminé.
· Teneur en solvants: Solvants organiques:	30,0 %
VOC (CE)	30,00 %
· Teneur en substances solides:	62,0 %
· 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

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RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

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

108-10-1 4-méthylpentane-2-one

Oral	LD50	2.080 mg/kg (rat)
Dermique	LD50	16.000 mg/kg (rab)
Inhalatoire	LC50/4 h	8,3-16,6 mg/l (rat)

- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **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.
- **Indications toxicologiques complémentaires:**
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagénicité sur les cellules germinales**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Cancérogénicité** 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 propre): 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.

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- **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 style="text-align: center;">UN1245</p>
<ul style="list-style-type: none"> · 14.2 Désignation officielle de transport de l'ONU · ADR · IMDG · IATA 	<p style="text-align: center;">1245 MÉTHYLISOBUTYLÉTONE METHYL ISOBUTYL KETONE, MARINE POLLUTANT METHYL ISOBUTYL KETONE</p>
<ul style="list-style-type: none"> · 14.3 Classe(s) de danger pour le transport · ADR, IATA 	<div style="text-align: center;">  </div> <p style="text-align: center;">3 Liquides inflammables. 3</p>
<ul style="list-style-type: none"> · IMDG 	<div style="text-align: center;">  </div> <p style="text-align: center;">3 Liquides inflammables. 3</p>
<ul style="list-style-type: none"> · 14.4 Groupe d'emballage · ADR, IMDG, IATA 	<p style="text-align: center;">II</p>
<ul style="list-style-type: none"> · 14.5 Dangers pour l'environnement: · Marine Pollutant: 	<p style="text-align: center;">Signe conventionnel (poisson et arbre)</p>
<ul style="list-style-type: none"> · 14.6 Précautions particulières à prendre par l'utilisateur · Numéro d'identification du danger (Indice Kemler): · No EMS: · Stowage Category 	<p style="text-align: center;">Attention: Liquides inflammables. 33 F-E,S-D A</p>
<ul style="list-style-type: none"> · 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC 	<p style="text-align: center;">Non applicable.</p>
<ul style="list-style-type: none"> · Indications complémentaires de transport: 	
<ul style="list-style-type: none"> · ADR · Quantités limitées (LQ) · Quantités exceptées (EQ) 	<p style="text-align: center;">5L Code: E1 Quantité maximale nette par emballage intérieur: 30 ml Quantité maximale nette par emballage extérieur: 1000 ml</p>
<ul style="list-style-type: none"> · Catégorie de transport 	<p style="text-align: center;">3</p>

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· 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 1245 MÉTHYLISOBUTYLCÉTONE, 3, II

RUBRIQUE 15: Informations relatives à la réglementation

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

- Directive 2012/18/UE
- Substances dangereuses désignées - ANNEXE I Aucun des composants n'est compris.
- Catégorie SEVESO P5c LIQUIDES INFLAMMABLES
- Quantité seuil (tonnes) pour l'application des exigences relatives au seuil bas 5.000 t
- Quantité seuil (tonnes) pour l'application des exigences relatives au seuil haut 50.000 t
- RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII Conditions de limitation: 3

· Directive 2011/65/UE relative à la limitation de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques – Annexe II

Aucun des composants n'est compris.

· RÈGLEMENT (UE) 2019/1148

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

Aucun des composants n'est compris.

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

Aucun des composants n'est compris.

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

Aucun des composants n'est compris.

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

Aucun des composants n'est compris.

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

RUBRIQUE 16: Autres informations

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

· **Phrases importantes**

- H225 Liquide et vapeurs très inflammables.
- H319 Provoque une sévère irritation des yeux.
- H332 Nocif par inhalation.
- H335 Peut irriter les voies respiratoires.

· **Acronymes et abréviations:**

- ADR: Accord relatif au transport international des marchandises dangereuses par route
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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*EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**VOC: Volatile Organic Compounds (USA, EU)**LC50: Lethal concentration, 50 percent**LD50: Lethal dose, 50 percent**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**Flam. Liq. 2: Liquides inflammables – Catégorie 2**Acute Tox. 4: Toxicité aiguë – Catégorie 4**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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ABSCHNITT 1: Bezeichnung des Stoffs beziehungsweise des Gemischs und des Unternehmens

- **1.1 Produktidentifikator**
- **Handelsname:** *SILVER CONDUCTIVE PAINT, 503*
- **Artikelnummer:** *12686-15, 12686-15-SP*
- **UFI:** *R7Q1-Y0Q5-X00D-XPWD*
- **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**
Keine weiteren relevanten Informationen verfügbar.
- **Verwendung des Stoffes / des Gemisches** *Laborchemikalien*
- **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**
- **Hersteller/Lieferant:**
*Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com*
- Science Services GmbH
Unterhachinger Str. 75
81737 München Germany*
- Tel: +49(0)89 18 93 668-0
safety@scienceservices.de*
- Deutschland: +49 (0)89 19240, 24h Giftnotruf Munchen, www.toxinfo.org
Osterreich: +43 1406 43 43, Gesundheit Osterreich GmbH, 24 h*
- **Auskunftgebender Bereich:** *Product safety department*
- **1.4 Notrufnummer:**
*ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887*

ABSCHNITT 2: Mögliche Gefahren

- **2.1 Einstufung des Stoffs oder Gemischs**
- **Einstufung gemäß Verordnung (EG) Nr. 1272/2008**



GHS02 Flamme

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



GHS07

*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**
Das Produkt ist gemäß CLP-Verordnung eingestuft und gekennzeichnet.

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· **Gefahrenpiktogramme**

GHS02 GHS07

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

4-Methyl-pentan-2-on

· **Gefahrenhinweise**

H225 Flüssigkeit und Dampf leicht entzündbar.

H319 Verursacht schwere Augenreizung.

H335 Kann die Atemwege reizen.

· **Sicherheitshinweise**

P210 Von Hitze, heißen Oberflächen, Funken, offenen Flammen und anderen Zündquellen fernhalten. Nicht rauchen.

P241 Explosionsgeschützte [elektrische/Lüftungs-/Beleuchtungs-] Geräte verwenden.

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

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

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

· **3.2 Chemische Charakterisierung: Gemische**· **Beschreibung:** Gemisch aus nachfolgend angeführten Stoffen mit ungefährlichen Beimengungen.· **Gefährliche Inhaltsstoffe:**

CAS: 108-10-1	4-Methyl-pentan-2-on	>25-≤50%
EINECS: 203-550-1	⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	

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

ABSCHNITT 4: Erste-Hilfe-Maßnahmen

· **4.1 Beschreibung der Erste-Hilfe-Maßnahmen**· **Allgemeine Hinweise:**

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

· **Nach Einatmen:**

Frischlufzufuhr, gegebenenfalls Atemspende, Wärme. Bei anhaltenden Beschwerden Arzt konsultieren.

Bei Bewusstlosigkeit Lagerung und Transport in stabiler Seitenlage.

· **Nach Hautkontakt:** Im allgemeinen ist das Produkt nicht hautreizend.

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

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:**
CO₂, Löschpulver oder Wassersprühstrahl. Größeren Brand mit Wassersprühstrahl oder alkoholbeständigem Schaum bekämpfen.
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**
Keine weiteren relevanten Informationen verfügbar.
- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** *Atemschutzgerät anlegen.*

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**
Schutzausrüstung tragen. Ungeschützte Personen fernhalten.
- **6.2 Umweltschutzmaßnahmen:**
*Mit viel Wasser verdünnen.
Nicht in die Kanalisation/Oberflächenwasser/Grundwasser gelangen lassen.*
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**
*Mit flüssigkeitsbindendem Material (Sand, Kieselgur, Säurebinder, Universalbinder, Sägemehl) aufnehmen.
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.
Aerosolbildung vermeiden.*
- **Hinweise zum Brand- und Explosionsschutz:**
*Zündquellen fernhalten - nicht rauchen.
Vor Hitze schützen.
Maßnahmen gegen elektrostatische Aufladung treffen.*
- **7.2 Bedingungen zur sicheren Lagerung unter Berücksichtigung von Unverträglichkeiten**
- **Lagerung:**
- **Anforderung an Lagerräume und Behälter:** *An einem kühlen Ort lagern.*
- **Zusammenlagerungshinweise:** *Nicht erforderlich.*
- **Weitere Angaben zu den Lagerbedingungen:**
Behälter dicht geschlossen halten.

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In gut verschlossenen Gebinden kühl und trocken lagern.

Vor Hitze und direkter Sonnenbestrahlung schützen.

· Lagerklasse:

· Klassifizierung nach Betriebssicherheitsverordnung (BetrSichV): Entzündbare Flüssigkeiten

· 7.3 Spezifische Endanwendungen Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

· 8.1 Zu überwachende Parameter

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

· Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:

108-10-1 4-Methyl-pentan-2-on

AGW	Langzeitwert: 83 mg/m ³ , 20 ml/m ³ 2(I);DFG, EU, H, Y
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· Bestandteile mit biologischen Grenzwerten:

108-10-1 4-Methyl-pentan-2-on

BGW	0,7 mg/l Untersuchungsmaterial: Urin Probennahmezeitpunkt: Expositionsende bzw. Schichtende Parameter: 4-Methyl-pentan-2-on
-----	--

· 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.

Berührung mit den Augen vermeiden.

Berührung mit den Augen und der Haut vermeiden.

· Atemschutz:

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

· Handschutz:

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

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

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

· Handschuhmaterial

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

· Durchdringungszeit des Handschuhmaterials

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

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· Augenschutz:



Dichtschließende Schutzbrille

ABSCHNITT 9: Physikalische und chemische Eigenschaften

· 9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften

· Allgemeine Angaben

· Aussehen:

Form:	Flüssigkeit
Farbe:	Silberfarben
Geruch:	Lösemittelartig
Geruchsschwelle:	Nicht bestimmt.

· pH-Wert bei 20 °C: 7

· Zustandsänderung

Schmelzpunkt/Gefrierpunkt:	<0 °C
Siedebeginn und Siedebereich:	116 °C

· Flammpunkt: 16 °C

· Entzündbarkeit (fest, gasförmig): Nicht anwendbar.

· Zündtemperatur: 460 °C

· Zersetzungstemperatur: Nicht bestimmt.

· Selbstentzündungstemperatur: Das Produkt ist nicht selbstentzündlich.

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

· Explosionsgrenzen:

Untere:	1,2 Vol %
Obere:	8 Vol %

· Dampfdruck bei 20 °C: 20 hPa

Dichte bei 20 °C:	1,77 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 bei 20 °C:	1.700 mPas
Kinematisch:	Nicht bestimmt.

· Lösemittelgehalt:

Organische Lösemittel:	30,0 %
VOC (EU)	30,00 %

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Festkörpergehalt:	62,0 %
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· 9.2 Sonstige Angaben	Keine weiteren relevanten Informationen verfügbar.
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ABSCHNITT 10: Stabilität und Reaktivität

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

ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen**
- **Akute Toxizität** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.

· Einstufungsrelevante LD/LC50-Werte:		
--	--	--

108-10-1 4-Methyl-pentan-2-on		
--------------------------------------	--	--

Oral	LD50	2.080 mg/kg (rat)
Dermal	LD50	16.000 mg/kg (rab)
Inhalativ	LC50/4 h	8,3-16,6 mg/l (rat)

- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Schwere Augenschädigung/-reizung**
Verursacht schwere Augenreizung.
- **Sensibilisierung der Atemwege/Haut** Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Zusätzliche toxikologische Hinweise:**
- **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.

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- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**
Wassergefährdungsklasse 1 (Selbsteinstufung): 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.

ABSCHNITT 14: Angaben zum Transport

- | | |
|--|---|
| <ul style="list-style-type: none"> · 14.1 UN-Nummer · ADR, IMDG, IATA | <p style="text-align: right;">UN1245</p> |
| <ul style="list-style-type: none"> · 14.2 Ordnungsgemäße UN-Versandbezeichnung · ADR · IMDG · IATA | <p style="text-align: right;">1245 METHYLISOBUTYLKETON
METHYL ISOBUTYL KETONE, MARINE POLLUTANT
METHYL ISOBUTYL KETONE</p> |
| <ul style="list-style-type: none"> · 14.3 Transportgefahrenklassen · ADR, IATA | <div style="text-align: center;">  </div> <p style="text-align: right;"> <ul style="list-style-type: none"> · Klasse 3 Entzündbare flüssige Stoffe · Gefahrzettel 3 </p> |
| <ul style="list-style-type: none"> · IMDG | <div style="text-align: center;">   </div> <p style="text-align: right;"> <ul style="list-style-type: none"> · Class 3 Entzündbare flüssige Stoffe · Label 3 </p> |
| <ul style="list-style-type: none"> · 14.4 Verpackungsgruppe · ADR, IMDG, IATA | <p style="text-align: right;">II</p> |
| <ul style="list-style-type: none"> · 14.5 Umweltgefahren: · Marine pollutant: | <p style="text-align: right;">Symbol (Fisch und Baum)</p> |

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- | | |
|--|--|
| · 14.6 Besondere Vorsichtsmaßnahmen für den Verwender | Achtung: Entzündbare flüssige Stoffe |
| · Nummer zur Kennzeichnung der Gefahr (Kemler-Zahl): | 33 |
| · EMS-Nummer: | F-E,S-D |
| · Stowage Category | A |
| · 14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code Nicht anwendbar. | |
| · Transport/weitere Angaben: | |
| · ADR | |
| · Begrenzte Menge (LQ) | 5L |
| · Freigestellte Mengen (EQ) | Code: E1
Höchste Nettomenge je Innenverpackung: 30 ml
Höchste Nettomenge je Außenverpackung: 1000 ml |
| · Beförderungskategorie | 3 |
| · Tunnelbeschränkungscode | E |
| · IMDG | |
| · Limited quantities (LQ) | 5L |
| · Excepted quantities (EQ) | Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml |
| · UN "Model Regulation": | UN 1245 METHYLISOBUTYLKETON, 3, II |

ABSCHNITT 15: Rechtsvorschriften

- 15.1 Vorschriften zu Sicherheit, Gesundheits- und Umweltschutz/spezifische Rechtsvorschriften für den Stoff oder das Gemisch**
- Richtlinie 2012/18/EU**
- Namentlich aufgeführte gefährliche Stoffe - ANHANG I** Keiner der Inhaltsstoffe ist enthalten.
- Seveso-Kategorie P5c ENTZÜNDBARE FLÜSSIGKEITEN**
- Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse 5.000 t**
- Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse 50.000 t**
- VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3
- Richtlinie 2011/65/EU zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten – Anhang II**
- Keiner der Inhaltsstoffe ist enthalten.
- VERORDNUNG (EU) 2019/1148**
- Anhang I - BESCHRÄNKTE AUSGANGSSTOFFE FÜR EXPLOSIVSTOFFE (Oberer Konzentrationsgrenzwert für eine Genehmigung nach Artikel 5 Absatz 3)**
- Keiner der Inhaltsstoffe ist enthalten.
- Anhang II - MELDEPFLICHTIGE AUSGANGSSTOFFE FÜR EXPLOSIVSTOFFE**
- Keiner der Inhaltsstoffe ist enthalten.
- Verordnung (EG) Nr. 273/2004 betreffend Drogenausgangsstoffe**
- Keiner der Inhaltsstoffe ist enthalten.

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

Keiner der Inhaltsstoffe ist enthalten.

· **Nationale Vorschriften:**

· **Technische Anleitung Luft:**

Klasse	Anteil in %
NK	30,0

· **Wassergefährdungsklasse: WGK 1 (Selbsteinstufung):** 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.

· **Relevante Sätze**

H225 Flüssigkeit und Dampf leicht entzündbar.

H319 Verursacht schwere Augenreizung.

H332 Gesundheitsschädlich bei Einatmen.

H335 Kann die Atemwege reizen.

· **Abkürzungen und Akronyme:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Entzündbare Flüssigkeiten – Kategorie 2

Acute Tox. 4: Akute Toxizität – Kategorie 4

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:** SILVER CONDUCTIVE PAINT, 503
- **Articolo numero:** 12686-15, 12686-15-SP
- **UFI:** R7Q1-Y0Q5-X00D-XPWD
- **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
- **Società Italiana Chimici**
Via Rio Nell Ellba 140
00138 Rome, Italy
Tel: 39 06 8800211
Fax: 39 30 06 8815313
Web: www.sichim.com
- **Informazioni fornite da:** Product safety department
- **1.4 Numero telefonico di emergenza:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SEZIONE 2: Identificazione dei pericoli

- **2.1 Classificazione della sostanza o della miscela**
- **Classificazione secondo il regolamento (CE) n. 1272/2008**



GHS02 fiamma

Flam. Liq. 2 H225 Liquido e vapori facilmente infiammabili.



GHS07

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**
Il prodotto è classificato ed etichettato conformemente al regolamento CLP.
- **Pittogrammi di pericolo**



GHS02 GHS07

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- **Avvertenza Pericolo**
- **Componenti pericolosi che ne determinano l'etichettatura:**
4-metil-pentan-2-one
- **Indicazioni di pericolo**
H225 Liquido e vapori facilmente infiammabili.
H319 Provoca grave irritazione oculare.
H335 Può irritare le vie respiratorie.
- **Consigli di prudenza**
P210 Tenere lontano da fonti di calore, superfici riscaldate, scintille, fiamme e altre fonti di innesco. Vietato fumare.
P241 Utilizzare impianti [elettrici/di ventilazione/d'illuminazione] a prova di esplosione.
P303+P361+P353 IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliersi di dosso immediatamente tutti gli indumenti contaminati. Sciacquare la pelle [o fare una doccia].
P305+P351+P338 IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.
P405 Conservare sotto chiave.
P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.
- **2.3 Altri pericoli**
- **Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

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

· **Sostanze pericolose:**

CAS: 108-10-1	4-metil-pentan-2-one	>25-≤50%
EINECS: 203-550-1	⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	

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

SEZIONE 4: Misure di primo soccorso

- **4.1 Descrizione delle misure di primo soccorso**
- **Indicazioni generali:**
I sintomi di avvelenamento possono comparire dopo molte ore, per tale motivo è necessaria la sorveglianza di un medico nelle 48 ore successive all'incidente.
- **Inalazione:**
Portare in zona ben areata, praticare eventualmente la respirazione artificiale, tenere al caldo. Se i disturbi persistono consultare il medico.
Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.
- **Contatto con la pelle:** Generalmente il prodotto non è irritante per la pelle.
- **Contatto con gli occhi:**
Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte. Se persiste il dolore consultare il medico.
- **Ingestione:** Se il dolore persiste consultare il medico.
- **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.

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- **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**
Non sono disponibili altre informazioni.

SEZIONE 5: Misure antincendio

- **5.1 Mezzi di estinzione**
- **Mezzi di estinzione idonei:**
CO₂, polvere o acqua nebulizzata. Estinguere gli incendi di grosse dimensioni con acqua nebulizzata o con schiuma resistente all'alcool.
- **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.
- **5.3 Raccomandazioni per gli addetti all'estinzione degli incendi**
- **Mezzi protettivi specifici:** Indossare il respiratore.

SEZIONE 6: Misure in caso di rilascio accidentale

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

SEZIONE 7: Manipolazione e immagazzinamento

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

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SEZIONE 8: Controllo dell'esposizione/protezione individuale

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

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

108-10-1 4-metil-pentan-2-one

TWA	Valore a breve termine: 307 mg/m ³ , 75 ppm Valore a lungo termine: 82 mg/m ³ , 20 ppm A3, IBE
VL	Valore a breve termine: 208 mg/m ³ , 50 ppm Valore a lungo termine: 83 mg/m ³ , 20 ppm

· **Componenti con valori limite biologici:**

108-10-1 4-metil-pentan-2-one

IBE	1 mg/l Campioni: urine Momento del prelievo: a fine turno Indicatore biologico: metil isobutil chetone (MIBK)
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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.
- Evitare il contatto con gli occhi.
- Evitare il contatto con gli occhi e la pelle.

· **Maschera protettiva:**

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

· **Guanti protettivi:**

Il materiale dei guanti deve essere impermeabile e stabile contro il prodotto/ la sostanza/ la formulazione. A causa della mancanza di tests non può essere consigliato alcun tipo di materiale per i guanti con cui manipolare il prodotto / la formulazione / la miscela di sostanze chimiche. Scelta del materiale dei guanti in considerazione dei tempi di passaggio, dei tassi di permeazione e della degradazione.

· **Materiale dei guanti**

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

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

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

· **Occhiali protettivi:**



Occhiali protettivi a tenuta

IT

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SEZIONE 9: Proprietà fisiche e chimiche

· 9.1 Informazioni sulle proprietà fisiche e chimiche fondamentali

· Indicazioni generali

· Aspetto:

· Forma:	Liquido
· Colore:	Color argento
· Odore:	Di solvente
· Soglia olfattiva:	Non definito.

· valori di pH a 20 °C: 7

· Cambiamento di stato

· Punto di fusione/punto di congelamento:	<0 °C
· Punto di ebollizione iniziale e intervallo di ebollizione:	116 °C

· Punto di infiammabilità: 16 °C

· Infiammabilità (solidi, gas): Non applicabile.

· Temperatura di accensione: 460 °C

· Temperatura di decomposizione: Non definito.

· Temperatura di autoaccensione: Prodotto non autoinfiammabile.

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

· Limiti di infiammabilità:

· Inferiore:	1,2 Vol %
· Superiore:	8 Vol %

· Tensione di vapore a 20 °C: 20 hPa

· Densità a 20 °C:	1,77 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 a 20 °C:	1.700 mPas
· Cinematica:	Non definito.

· Tenore del solvente:

· Solventi organici:	30,0 %
· VOC (CE)	30,00 %

· Contenuto solido: 62,0 %

· 9.2 Altre informazioni Non sono disponibili altre informazioni.

SEZIONE 10: Stabilità e reattività

· 10.1 Reattività Non sono disponibili altre informazioni.

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

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

108-10-1 4-metil-pentan-2-one

Orale	LD50	2.080 mg/kg (rat)
Cutaneo	LD50	16.000 mg/kg (rab)
Per inalazione	LC50/4 h	8,3-16,6 mg/l (rat)

- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea** Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **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.
- **Ulteriori dati tossicologici:**
- **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) (Autoclassificazione): 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.

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· **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 | UN1245 |
| · 14.2 Nome di spedizione dell'ONU
· ADR
· IMDG
· IATA | 1245 METILISOBUTILCHETONE
METHYL ISOBUTYL KETONE, MARINE POLLUTANT
METHYL ISOBUTYL KETONE |
| · 14.3 Classi di pericolo connesso al trasporto
· ADR, IATA | |
|  | |
| · Classe
· Etichetta | 3 Liquidi infiammabili
3 |
| · IMDG | |
|   | |
| · Class
· Label | 3 Liquidi infiammabili
3 |
| · 14.4 Gruppo di imballaggio
· ADR, IMDG, IATA | II |
| · 14.5 Pericoli per l'ambiente:
· Marine pollutant: | Simbolo (pesce e albero) |
| · 14.6 Precauzioni speciali per gli utilizzatori
· N° identificazione pericolo (Numero Kemler):
· Numero EMS:
· Stowage Category | Attenzione: Liquidi infiammabili
33
F-E,S-D
A |
| · 14.7 Trasporto di rifiuti secondo l'allegato II di MARPOL ed il codice IBC | Non applicabile. |

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· Trasporto/ulteriori indicazioni:

· ADR

· **Quantità limitate (LQ)**

5L

· **Quantità esenti (EQ)**

Codice: E1

Quantità massima netta per imballaggio interno: 30 ml

Quantità massima netta per imballaggio esterno: 1000 ml

· **Categoria di trasporto**

3

· **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 1245 METILISOBUTILCHETONE, 3, II

SEZIONE 15: Informazioni sulla regolamentazione

· **15.1 Disposizioni legislative e regolamentari su salute, sicurezza e ambiente specifiche per la sostanza o la miscela**

· **Direttiva 2012/18/UE**

· **Sostanze pericolose specificate - ALLEGATO I** Nessuno dei componenti è contenuto.

· **Categoria Seveso P5c** LIQUIDI INFIAMMABILI

· **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore** 5.000 t

· **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore** 50.000 t

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

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

Nessuno dei componenti è contenuto.

· **REGOLAMENTO (UE) 2019/1148**

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

Nessuno dei componenti è contenuto.

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

Nessuno dei componenti è contenuto.

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

Nessuno dei componenti è contenuto.

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

Nessuno dei componenti è contenuto.

· **Disposizioni nazionali:**

· **Istruzione tecnica aria:**

Classe	quota in %
NC	30,0

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

SEZIONE 16: Altre informazioni

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

· **Frasei rilevanti**

H225 Liquido e vapori facilmente infiammabili.

H319 Provoca grave irritazione oculare.

H332 Nocivo se inalato.

H335 Può irritare le vie respiratorie.

· **Abbreviazioni e acronimi:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Liquidi infiammabili – Categoria 2

Acute Tox. 4: Tossicità acuta – Categoria 4

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

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

물질안전보건자료 GHS에 따라

인쇄일자: 2022.05.06

개정: 2022.05.06

1 화학제품과 회사에 관한 정보

- 제품 식별자
- 제품명: **SILVER CONDUCTIVE PAINT, 503**
- 상품번호: 12686-15, 12686-15-SP
- 해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도
- 제품의 권고 용도와 사용상의 제한: SILVER CONDUCTIVE PAINT, 503
- 제품의 권고 용도와 사용상의 제한: 실 험 실 화 학 품
- 안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보
- 제조자/수입자/유통업자 정보:
 Electron Microscopy Sciences
 1560 Industry Road
 USA-Hatfield, PA 19440
 Tel: 215-412-8400 Fax: 215-412-8450
 email: info@emsdiasum.com
 www.emsdiasum.com
- Samchang Commercial Co., Ltd.
 Yeo Eui Do
 PO Box 1110
 Seoul, Korea
 Tel: 82 2 703 3040
 Fax: 82 2 717 3298
-
- Daedok Science, Co. Ltd.
 34141 E10 Korea Advanced Institute of Science
 Guseong-Dong, Yuseong-gu, Daejeon,
 Korea
 Phone: 82 42 710 2091
 Fax: 82 42 367 0005
 Website: www.labsmro.com
- 추가적인 정보 획득 가능: Product safety department
- 비상연락 전화번호:
 ChemTrec 1-800-424-9300 Contract CCN7661
 1-703-527-3887

2 유해성·위험성

- 순물질 또는 혼합물의 분류



화염

인화성 액체 – 구분2

H225 고인화성 액체 및 증기



심한 눈 손상성/눈 자극성 – 구분 2 H319 눈에 심한 자극을 일으킴

특정표적장기 독성 - 1회 노출- 구분3 H335 호흡기 자극을 일으킬 수 있음

- 라벨표기 요소

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

(2 쪽에 계속)

물질안전보건자료 GHS에 따라

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(1 쪽부터 계속)

· **GHS 그림문자**



GHS02 GHS07

· **신호어 위험**

· **상표상에 명확히 위험성이 표시된 성분:**

4-methylpentan-2-one

· **유해·위험문구**

고인화성 액체 및 증기
눈에 심한 자극을 일으킴
호흡기 자극을 일으킬 수 있음

· **예방조치문구**

열·스파크·화염·고열로부터 멀리하시오 - 금연
폭발 방지용 전기·환기·조명·장비를 사용하시오.
피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하시오. 피부를 물로 씻으시오/샤워하시오 .
눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면 콘택트렌즈를 제거하시오. 계속 씻으시오.
밀봉하여 저장하시오.
(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하시오.

· **기타 유해성**

· **PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과**

· **PBT(잔류성, 생물농축성, 독성 물질):** 해당사항 없음.

· **vPvB(고 잔류성, 고 생물농축성 물질):** 해당사항 없음.

3 구성성분의 명칭 및 함유량

· **화 학 적 특 성:** 혼합물

· **설명:** 무해한 첨가물이 함유된 아래에 열거된 물질로 만들어진 혼합물.

· **위 험 요 소:**

108-10-1	4-methylpentan-2-one	>25-≤50%
	인화성 액체 – 구분2, H225; 급성 독성 - 흡입 – 구분4, H332; 심한 눈 손상성/눈 자극성 – 구분 2, H319; 특정표적장기 독성 - 1회 노출– 구분3, H335	

4 응급조치 요령

· **응급조치요령 내용**

· **일 반 적 정 보:**

중 독 증 상 은 몇 시 간이 지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48 시간동안은 의료진의 관찰을 받아야 한다.

· **흡입했을 때:**

신선한 공기를 쐬고, 필요할 경우에는 산소호흡기의 도움을 받는다. 환자를 따뜻하게 하고, 증상이 지속될 경우에는 의료진의 도움을 구한다.

환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.

· **피부에 접촉했을 때:** 일반적으로 이 제품은 피부에 자극적이지 않다.

· **눈에 들어갔을 때:** 흐르는 물에 눈을 몇분동안 씻어내고나서, 증상이 지속될 경우에는 의사와 상담한다

· **먹었을 때:** 증상이 지속될 경우에는 의사와 상담한다.

· **기타 의사의 주의사항:**

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

(3 쪽에 계속)

물질안전보건자료 GHS에 따라

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개정: 2022.05.06

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

5 폭발·화재시 대처방법

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

6 누출 사고 시 대처방법

- **개인적 예방조치, 보호장비 및 응급처치 절차** 안전장비 착용하고, 무방비의 사람은 격리시킨다.
- **환경 관련 예방조치:**
많은 물로 희석시킨다.
하수도망/해수면위의물/지하수로도달하지않게한다.
- **밀폐 및 정화 방법과 소재:**
액체가 혼합된 물질 (모래, 규조토, 산성결합물, 일반결합물, 톱밥)에 흡입되도록 한다.
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.
충분한 환기가 되도록 한다.
- **타 섹션 참조**
안전관리에 대한 정보는 제7장을 참고하십시오.
개인보호장비에 대한 정보는 제8장을 참고하십시오.
쓰레기처리에 대한 정보는 제13장을 참고하십시오.

7 취급 및 저장방법

- **취급:**
- **안전 취급을 위한 예방조치**
작업장에서는통풍이잘되고/습기제거가잘되게주의한다.
연무질이형성되는것을피한다.
- **화재 및 폭발 사고 예방대책에 관한 정보:**
발화요소는 멀리둔다-금연.
열로부터보호한다.
정전기의충전으로부터 보호한다.
- **혼합위험성 등 안전 저장 조건**
- **보관:**
- **안전한 저장 방법:** 차가운 장소에 보관한다.
- **하나의 공동 보관 시설에 대한 보관 관련 정보:** 필요없음
- **보관 조건에 관한 추가적인 정보:**
용기를새지않게밀폐한채보관한다.
밀폐된 용기속에서늘하고건조하게 보관한다.
열이나직사광선으로부터보호한다.
- **구체적 최종 사용자** 추가적인 정보가 존재하지 않습니다.

KR

(4 쪽에계속)

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8 노출방지 및 개인보호구

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

·통제 변수

·화학물질의 노출기준, 생물학적 노출기준 등:

108-10-1 4-methylpentan-2-one

OELV (KR)	단기간의값: 75 ppm 장기간의값: 50 ppm 발암성 2
IOELV (EU)	단기간의값: 208 mg/m ³ , 50 ppm 장기간의값: 83 mg/m ³ , 20 ppm
PEL (US)	장기간의값: 410 mg/m ³ , 100 ppm
REL (US)	단기간의값: 300 mg/m ³ , 75 ppm 장기간의값: 205 mg/m ³ , 50 ppm
TLV (US)	단기간의값: 75 ppm 장기간의값: 20 ppm BEI, A3

·생물학적 허용값을 갖는 원료:

108-10-1 4-methylpentan-2-one

BEI (US)	1 mg/L Medium: urine Time: end of shift Parameter: MIBK
----------	--

·추 가 정보: 제 조 할 당시에 유효 한 목 록을 기초로 사용했다.

·노출 통제

·개인 보호구

·일반적보호조치및위생조치:

- 식료품, 음료수와 사료로부터 멀리 떨어져 놓는다.
- 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.
- 휴식 전 이 나 작업이 끝날때마다 손을 씻는다.
- 눈과의 접촉을 피한다.
- 눈과 피부와의 접촉을 피한다.

·호흡기 보호:

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

·손 보호:

- 장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.
- 테스트를 하지 않았기 때문에 제품 / 조제 / 화학 혼합물에 적합한 장갑재질에 대한 추천이 없다.
- 투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

·장갑의재로

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

·장갑 재료의 투과 시간 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

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· 눈 보호:



꼭조이는보안경

9 물리화학적 특성

· 기본 물리 및 화학적 특성에 대한 정보

· 일반정보

· 외형

· 물리적 상태: 액체

· 색: 은색

· 냄새: 완화제종류의

· 후각역치: 알맞지않다.

· pH 의경우 20 °C: 7

· 상태변화

· 녹는점/어는점: <0 °C

· 초기 끓는점과 끓는점 범위: 116 °C

· 인화점: 16 °C

· 인화성(고체, 기체): 해당사항 없음.

· 점화온도: 460 °C

· 분해 온도: 알맞지않다.

· 자기점화: 이제품은자연발화성이없다.

· 폭발위험: 이제품은폭발위험성이없지만, 폭발가능성이있는증기화합물/공기화합물의형성가능성이있다.

· 인화 또는 폭발 범위의 상한/하한

· 아래로: 1.2 Vol %

· 위로: 8 Vol %

· 증기압 의경우 20 °C: 20 hPa

· 밀도 의경우 20 °C: 1.77 g/cm³

· 비중: 알맞지않다.

· 증기밀도: 알맞지않다.

· 증발 속도: 알맞지않다.

· 용해도:

· 물: 완전히혼합할수있는

· n 옥탄올/물 분배계수: 알맞지않다.

· 점도:

· 역학적 의경우 20 °C: 1,700 mPas

· 동점성: 알맞지않다.

· 용매내용물

· 유기용매: 30.0 %

· VOC (EU): 30.00 %

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고체의 함량: 62.0 %

· **기타 정보** 추가적인 정보가 존재하지 않습니다.

10 안정성 및 반응성

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

11 독성에 관한 정보

- **독성학적 영향에 대한 정보**
- **급성 독성:**

· **LD/LC50-수치에 따른 분류:**

108-10-1 4-methylpentan-2-one

구강의	LD50	2,080 mg/kg (rat)
피부의	LD50	16,000 mg/kg (rab)
흡입의	LC50/4 h	8.3-16.6 mg/l (rat)

- **일차적 자극 효과:**
- **피부 부식성 또는 자극성:** 무자극
- **심한 눈 손상 또는 자극성:** 자극
- **감각화:** 민감한영향이없는것으로알려져있다.
- **추 가 적 인 독 성 에 관 한 정 보:**
이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전준비에대하여제시하고있다.
건강에해로운
자극적인

12 환경에 미치는 영향

- **독성**
- **수생독성:** 추가적인 정보가 존재하지 않습니다.
- **지속성 및 분해성** 추가적인 정보가 존재하지 않습니다.
- **환 경 시 스템 에 서 의 행 동:**
- **생물농축 잠재성** 추가적인 정보가 존재하지 않습니다.
- **토양내 이동성** 추가적인 정보가 존재하지 않습니다.
- **추가적인 생태학 정보:**
- **일반 특징:**
수질오염등급 1 (자체등급분류): 약하게수질오염이된
희석시키지않은채대량으로지하수나, 하천으로그리고하수도망에도달하지않게한다.
- **PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과**
- **PBT(잔류성, 생물농축성, 독성 물질):** 해당사항 없음.
- **vPvB(고 잔류성, 고 생물농축성 물질):** 해당사항 없음.

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· 기타 부작용 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

- 폐기물 처리 방법
- 권고: 생활쓰레기와함께처리되어서는안된다. 하수도망으로유입되어서는안된다.
- 비위생적 포장:
- 권고: 당국의지침에입각한쓰레기처리.
- 추천 세정제: 경우에따라서세제가첨가된물

14 운송에 필요한 정보

· 유엔 번호 · ADR, IMDG, IATA	UN1245
· UN 적정 선적명 · ADR · IMDG · IATA	1245 METHYL ISOBUTYL KETONE METHYL ISOBUTYL KETONE, MARINE POLLUTANT METHYL ISOBUTYL KETONE
· 교통 위험 클래스 · ADR, IATA 	· 등급 · 위험물 라벨 3 발화성용액 3
· IMDG  	· Class · Label 3 발화성용액 3
· 용기등급 · ADR, IMDG, IATA	II
· 환경적 유해물질: · 해양오염물질:	심벌 (물고기와 나무)
· 이용자 특별 예방조치 · 위험 코드: · EMS-번호: · Stowage Category	경고: 발화성용액 33 F-E,S-D A
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송	해당사항 없음.

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· 운 송/추가 정보:

· ADR

· 한정 수량 (LQ)

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· 운송 구분

3

· 터널 제한 코드

E

· IMDG

· Limited quantities (LQ)

5L

· Excepted quantities (EQ)

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· UN "모범 규제":

UN 1245 METHYL ISOBUTYL KETONE, 3, II

15 법적 규제 현황

· 산업안전보건법에 의한 규제:

· 제조 등 금지물질:

어떠한내용물도 목록화되어있지않다

· 허가대상물질:

어떠한내용물도 목록화되어있지않다

· 관리대상유해물질:

7440-22-4 silver

108-10-1 4-methylpentan-2-one

· 작업환경측정 대상 유해인자

7440-22-4 silver

1B14

108-10-1 4-methylpentan-2-one

1A30

· 특수건강진단 대상 유해인자

108-10-1 4-methylpentan-2-one

1A33

· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률 추가적인 정보가 존재하지 않습니다.

· Korean Existing Chemical Inventory

7440-22-4 silver

KE-31261

108-10-1 4-methylpentan-2-one

KE-24725

9011-17-0 Poly(vinylidene fluoride-co-hexafluoropropylene)

KE-18544

· 화학물질관리법

· 사고대비물질

어떠한내용물도 목록화되어있지않다

· 금지물질

어떠한내용물도 목록화되어있지않다

· 제한물질

어떠한내용물도 목록화되어있지않다

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· 유독물질

어떠한내용물도목록화되어있지않다

· 허가물질

어떠한내용물도목록화되어있지않다

· 위험물안전관리법 (위험물 및 지정수량) 제 4: 200 리터

· 등록 또는 신고 면제대상 화학물질

어떠한내용물도목록화되어있지않다

· ‘21년까지 등록하여야 할 압, 돌연변이, 생식능력 이상을 일으키거나 일으킬 우려가 있는 기존화학물질

어떠한내용물도목록화되어있지않다

· 중점관리물질의 지정

· 표1 중점관리물질(제2조 관련)

어떠한내용물도목록화되어있지않다

· 표2 중점관리물질(제2조 관련)

어떠한내용물도목록화되어있지않다

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

· **GHS 그림문자**



GHS02 GHS07

· **신호어 위험**

· **상표상에 명확히 위험성이 표시된 성분:**

4-methylpentan-2-one

· **유해·위험문구**

고인화성 액체 및 증기

눈에 심한 자극을 일으킴

호흡기 자극을 일으킬 수 있음

· **예방조치문구**

열·스파크·화염·고열로부터 멀리하시오 - 금연

폭발 방지용 전기·환기·조명·장비를 사용하시오.

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

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

밀봉하여 저장하시오.

(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하시오.

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

16 그 밖의 참고사항

이 보고는 우리의 지식에 대한 오늘날의 상태에 대하여 평가하고 있다

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

· **담당자:**

· **최초 작성일자:** 2022.05.06

· **개정 횟수 및 최종 개정일자:** 1 / 2022.05.06

· **약어와 두문자어:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

(10 쪽에 계속)

물질안전보건자료
GHS에 따라

인쇄일자: 2022.05.06

개정: 2022.05.06

제품명: SILVER CONDUCTIVE PAINT, 503

(9 쪽부터계속)

EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

KR

Helaian Data Keselamatan menurut P.U.(A) 310/2013

Tarikh cetak 06.05.2022

Disemak semula pada 06.05.2022

1 Pengenalan bahan kimia berbahaya dan pembekal

- **Pengenal pasti produk**
- **Nama dagang:** SILVER CONDUCTIVE PAINT, 503
- **Nombor artikel:** 12686-15, 12686-15-SP
- **Kegunaan yang disarankan bagi bahan dan sekatan penggunaan** Tiada maklumat lanjut yang diperolehi.
- **Penggunaan bahan/sediaan** Bahan kimia makmal
- **Perincian pembekal risalah data keselamatan**
- **Pengilang/Pembekal:**
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
- **Maklumat lanjut dapat diperolehi daripada:** Product safety department
- **Nombor telefon kecemasan:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Pengenalan bahaya

- **Pengelasan bahan atau campuran**



Nyalaan

Cec. M. Bkr 2 H225 Cecair dan wap amat mudah terbakar.



Kreng. Mata 2 H319 Menyebabkan kerengsaan mata yang serius.

STOT SE 3 H335 Boleh menyebabkan kerengsaan pernafasan.

- **Melabelkan unsur**
- **Unsur label GHS** Produk ini dikelaskan dan dilabelkan menurut Sistem Terharmoni Global (GHS).
- **Piktogram bahaya**



GHS02 GHS07

- **Kata isyarat Bahaya**
- **Komponen pelabelan yang menentukan bahaya:**
isobutil metil keton
- **Pernyataan Bahaya**
Cecair dan wap amat mudah terbakar.
Menyebabkan kerengsaan mata yang serius.
Boleh menyebabkan kerengsaan pernafasan.
- **Pernyataan Berjaga-jaga**
Jauhkan daripada haba/percikan api/nyalaan terbuka/permukaan panas – Dilarang merokok.

(Bersambung ke halaman 2)

Helaian Data Keselamatan menurut P.U.(A) 310/2013

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Nama dagang: SILVER CONDUCTIVE PAINT, 503

(Sambungan halaman 1)

Gunakan kelengkapan elektrik/pengalihudaraan/pencahayaan yang tahan letupan.

JIKA TERKENA KULIT (atau rambut): Segera tanggalkan/buka semua pakaian yang tercemar. Basuh kulit dengan air/pancuran air.

JIKA TERKENA MATA: Bilas berhati-hati dengan air selama beberapa minit. Tanggalkan kanta lekap, jika ada dan dapat dilakukan dengan mudah. Teruskan membilas.

Simpan di tempat berkunci.

Lupuskan kandungan/bekas menurut peraturan tempatan/wilayah/kebangsaan/antarabangsa.

- **Bahaya lain**
- **Keputusan penilaian PBT dan vPvB**
- **PBT:** Tidak berkenaan
- **vPvB:** Tidak berkenaan

3 Komposisi dan maklumat mengenai ramuan bahan kimia berbahaya

- **Ciri kimia:** Campuran
- **Keterangan:** Campuran bahan disenaraikan di bawah bersama dengan bahan tambah tidak berbahaya.

· **Komponen berbahaya :**

108-10-1	isobutil metil keton	>25-≤50%
	⚠ Cec. M. Bkr 2, H225; ⚠ Toks. Akut 4, H332; Kreng. Mata 2, H319; STOT SE 3, H335	

4 Langkah-langkah pertolongan cemas

- **Keterangan langkah pertolongan cemas**
- **Maklumat am:**
Gejala keracunan boleh berlaku selepas beberapa jam, maka rawatan perubatan hendaklah diberikan sekurang-kurangnya 48 jam selepas kemalangan.
- **Jika tersedut:**
Berikan udara bersih. Jika perlu berikan pernafasan bantuan. Pastikan pesakit dalam keadaan selesa. Rujuk doktor jika gejala berterusan.
Jika mangsa tidak sedarkan diri, letakkan pesakit dengan stabil dalam kedudukan mengiring untuk diangkat.
- **Jika terkena kulit:** Biasanya produk tidak merengsakan kulit.
- **Jika terkena mata:**
Bilas mata sambil membukanya di bawah air yang mengalir selama beberapa minit. Jika gejala berterusan, hubungi doktor.
- **Jika tertelan:** Jika gejala berterusan, hubungi doktor.
- **Maklumat untuk doktor:**
- **Gejala dan kesan paling penting, akut dan lewat** Tiadak maklumat lanjut yang diperoleh.
- **Arahan bagi apa-apa rawatan perubatan dan rawatan khas yang diperlukan**
Tiadak maklumat lanjut yang diperoleh.

5 Langkah-langkah pepadaman kebakaran

- **Bahan pepadam api**
- **Agen pepadam yang sesuai:**
CO₂, serbuk atau semburan air. Padam kebakaran besar dengan semburan air atau busa rintangan alkohol.
- **Bahaya khusus yang timbul daripada bahan atau campuran** Tiadak maklumat lanjut yang diperoleh.
- **Panduan kepada pepadam kebakaran**
- **Kelengkapan perlindungan:** Peralatan perlindungan pernafasan mulut.

MY

(Bersambung ke halaman 3)

Helaian Data Keselamatan menurut P.U.(A) 310/2013

Tarikh cetak 06.05.2022

Disemak semula pada 06.05.2022

Nama dagang: SILVER CONDUCTIVE PAINT, 503

(Sambungan halaman 2)

6 Langkah-langkah pelepasan tidak sengaja

- **Langkah perlindungan diri, kelengkapan pelindung dan prosedur kecemasan**
Pakai kelengkapan perlindungan. Jauhkan mereka yang tidak dilindungi dari kawasan tercemar.
- **Langkah perlindungan alam sekitar:**
Cairkan dengan air yang banyak.
Jangan biarkannya memasuki pembentung/air permukaan atau tanah.
- **Kaedah dan bahan untuk pembendungan dan pembersihan:**
Serap dengan bahan cecair pengikat (pasir, diatomit, pengikat asid, pengikat semesta, habuk papan)
Lupuskan bahan tercemar sebagai sisa mengikut perkara 13.
Pastikan pengalihudaraan mencukupi.
- **Rujukan ke bahagian lain**
Lihat Bahagian 7 untuk maklumat pengendalian yang selamat.
Lihat Bahagian 8 untuk maklumat kelengkapan perlindungan diri.
Lihat Bahagian 13 untuk maklumat pelupusan.

7 Pengendalian dan penyimpanan

- **Pengendalian:**
- **Langkah perlindungan untuk pengendalian selamat**
Pastikan pengalihudaraan/ekzos yang mencukupi di tempat kerja.
Elakkan pembentukan aerosol.
- **Maklumat kebakaran dan perlindungan daripada letupan:**
Jauhkan dari punca pencucuhan - Dilarang merokok.
Lindungi daripada haba.
Lindungi daripada cas-cas elektrostatik.
- **Keadaan untuk penyimpanan selamat, termasuk apa-apa ketakserasian**
- **Penyimpanan:**
- **Keperluan yang mesti dipenuhi oleh bilik stor dan ruang simpanan.** Simpan di tempat sejuk.
- **Maklumat penyimpanan di dalam satu tempat penyimpanan yang biasa:** Tidak diperlukan.
- **Maklumat lanjut tentang syarat penyimpanan:**
Pastikan bekas sentiasa bertutup rapat.
Simpan di tempat yang sejuk dan kering di dalam bekas bertutup rapat.
Lindungi daripada haba dan pancaran terus cahaya matahari.
- **Kegunaan akhir yang khusus** Tiada maklumat lanjut yang diperolehi.

8 Kawalan pendedahan dan perlindungan diri

- **Maklumat tambahan tentang reka bentuk kemudahan teknikal:** Tiada maklumat lanjut, lihat perkara 7.

- **Parameter kawalan**

- **Ramuhan dengan nilai had yang memerlukan pemantauan di tempat kerja:**

108-10-1 isobutil metil keton

PEL Nilai jangka panjang: 205 mg/m³, 50 ppm

- **Maklumat tambahan:** Senarai yang sah semasa pembuatan digunakan sebagai asas.

- **Kawalan pendedahan**

- **Kelengkapan perlindungan diri:**
- **Langkah perlindungan dan kebersihan am:**
Jauhkan daripada makanan, minuman dan makanan haiwan.
Segera tanggalkan semua pakaian yang tercemar dan kotor.

(Bersambung ke halaman 4)

Helaian Data Keselamatan menurut P.U.(A) 310/2013

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Disemak semula pada 06.05.2022

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(Sambungan halaman 3)

Basuh tangan sebelum berhenti rehat dan apabila kerja selesai.

Elakkan daripada terkena mata.

Elakkan daripada terkena mata dan kulit.

· **Perlindungan pernafasan:**

Jika berlaku pendedahan sekejap atau sedikit pencemaran, gunakan alat penapis pernafasan. Jika berlaku pendedahan yang intensif atau berpanjangan, gunakan alat pernafasan perlindungan serba lengkap.

· **Perlindungan tangan:**

Bahan sarung tangan hendaklah telus dan kalis terhadap produk/bahan/sediaan.

Oleh sebab tiada ujian yang dijalankan, maka tiada syor bagi bahan sarung tangan yang boleh diberikan untuk produk/sediaan/campuran kimia.

Pemilihan bahan sarung tangan berdasarkan waktu penembusan, kadar pembauran dan degradasi.

· **Bahan sarung tangan**

Pemilihan sarung tangan yang sesuai bukan hanya bergantung pada bahannya, tetapi juga tanda kualiti lainnya serta perbezaannya daripada satu pengeluar dengan pengeluar yang lain. Memandangkan produk merupakan suatu sediaan daripada beberapa bahan, ketahanan bahan sarung tangan tidak boleh dipastikan terlebih dahulu, oleh itu sarung tangan hendaklah diperiksa sebelum digunakan.

· **Jangka masa penyerapan bahan sarung tangan**

Waktu kemunculan yang tepat hendaklah diperoleh pengeluar sarung tangan pelindung dan hendaklah dipatuhi.

· **Perlindungan mata:**



Gogal bertutup rapat

9 Sifat fizikal dan kimia

· Maklumat tentang ciri fizik dan kimia	
· Maklumat Am	
· Rupa:	
· Bentuk:	Cecair
· Warna:	Berwarna perak
· Bau:	Seperti pelarut
· Ambang bau	Tidak ditentukan.
· Nilai pH pada 20 °C:	7
· Perubahan pada keadaan	
· Takat lebur/takat beku	<0 °C
· Takat didih awal dan julat didih	116 °C
· Takat kilat:	16 °C
· Kemudahbakaran (pepejal, gas)	Tidak berkenaan
· Suhu pencucuhan:	460 °C
· Suhu penguraian:	Tidak ditentukan.
· Suhu pengautocucuhan	Produk tidak tercucuh sendiri
· Bahaya letupan:	Produk tidak mudah meletup. Walau bagaimanapun, pembentukan campuran udara/wap mungkin berlaku.
· Had letupan :	
· Bawah:	1.2 Vol %
· Atas:	8 Vol %

(Bersambung ke halaman 5)

MY

Helaian Data Keselamatan menurut P.U.(A) 310/2013

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Disemak semula pada 06.05.2022

Nama dagang: SILVER CONDUCTIVE PAINT, 503

(Sambungan halaman 4)

· Tekanan wap pada 20 °C:	20 hPa
· Ketumpatan pada 20 °C:	1.77 g/cm ³
· Ketumpatan bandingan	Tidak ditentukan.
· Ketumpatan wap	Tidak ditentukan.
· Kadar penyejatan	Tidak ditentukan.
· Keterlarutan dalam / Keterlarutcampuran dengan Air:	Terlarut campur sepenuhnya.
· Pekali sekatan: n-oktanol/air	Tidak ditentukan.
· Kelikatan:	
Dinamik pada 20 °C:	1,700 mPas
Kinematik:	Tidak ditentukan.
· Kandungan pelarut:	
Pelarut organik:	30.0 %
Kandungan pepejal:	62.0 %
· Maklumat lain	Tiada maklumat lanjut yang diperoleh.

10 Kestabilan dan kereaktifan

- **Kereaktifan** Tiada maklumat lanjut yang diperoleh.
- **Kestabilan kimia**
- **Penguraian terma/keadaan yang perlu dielakkan:** Tiada penguraian jika digunakan mengikut spesifikasi.
- **Kemungkinan tindak balas berbahaya** Tiada tindak balas berbahaya yang diketahui.
- **Keadaan yang perlu dielakkan** Tiada maklumat lanjut yang diperoleh.
- **Bahan tidak serasi:** Tiada maklumat lanjut yang diperoleh.
- **Produk penguraian yang berbahaya:** Tiada produk penguraian berbahaya yang diketahui.

11 Maklumat toksikologi

- Maklumat tentang kesan toksikologi
- Ketoksikan akut:

· Nilai LD/LC50 yang berkaitan untuk pengelasan:		
108-10-1 isobutil metil keton		
Oral	LD50	2,080 mg/kg (rat)
Derma	LD50	16,000 mg/kg (rab)
Tersedut	LC50/4 h	8.3-16.6 mg/l (rat)

- **Kesan kerengsaan primer:**
- **Kakisan atau kerengsaan kulit** Tiada kesan merengsa.
- **Kerosakan atau kerengsaan mata yang serius** Kesan merengsa.
- **Pemekaan pernafasan / kulit** Tiada kesan pemekaan yang diketahui.
- **Maklumat tambahan toksikologi:**
Produk menunjukkan bahaya berikut mengikut kaedah pengiraan Garis Panduan Pengelasan Am EU bagi Sediaan seperti yang dikeluarkan dalam versi terbaru:
Memudaratkan

(Bersambung ke halaman 6)

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Perengsa

(Sambungan halaman 5)

12 Maklumat ekologi

- **Ketoksikan**
- **Ketoksikan akuatik:** Tiadak maklumat lanjut yang diperoleh.
- **Keterusan dan keterdegradasikan** Tiadak maklumat lanjut yang diperoleh.
- **Kelakuan dalam sistem alam sekitar:**
- **Potensi bioakumulatif** Tiadak maklumat lanjut yang diperoleh.
- **Mobiliiti di dalam tanah** Tiadak maklumat lanjut yang diperoleh.
- **Maklumat tambahan ekologi:**
- **Nota am:**
Bahaya air kelas 1 (Peraturan Jerman) (Penilaian sendiri): sedikit berbahaya kepada air
Jangan biarkan produk yang tidak dicairkan atau dalam kuantiti yang banyak memasuki air tanah, saluran air atau sistem pembetungan.
- **Keputusan penilaian PBT dan vPvB**
- **PBT:** Tidak berkenaan
- **vPvB:** Tidak berkenaan
- **Kesan buruk yang lain** Tiadak maklumat lanjut yang diperoleh.

13 Maklumat pelupusan

- **Kaedah rawatan sisa**
- **Syor:**
Tidak boleh dilupuskan bersama dengan sampah isi rumah. Jangan biarkan produk memasuki sistem pembentungan.
- **Pembungkusan yang tidak bersih:**
- **Syor:** Pelupusan mestilah dijalankan menurut peraturan rasmi
- **Agen pencuci yang disyorkan:** Air, jika perlu, digunakan bersama dengan agen pencuci.

14 Maklumat pengangkutan

- | | |
|--|--|
| <ul style="list-style-type: none"> · Nombor UN · ADR, IMDG, IATA | <p style="text-align: center;">UN1245</p> |
| <ul style="list-style-type: none"> · Nama penghantaran UN yang betul · ADR · IMDG · IATA | <p style="text-align: center;">1245 METHYL ISOBUTYL KETONE
METHYL ISOBUTYL KETONE, MARINE POLLUTANT
METHYL ISOBUTYL KETONE</p> |
| <ul style="list-style-type: none"> · pengangkutan kelas bahaya · ADR, IATA | <p style="text-align: center;">3</p> |
| <ul style="list-style-type: none"> · Kelas | <p style="text-align: center;">3 Cecair mudah terbakar.</p> |



(Bersambung ke halaman 7)

MY

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(Sambungan halaman 6)

· Label	3
· IMDG	
· Class	3 Cecair mudah terbakar.
· Label	3
· Kumpulan pembungkusan	
· ADR, IMDG, IATA	II
· Hazard persekitaran:	
· Bahan cemar marin:	Tanda (ikan dan pokok)
· Langkah perlindungan khas untuk pengguna	Amaran: Cecair mudah terbakar.
· Kod bahaya (Kemler):	33
· Nombor EMS:	F-E,S-D
· Stowage Category	A
· Pengangkutan dalam pukat menurut Lampiran II MARPOL73/78 dan Kod IBC	Tidak berkenaan
· Pengangkutan/Maklumat Tambahan:	
· 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
· "Peraturan Model" UN:	UN 1245 METHYL ISOBUTYL KETONE, 3, II

15 Maklumat pengawalseliaan

· **Peraturan/undang-undang keselamatan, kesihatan dan persekitaran khusus untuk bahan atau campuran tersebut**

Tiada maklumat lanjut yang diperolehi.

· **Senarai Rujukan Bahan Berbahaya Alam Sekitar**

108-10-1 isobutil metil keton

· **Unsur label GHS** Produk ini dikelaskan dan dilabelkan menurut Sistem Terharmoni Global (GHS).

· **Piktogram hazard**



GHS02 GHS07

· **Perkataan isyarat Bahaya**

(Bersambung ke halaman 8)

Helaian Data Keselamatan menurut P.U.(A) 310/2013

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Disemak semula pada 06.05.2022

Nama dagang: SILVER CONDUCTIVE PAINT, 503

(Sambungan halaman 7)

· **Komponen pelabelan yang menentukan bahaya:**

isobutil metil keton

· **Pernyataan hazard**

Cecair dan wap amat mudah terbakar.

Menyebabkan kerengsaan mata yang serius.

Boleh menyebabkan kerengsaan pernafasan.

· **Pernyataan langkah perlindungan**

Jauhkan daripada haba/percikan api/nyalaan terbuka/permukaan panas – Dilarang merokok.

Gunakan kelengkapan elektrik/pengalihudaraan/pencahayaan yang tahan letupan.

JIKA TERKENA KULIT (atau rambut): Segera tanggalkan/buka semua pakaian yang tercemar. Basuh kulit dengan air/pancuran air.

JIKA TERKENA MATA: Bilas berhati-hati dengan air selama beberapa minit. Tanggalkan kanta lekap, jika ada dan dapat dilakukan dengan mudah. Teruskan membilas.

Simpan di tempat berkunci.

Lupuskan kandungan/bekas menurut peraturan tempatan/wilayah/kebangsaan/antarabangsa.

· **Penilaian keselamatan bahan kimia:** Penilaian Keselamatan Bahan Kimia belum dilakukan.

16 Maklumat lain

Maklumat ini berdasarkan maklumat kami yang terkini. Walau bagaimanapun, ini tidak akan menjadi jaminan bagi apa-apa ciri produk yang khusus dan tidak akan mewujudkan hubungan kontraktual yang sah dari segi undang-undang.

· **Hubungi:**

· **Singkatan dan akronim:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Cec. M. Bkr 2: Cecair mudah terbakar – Kategori 2

Toks. Akut 4: Ketoksikan akut – Kategori 4

Kreng. Mata 2: Kerosakan mata atau kerengsaan mata yang serius – Kategori 2

STOT SE 3: Ketoksikan organ sasaran khusus (pendedahan tunggal) – Kategori 3

安全資料表

根據 危害性化學品標示及通識規則

打印日期 2022.05.06

在 2022.05.06 審核

1 化學品與廠商資料

- 產品識別者
- 化學品中文(英文)名稱, 化學品俗名或商品名: **SILVER CONDUCTIVE PAINT, 503**
- 商品編號: 12686-15, 12686-15-SP
- 相應純物質或者混合物的相關下位用途及禁止用途 無相關詳細資料。
- 物質或混合物的用途 實驗室化學物
- 安全技術說明書內供應商詳細信息
- 企業名稱:
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- 可獲取更多資料的部門: Product safety department
- 緊急聯繫電話號碼:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 危害辨識資料

- 緊急情況概述:
銀色的, 液體, 高度易燃液體和蒸氣。吸入可能有害。造成嚴重眼睛刺激。可能造成呼吸道刺激。

- GHS危險性類別



火焰

易燃液體 第2級

H225 高度易燃液體和蒸氣



嚴重損傷/刺激眼睛物質 第2A級

H319 造成嚴重眼睛刺激

特定標的器官系統毒性物質(單一暴露) 第3級 H335 可能造成呼吸道刺激

急毒性物質(吸入) 第5級

H333 吸入可能有害

- 標籤要素

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

- 象形圖



GHS02 GHS07

- 警示詞 危險

- 標籤上辨別危險的成份:

異己 酮

- 危險性說明

高度易燃液體和蒸氣

吸入可能有害

(在 2 頁繼續)

安全資料表

根據 危害性化學品標示及通識規則

打印日期 2022.05.06

在 2022.05.06 審核

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(在 1 頁繼續)

造成嚴重眼睛刺激
可能造成呼吸道刺激

· 防範說明

· 預防措施

遠離熱源/火花/明火/熱表面。—禁止抽菸。
使用防爆的電氣/通風/照明/設備。

· 事故響應

如皮膚(或頭髮)沾染: 立即移除或脫掉所有沾染的衣物。用水沖洗/淋洗皮膚。
如進入眼睛: 用水小心清洗數分鐘。如帶隱形眼鏡且可方便地取出, 取出隱形眼鏡。繼續清洗。

· 安全貯存

加鎖存放。

· 廢棄處置

按照地方/區域/國家/國際法規處理內容物之廢棄/容器。

· 其他有害性

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

· PBT(殘留性、生物濃縮性、毒性物質) 不適用的

· vPvB(高殘留性、高生物濃縮性物質): 不適用的

3 成分辨識資料

· 混合物

· 描述: 由以下含有無害添加劑的成分組成的混合物

· 危險的成分:

108-10-1	異己 酮	>25-≤50%
	⚠ 易燃液體 第2級, H225; ⚠ 急毒性物質(吸入) 第4級, H332; 嚴重損傷/刺激眼睛物質 第2級, H319; 特定標的器官系統毒性物質(單一暴露) 第3級, H335; 急毒性物質(吞食) 第5級, H303	

4 急救措施

· 應急措施要領

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

· 吸入:

供給新鮮空氣。如有需要, 提供人工呼吸。讓病人保暖。如果症狀持續則詢問醫生。
萬一病人不清醒時, 請讓病人側躺以便移動。

· 皮膚接觸: 一般的產品不會刺激皮膚。

· 眼睛接觸: 張開眼睛在流水下沖洗數分鐘。如果症狀仍然持續, 請諮詢醫生。

· 食入: 如果症狀仍然持續, 請諮詢醫生。

· 給醫生的資料:

· 最重要的急慢性症狀及其影響 無相關詳細資料。

· 需要及時的醫療處理及特別處理的症狀 無相關詳細資料。

5 滅火措施

· 滅火方法

· 滅火的方法和滅火劑: 二氧化碳 (CO₂)、滅火粉末或灑水。使用灑水或抗酒精泡沫滅火劑撲滅較大的火種。

· 特別危險性 無相關詳細資料。

(在 3 頁繼續)

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(在 2 頁繼續)

- 特殊滅火方法
- 消防人員特殊的防護裝備: 口腔呼吸保護裝置.

6 洩漏處理方法

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

7 安全處置與儲存方法

- 操作處置
- 儲存
 - 確保工作間有良好的通風/排氣裝置.
 - 防止氣溶膠的形成.
- 有關火災及防止爆炸的資料:
 - 遠離火源 一切勿吸煙.
 - 防熱.
 - 防靜電.
- 混合危險性等安全儲存條件
- 儲存:
 - 儲存庫和容器須要達到的要求: 儲存在陰涼的位置.
 - 有關使用一個普通的儲存設施來儲存的資料: 不需要.
 - 有關儲存條件的更多資料:
 - 將容器密封.
 - 儲存密封的貯藏器內,並放在陰涼、幹爽的位置.
 - 免受接觸熱力和直接受陽光照射.
 - 具體的最終用戶 無相關詳細資料.

8 暴露預防措施

- 工程控制方法: 沒有進一步數據,見第 7 項.
- 控制變數

· 在工作場需要監控的限值成分

108-10-1 異己 酮

PEL (TW) PC-TWA: 205 mg/m ³ , 50 ppm

- 額外的資料: 制作期間有效的清單將作為基礎來使用.

(在 4 頁繼續)

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(在 3 頁繼續)

· 遺漏控制

· 個人防護設備:

· 一般保護和衛生措施:

遠離食品、飲料和飼料.

立即除去所有的不潔的和被污染的衣服.

在休息之前和工作完畢後請清洗雙手.

避免和眼睛接觸.

避免和眼睛及皮膚接觸.

· 呼吸系統防護:

如果會短暫接觸或在低污染的情況下

請使用呼吸過濾裝置

如果會深入或較長時間接觸,請使用獨立的呼吸保護裝置.

· 手防護:

手套的物料必須是不滲透性的,且能抵抗該產品/物質/添加劑.

基於缺乏測試,對於產品/制劑/化學混合物,並不會提供手套材料的建議

選擇手套材料時,請注意材料的滲透時間,滲濾率和降解參數

· 手套材料

選擇合適的手套不單取決於材料,亦取決於質量特征,以及來自哪一間生產廠家,因為該產品是由很多材料配制而成,手套材料的抵抗力並不可預計,所以,必須在使用之前進行檢查

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

· 眼睛防護:



密封的護目鏡

9 物理及化學性質

· 有關基本物理及化學特性的資訊

· 一般說明

· 外觀:

· 形狀: 液體

· 顏色: 銀色的

· 氣味: 類似溶劑

· 嗅覺閾限 未決定.

· pH值 在 20 °C: 7

· 條件的更改

· 熔點: <0 °C

· 沸點/初沸點和沸程: 116 °C

· 閃點: 16 °C

· 可燃性 (固體、氣體): 不適用的

· 點火溫度: 460 °C

· 分解溫度: 未決定.

· 自燃溫度: 該產品是不自然的

· 爆炸的危險性: 該產品並非爆炸性的然而有可能形成可爆炸性的空氣/蒸汽混合物

· 爆炸極限:

· 較低: 1.2 Vol %

(在 5 頁繼續)

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(在 4 頁繼續)

· 較高:	8 Vol %
· 蒸氣壓 在 20 °C:	20 hPa
· 密度 在 20 °C:	1.77 g/cm ³
· 相對密度	未決定.
· 蒸氣密度	未決定.
· 蒸發速率	未決定.
· 溶解性	
水:	完全可拌和的
· n-辛醇/水分配係數:	未決定.
· 黏性:	
動態 在 20 °C:	1,700 mPas
運動學的:	未決定.
· 溶劑成份:	
有機溶劑:	30.0 %
固體成份:	62.0 %
· 其他資訊	無相關詳細資料。

10 安定性及反應性

- 反應性 無相關詳細資料。
- 穩定性
- 熱分解/要避免的情況: 如果遵照規格使用則不會分解.
- 有害反應可能性 未有已知的危險反應.
- 應避免的條件 無相關詳細資料。
- 不相容的物質: 無相關詳細資料。
- 危險的分解產物: 未知有危險的分解產品.

11 毒性資料

- 對毒性學影響的資訊
- 急性毒性:

· 與分類相關的 LD/ LC50 值:

108-10-1 異己 酮

口腔	LD50	2,080 mg/kg (rat)
皮膚	LD50	16,000 mg/kg (rab)
吸入	LC50/4 h	8.3-16.6 mg/l (rat)

- 主要的刺激性影響:
- 皮膚: 沒有刺激性影響.
- 在眼睛上面: 刺激的影響.
- 致敏作用: 沒有已知的敏化影響.
- 更多毒物的資料:

根據有關配制的一般歐盟分類指南的計算方法 (刊印在最新版本), 該產品顯示以下的危險:
有害的

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刺激性的

(在 5 頁繼續)


12 生態資料

- 生態毒性
- 水生毒性: 無相關詳細資料。
- 持久性和降解性 無相關詳細資料。
- 環境系統習性:
- 潛在的生物累積性 無相關詳細資料。
- 土壤內移動性 無相關詳細資料。
- 額外的生態學資料:
- 總括注解:
水危害級別 1(德國規例) (通過名單進行自我評估): 對水是稍微危害的
不要讓未稀釋或大量的產品接觸地下水、水道或者汗水系統。
- PBT(殘留性、生物濃縮性、毒性物質) 及 vPvB(高殘留性、高生物濃縮性物質) 評價結果
- PBT(殘留性、生物濃縮性、毒性物質) 不適用的
- vPvB(高殘留性、高生物濃縮性物質): 不適用的
- 其他副作用 無相關詳細資料。

13 廢棄處置方法

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

14 運送資料

- | | |
|---|--|
| · 聯合國危險貨物編號(UN號) | |
| · ADR, IMDG, IATA | UN1245 |
| · UN適當裝船名 | |
| · ADR | 1245 METHYL ISOBUTYL KETONE |
| · IMDG | METHYL ISOBUTYL KETONE, MARINE POLLUTANT |
| · IATA | METHYL ISOBUTYL KETONE |
| · 運輸危險等級 | |
| · ADR, IATA | |
|  | |
| · 級別 | 3 易燃液體 |

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· 標籤	3
· IMDG	
· Class	3 易燃液體
· Label	3
· 包裝組別	
· ADR, IMDG, IATA	II
· 環境危害	
· 海運汙染物質:	象徵符號 (魚和樹)
· 用戶特別預防措施	警告: 易燃液體
· 危險編碼:	33
· EMS 號碼:	F-E,S-D
· Stowage Category	A
· MARPOL73/78(針對船舶引起的海洋污染預防協約)附件書2及根據IBC Code(國際裝船貨物編碼)的大量運送	不適用的
· 運輸/額外的資料:	
· 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 "標準規定":	UN 1245 METHYL ISOBUTYL KETONE, 3, II

15 法規資料

- 對相應純物質或者混合物的安全、保健及環境法規/法律 無相關詳細資料。
- 優先管理化學品之指定及運作管理辦法

· 附表一-對於未滿十八歲及妊娠或分娩後未滿一年女性勞工具危害性之化學品

沒有列出成份

· 第二條第二款第一目

沒有列出成份

· 第二條第二款第二目

108-10-1 異己 酮

· 新化學物質及既有化學物質資料登錄辦法 英

沒有列出成份

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· 中國現有化學物質名錄

列出所有成分

· TCSCA

· 列管編號

108-10-1 異己 酮

117/01

· 毒性分類

108-10-1 異己 酮

4

· 管制濃度(w/w%)

108-10-1 異己 酮

1

· 大量運作基準(公斤)

108-10-1 異己 酮

-

· 新化學物質及既有化學物質資料登錄辦法, 附表六

沒有列出成份

· TCSI - Taiwan Chemical Substance Inventory

列出所有成分

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

· 象形圖



GHS02 GHS07

· 警示詞 危險

· 標籤上辨別危險的成份:

異己 酮

· 危險性說明

高度易燃液體和蒸氣

吸入可能有害

造成嚴重眼睛刺激

可能造成呼吸道刺激

· 防範說明

· 預防措施

遠離熱源/火花/明火/熱表面。— 禁止抽菸。

使用防爆的電氣/通風/照明/設備。

· 事故響應

如皮膚(或頭髮)沾染: 立即移除或脫掉所有沾染的衣物。用水沖洗/淋洗皮膚。

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

· 安全貯存

加鎖存放。

· 廢棄處置

按照地方/區域/國家/國際法規處理內容物之廢棄/容器。

· 化學物質安全性評價: 尚未進行化學物質安全性評價

16 其他資料

該資料是基於我們目前的知識

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

(在 9 頁繼續)

- TW

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· 聯絡:**· 縮寫:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: 持久性生物累積性有毒物質

vPvB: very Persistent and very Bioaccumulative

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

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

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

嚴重損傷/刺激眼睛物質 第2級: Serious eye damage/eye irritation – Category 2

嚴重損傷/刺激眼睛物質 第2A級: Serious eye damage/eye irritation – Category 2A

特定標的器官系統毒性物質(單一暴露) 第3級: Specific target organ toxicity (single exposure) – Category 3

TW

Sikkerhetsdatablad

iflg. forordning (EF) nr. 1907/2006, Artikkel 31

Trykkdato: 06.05.2022

revidert den: 06.05.2022

Avsnitt 1: Identifikasjon av stoffet/stoffblandingen og av selskapet/foretaket

- **1.1 Produktidentifikator**
- **Handelsnavn:** SILVER CONDUCTIVE PAINT, 503
- **Artikkelnummer:** 12686-15, 12686-15-SP
- **UFI:** R7Q1-Y0Q5-X00D-XPWD
- **1.2 Relevante identifiserte bruksområder for stoffet eller stoffblandingen og bruk som frarådes**
Ikke noe mer relevant informasjon tilgjengelig.
- **Bruk av stoffet/ tilberedning** laboratoriekjemikalier
- **1.3 Opplysninger om leverandøren av sikkerhetsdatabladet**
- **Produsent/leverandør:**
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
- **Avdeling for nærmere informasjon:** Product safety department
- **1.4 Nødtelefonnummer**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

Avsnitt 2: Fareidentifikasjon

- **2.1 Klassifisering av stoffet eller stoffblandingen**
- **Klassifisering i henhold til EC-forskrift nr.1272/2008**



GHS02 Flamme

Flam. Liq. 2 H225 Meget brannfarlig væske og damp.



GHS07

Eye Irrit. 2 H319 Gir alvorlig øyeirritasjon.
STOT SE 3 H335 Kan forårsake irritasjon av luftveiene.

- **2.2 Merkingselementer**
- **Merking iht. bestemmelse (EC) Nr. 1272/2008**
Produktet er klassifisert og merket i henhold til CLP-forordningen.
- **Farepiktogrammer**



GHS02 GHS07

- **Varselord Fare**
- **Farebestemmende komponenter ved etikettering:**
4-metylpentan-2-on
- **Faresetninger**
H225 Meget brannfarlig væske og damp.
H319 Gir alvorlig øyeirritasjon.

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H335 Kan forårsake irritasjon av luftveiene.

- **Sikkerhetssetninger**

P210 Holdes vekk fra varme, varme overflater, gnister, åpen ild og andre antenningskilder. Røyking forbudt.

P241 Bruk elektrisk materiell/ventilasjonsmateriell/belysningsmateriell som er eksplosjonssikkert.

P303+P361+P353 VED HUDKONTAKT (eller håret): Tilsølte klær må fjernes straks. Skyll [eller dusj] huden med vann.

P305+P351+P338 VED KONTAKT MED ØYNE: Skyll forsiktig med vann i flere minutter. Fjern eventuelle kontaktlinser dersom dette enkelt lar seg gjøre. Fortsett skyllingen.

P405 Oppbevares innelåst.

P501 Innholdet / emballasjen skal avhendes i henhold til de lokale / regionale / nasjonale / internasjonale forskrifter.

- **2.3 Andre farer**

- **Resultater av PBT- og vPvB-vurdering**

- **PBT:** Ikke brukbar.

- **vPvB:** Ikke brukbar.

Avsnitt 3: Sammensetning/opplysninger om bestanddeler

- **3.2 Kjemisk karakterisering: Stoffblandinger**

- **Beskrivelse:** Blanding av nedenstående oppførte stoffer med ufarlige tilsetninger.

- **Farlige innholdsstoffer:**

CAS: 108-10-1	4-metylpentan-2-on	>25-≤50%
EINECS: 203-550-1	⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	

- **Ytterligere informasjoner:** Teksten til de fareangivelsene som er inkludert her, kan konsulteres i kapittel 16.

Avsnitt 4: Førstehjelpstiltak

- **4.1 Beskrivelse av førstehjelpstiltak**

- **Generelle informasjoner:**

Forgiftningssymptomer kan også oppstå etter mange timer. Personer må derfor ha legetilsyn i minst 48 timer etter en ulykke.

- **Etter innånding:**

Frisklufttilførsel, eventuelt kunstig åndedrett, varme. Ved fortsatt besvær må lege tilkalles.

Ved bevisstløshet lagring og transport i stabil sidestilling.

- **Etter hudkontakt:** Vanligvis irriterer produktet ikke huden.

- **Etter øyekontakt:**

Skyll øynene med åpne øyenlokk i flere minutter under rennende vann. Ved fortsatt besvær tilkall lege.

- **Etter svelging:** Ved fortsatt besvær må lege konsulteres.

- **4.2 De viktigste symptomene og virkningene, både akutte og forsinkede**

Ikke noe mer relevant informasjon tilgjengelig.

- **4.3 Angivelse av om umiddelbar legehjelp og spesialbehandling er nødvendig**

Ikke noe mer relevant informasjon tilgjengelig.

Avsnitt 5: Brannsløkkingsstiltak

- **5.1 Sløkkingsmidler**

- **Egnede slukningsmidler:**

CO₂, slukningspulver eller vann i spredt stråle. Større branner bekjempes med vann i spredt stråle eller med skum som er motstandsdyktig mot alkohol.

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- **5.2 Særlige farer knyttet til stoffet eller stoffblandingen** Ikke noe mer relevant informasjon tilgjengelig.
- **5.3 Råd til brannmannskaper**
- **Spesielt verneutstyr:** Ta på egnet åndedrettsbeskyttelse.

Avsnitt 6: Tiltak ved utilsiktede utslipp

- **6.1 Personlige forsiktighetsregler, personlig verneutstyr og nødrutiner**
Ta på beskyttelsesdrakt. Hold ubeskyttede personer borte.
- **6.2 Forsiktighetsregler med hensyn til miljø**
Fortynn med rikelig med vann.
La ikke produktet komme ned i kloakk/overflatevann/grunnvann.
- **6.3 Metoder og materialer for oppsamling og rensing**
Ta opp stoffet med væskebindende materiale (sand, kiselgur, syrebindemiddel, universalbindemiddel, sagflis).
Bortskaff kontaminert matereriale som avfall i.h.t. punkt 13.
Sørg for tilstrekkelig ventilasjon.
- **6.4 Henvisning til andre avsnitt**
Informasjoner om sikker håndtering, se kapittel 7.
Informasjoner om personlig beskyttelsesutstyr, se kapittel 8.
Informasjoner om bortskaffelse/deponering, se kapittel 13.

Avsnitt 7: Håndtering og lagring

- **7.1 Forsiktighetsregler for sikker håndtering**
Sørg for god ventilasjon/avsugning på arbeidsplassen.
Unngå aerosoldannelse.
- **Henvisninger om brann- og eksplosjonsvern:**
Bruk av åpen ild forbudt - røyking forbudt.
Beskytt mot varme.
Gjør tiltak mot elektrostatisk oppladning.
- **7.2 Vilkår for sikker lagring, herunder eventuelle uforenligheter**
- **Lagring:**
- **Krav til lagerrom og beholdere:** Lagres på et kjølig sted.
- **Informasjoner om felles lagring:** Ikke nødvendig.
- **Ytterligere informasjoner om lagervilkårene:**
Hold beholderne tett tillukket.
Lagres kjølig og tørt i godt tillukkede beholdere.
Beskyttes mot varme og direkte solpåvirkning.
- **7.3 Særlig(e) sluttanvendelse(r)** Ikke noe mer relevant informasjon tilgjengelig.

Avsnitt 8: Eksponeringskontroll / personlig verneutstyr

- **8.1 Kontrollparametere**
- **Ytterligere informasjoner om utforming av tekniske anlegg:** Ingen ytterligere informasjoner, se punkt 7.

· **Komponenter med grenseverdier for arbeidsplass som må overholdes:**

108-10-1 4-metylpentan-2-on

AG	Korttidsverdi: 208 mg/m ³ , 50 ppm
	Langtidsverdi: 83* mg/m ³ , 20* ppm
	*HE

- **Ytterligere informasjoner:** Basis: listene som var gyldige ved oppstillingen.

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· 8.2 Eksponeringskontroll

· Personlig verneutstyr:

· Generelle verne- og hygienetiltak:

Holdes adskilt fra næringsmidler, drikkevarer og forstoffer.

Fjern omgående forurensede, gjennomvætede klær.

Vask hendene før arbeidspauser og ved arbeidets slutt.

Unngå berøring med øynene.

Unngå berøring med øyne og hud.

· Åndedrettsvern:

Ved korttidlig eller liten belastning åndedrettsfilterapparat; ved intensiv eller lengre utsetting: bruk omluft-uavhengig åndedrettsbeskyttelsesapparat.

· Håndvern:

Hanskematerialet må være ugjennomtrengelig og bestandig overfor produktet /stoffet /blandingen.

På grunn av manglende tester kan det ikke gis noen anbefaling om hanskemateriale for produktet / tilberedningsprosessen/kjemikalieblandingen.

Hanskematerialet velges under hensyntagen til holdbarhetstid, gjennomtrengelighet og degradering.

· hanskemateriale

Valget av egnet hanske er ikke bare avhengig av materiale, men også av andre kvalitetskjenner og er forskjellig fra produsent til produsent. Da produktet representerer en sammensetning av flere stoffer, kan holdbarheten av hanskematerialet ikke forhåndsberegnes, og denne må testes før bruk.

· gjennomtrengingstid for hanskemateriale

Den nøyaktige holdbarhetstiden må bringes på det rene hos hanskeprodusenten og overholdes.

· Øyevern:



Tettsittende vernebrille

Avsnitt 9: Fysiske og kjemiske egenskaper

· 9.1 Opplysninger om grunnleggende fysiske og kjemiske egenskaper

· alminnelige opplysninger

· Utseende:

Form: Væske

Farge: Sølvfarget

· Lukt: Løsningsmiddellignende

· Lukterskel: Ikke bestemt.

· pH-verdi ved 20 °C: 7

· Tilstandsendring

Smeltepunkt/frysepunkt: <0 °C

Startkokepunkt og kokeområde: 116 °C

· Flammepunkt: 16 °C

· Antennelighet (fast stoff, gass): Ikke brukbar.

· Antennelsestemperatur: 460 °C

· Nedbrytningstemperatur: Ikke bestemt.

· Selvantennelsestemperatur: Produktet er ikke selvantennelig.

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· Eksplorative egenskaper:	Produktet er ikke eksplosjonsfarlig. Dannelse av eksplosjonsfarlige damp-/luftblandinger er dog mulig.
· Ekspljosjonsgrenser:	
Nedre:	1,2 Vol %
Øvre	8 Vol %
· Damptrykk ved 20 °C:	20 hPa
· Tetthet ved 20 °C:	1,77 g/cm ³
· Relativ tetthet:	Ikke bestemt.
· Damptetthet:	Ikke bestemt.
· Fordampingshastighet:	Ikke bestemt.
· Løslighet i / blandbarhet med vann:	Fullstendig blandbar.
· Fordelingskoeffisient; n-oktanol/vann:	Ikke bestemt.
· Viskositet:	
Dynamisk ved 20 °C:	1.700 mPas
Kinematisk:	Ikke bestemt.
· Løsningsmiddelandel:	
Organiske løsningsmidler:	30,0 %
VOC (EF)	30,00 %
Andel faste stoffer:	62,0 %
· 9.2 Andre opplysninger	Ikke noe mer relevant informasjon tilgjengelig.

Avsnitt 10: Stabilitet og reaktivitet

- **10.1 Reaktivitet** Ikke noe mer relevant informasjon tilgjengelig.
- **10.2 Kjemisk stabilitet**
- **Termisk spaltning / vilkår som må unngås:** Ingen spaltning ved formålsriktig bruk.
- **10.3 Risiko for farlige reaksjoner** Det kjennes ingen farlige reaksjoner.
- **10.4 Forhold som skal unngås** Ikke noe mer relevant informasjon tilgjengelig.
- **10.5 Uforenlige materialer** Ikke noe mer relevant informasjon tilgjengelig.
- **10.6 Farlige nedbrytingsprodukter** Ingen farlige spaltningsprodukter kjente.

Avsnitt 11: Toksikologiske opplysninger

- **11.1 Opplysninger om toksikologiske virkninger**
- **Akutt giftighet** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.

· **Klassifiseringsrelevante LD/LC50-verdier:**

108-10-1 4-metylpentan-2-on

Oral	LD50	2.080 mg/kg (rat)
Dermal	LD50	16.000 mg/kg (rab)
Inhalativ	LC50/4 h	8,3-16,6 mg/l (rat)

- **Primær irritasjonsvirkning:**
- **Hudetsing/hudirritasjon** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
- **Alvorlig øyeskade/øyeirritasjon**
Gir alvorlig øyeirritasjon.

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- **Sensibilisering ved innånding eller hudkontakt** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
- **Informasjon om følgende grupper med potensielle virkninger:**
- **CMR-virkninger (kreftfremkallende virkninger, arvestoffskadelige og reproduksjonsskadelige virkninger)**
- **Arvestoffskadelig virkning på kjønnseller** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
- **Kreftfremkallende egenskap** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
- **Reproduksjonstoksicitet** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
- **STOT – enkelteksponering**
Kan forårsake irritasjon av luftveiene.
- **STOT – gjentatt eksponering** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.
- **Aspirasjonsfare** Basert på tilgjengelige data, klassifiseringskriteriene ikke oppfylt.

Avsnitt 12: Økologiske opplysninger

- **12.1 Giftighet**
- **Akvatisk toksisitet:** Ikke noe mer relevant informasjon tilgjengelig.
- **12.2 Persistens og nedbrytbarhet** Ikke noe mer relevant informasjon tilgjengelig.
- **12.3 Bioakkumuleringsevne** Ikke noe mer relevant informasjon tilgjengelig.
- **12.4 Mobilitet i jord** Ikke noe mer relevant informasjon tilgjengelig.
- **Ytterligere økologiske informasjoner:**
- **Generelle informasjoner:**
Vannfareklasse 1 (D) (Selvklassifisering): lett farlig for vann
Ikke la stoffet komme ufortynnet ned i grunnvannet, i vassdrag eller i kloakker.
- **12.5 Resultater av PBT- og vPvB-vurdering**
- **PBT:** Ikke brukbar.
- **vPvB:** Ikke brukbar.
- **12.6 Andre skadevirkninger** Ikke noe mer relevant informasjon tilgjengelig.

Avsnitt 13: Sluttbehandling

- **13.1 Avfallsbehandlingsmetoder**
- **Anbefaling:** Må ikke bortskaffes sammen med husholdningsavfall. Må ikke komme ned i kloakk.
- **Ikke rengjort emballasje:**
- **Anbefaling:** Deponering i henhold til myndighetenes forskrifter.
- **Anbefalt rengjøringsmiddel:** Vann, eventuelt med tilsetning av rengjøringsmidler.

Avsnitt 14: Transportopplysninger

- | | |
|-----------------------------------|--|
| · 14.1 FN-nummer | |
| · ADR, IMDG, IATA | UN1245 |
| · 14.2 FN-forsendelsesnavn | |
| · ADR | 1245 METYLISOBUTYLKETON |
| · IMDG | METHYL ISOBUTYL KETONE, MARINE POLLUTANT |
| · IATA | METHYL ISOBUTYL KETONE |

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NO

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· **14.3 Transportfareklasse(r)**· **ADR, IATA**

· **klasse** 3 Brannfarlige væsker
 · **Fareseddel** 3

· **IMDG**

· **Class** 3 Brannfarlige væsker
 · **Label** 3

· **14.4 Emballasjegruppe**· **ADR, IMDG, IATA** II· **14.5 Miljøfarer**· **Marine pollutant:** Symbol (fisk og treet)· **14.6 Særlige forsiktighetsregler ved bruk** Advarsel: Brannfarlige væsker· **Farenummer (Kemler-tall):** 33· **EMS-nummer:** F-E,S-D· **Stowage Category** A· **14.7 Bulktransport i henhold til vedlegg II til****MARPOL 73/78 og IBC-regelverket** Ikke brukbar.· **Transport/ytterligere informasjoner:**· **ADR**· **Begrenset mengde (LQ)** 5L· **Unntatte mengder (EQ)** Kode: E1

Maksimal nettovekt per inneremballasje: 30 ml

Maksimal nettovekt per ytteremballasje: 1000 ml

· **Transportkategori** 3· **Tunnel restriksjonskode** 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 1245 METYLISOBUTYLKETON, 3, II

Avsnitt 15: Opplysninger om regelverk

· **15.1 Særlige bestemmelser / særskilt lovgivning om sikkerhet, helse og miljø for stoffet eller stoffblandingen**· **Direktiv 2012/18/EU**· **Spesifiserte farlige stoffer - VEDLEGG I** ingen av innholdsstoffene er listet opp

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- **Seveso kategori P5c**
- **Mengdegrense (i tonn) for anvendelsen av krav til virksomheter på lavere nivå 5.000 t**
- **Mengdegrense (i tonn) for anvendelsen av krav til virksomheter på høyere nivå 50.000 t**
- **Forordning (EF) nr. 1907/2006 VEDLEGG XVII Begrensninger: 3**

· **Direktiv 2011/65/EF om begrensning av bruken av visse farlige stoffer i elektrisk og elektronisk utstyr - Vedlegg II**

ingen av innholdsstoffene er listet opp

· **Forordning (EF) nr. 273/2004 om utgangsstoffer for narkotika**

ingen av innholdsstoffene er listet opp

· **Forordning (EF) nr. 111/2005 om fastsettelse av regler for overvåking av handelen med utgangsstoffer for narkotika mel-lom Fellesskapet og tredjestater**

ingen av innholdsstoffene er listet opp

- **15.2 Vurdering av kjemikaliesikkerhet** En kjemisk sikkerhetsvurdering er ikke utført.

Avsnitt 16: Andre opplysninger

Opplysningene er basert på vårt kjennskap i dag. De utgjør dog ingen forsikring om produktegenskaper og er ikke grunnlag for noe kontraktsmessig rettsforhold.

· **Relevante satser**

H225 Meget brannfarlig væske og damp.

H319 Gir alvorlig øyeirritasjon.

H332 Farlig ved innånding.

H335 Kan forårsake irritasjon av luftveiene.

· **Forkortelser og akronymer:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Brannfarlige væsker – Kategori 2

Acute Tox. 4: Akutt giftighet – Kategori 4

Eye Irrit. 2: Alvorlig øyeskade/øyeirritasjon – Kategori 2

STOT SE 3: Giftvirkning på bestemte organer (enkelteksponering) – Kategori 3

Karta charakterystyki

Zgodnie z 1907/2006/WE, Artykuł 31

Data druku: 06.05.2022

Aktualizacja: 06.05.2022

SEKCJA 1: Identyfikacja substancji/mieszaniny i identyfikacja przedsiębiorstwa

- **1.1 Identyfikator produktu**
- **Nazwa handlowa:** SILVER CONDUCTIVE PAINT, 503
- **Numer artykułu:** 12686-15, 12686-15-SP
- **UFI:** R7Q1-Y0Q5-X00D-XPWD
- **1.2 Istotne zidentyfikowane zastosowania substancji lub mieszaniny oraz zastosowania odradzane**
Brak dostępnych dalszych istotnych danych
- **Zastosowanie substancji / preparatu** Odczynniki laboratoryjne
- **1.3 Dane dotyczące dostawcy karty charakterystyki**
- **Producent/Dostawca:**
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
- **Komórka udzielająca informacji:** Product safety department
- **1.4 Numer telefonu alarmowego:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SEKCJA 2: Identyfikacja zagrożeń

- **2.1 Klasyfikacja substancji lub mieszaniny**
- **Klasyfikacja zgodnie z rozporządzeniem (WE) nr 1272/2008**



GHS02 płomień

Flam. Liq. 2 H225 Wysoce łatwopalna ciecz i pary.



GHS07

Eye Irrit. 2 H319 Działa drażniąco na oczy.

STOT SE 3 H335 Może powodować podrażnienie dróg oddechowych.

- **2.2 Elementy oznakowania**
- **Oznakowanie zgodnie z rozporządzeniem (WE) nr 1272/2008**
Produkt jest klasyfikowany i oznakowany zgodnie z przepisami CLP.
- **Piktogramy określające rodzaj zagrożenia**



GHS02



GHS07

- **Hasło ostrzegawcze** Niebezpieczeństwo
- **Składniki określające niebezpieczeństwo do etykietowania:**
4-metylopentan-2-on
- **Zwroty wskazujące rodzaj zagrożenia**
H225 Wysoce łatwopalna ciecz i pary.
H319 Działa drażniąco na oczy.

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Karta charakterystyki

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Nazwa handlowa: **SILVER CONDUCTIVE PAINT, 503**

(ciąg dalszy od strony 1)

H335 Może powodować podrażnienie dróg oddechowych.

- **Zwroty wskazujące środki ostrożności**

P210 Przechowywać z dala od źródeł ciepła, gorących powierzchni, iskrzenia, otwartego ognia i innych źródeł zapłonu. Palenie wzbronione.

P241 Używać [elektrycznego/wentylującego/oświetleniowego] przeciwwybuchowego sprzętu.

P303+P361+P353 W PRZYPADKU KONTAKTU ZE SKÓRĄ (lub z włosami): Natychmiast zdjęć całą zanieczyszczoną odzież. Spłukać skórę pod strumieniem wody [lub prysznicem].

P305+P351+P338 W PRZYPADKU DOSTANIA SIĘ DO OCZU: Ostrożnie płukać wodą przez kilka minut. Wyjąć soczewki kontaktowe, jeżeli są i można je łatwo usunąć. Nadal płukać.

P405 Przechowywać pod zamknięciem.

P501 Zawartość / pojemnik usuwać zgodnie z przepisami miejscowymi / regionalnymi / narodowymi / międzynarodowymi.

- **2.3 Inne zagrożenia**

- **Wyniki oceny właściwości PBT i vPvB**

- **PBT:** Nie ma zastosowania.

- **vPvB:** Nie ma zastosowania.

SEKCJA 3: Skład/informacja o składnikach

- **3.2 Charakterystyka chemiczna: Mieszaniny**

- **Opis:** Mieszanka z niżej wymienionych składników z bezpiecznymi domieszkami.

- **Składniki niebezpieczne:**

CAS: 108-10-1	4-metylopentan-2-on	>25-≤50%
EINECS: 203-550-1	⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	

- **Wskazówki dodatkowe:** Pełna treść przytoczonych wskazówek dotyczących zagrożeń znajduje się w rozdziale 16.

SEKCJA 4: Środki pierwszej pomocy

- **4.1 Opis środków pierwszej pomocy**

- **Wskazówki ogólne:**

Symptomy zatrucia mogą wystąpić dopiero po kilku godzinach, dlatego kontrola lekarska niezbędna conajmniej przez 48 godzin po wypadku.

- **Po wdychaniu:**

Dostarczyć świeże powietrze, ewentualnie sztuczne oddychanie, ciepło. W przypadku utrzymujących się dolegliwości skonsultować z lekarzem.

W przypadku utraty przytomności ułożenie i transport w stabilnej pozycji bocznej.

- **Po styczności ze skórą:** Ogólnie produkt nie działa drażniąco na skórę.

- **Po styczności z okiem:**

Płukać oczy z otwartą powieką przez kilka minut pod bieżącą wodą. W przypadku utrzymującej się dolegliwości zasięgnąć porady lekarza.

- **Po przełknięciu:** Przy trwałych dolegliwościach porozumieć się z lekarzem.

- **4.2 Najważniejsze ostre i opóźnione objawy oraz skutki narażenia** Brak dostępnych dalszych istotnych danych

- **4.3 Wskazania dotyczące wszelkiej natychmiastowej pomocy lekarskiej i szczególnego postępowania z uszkodzonym**

Brak dostępnych dalszych istotnych danych

PL

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SEKCJA 5: Postępowanie w przypadku pożaru

- **5.1 Środki gaśnicze**
- **Przydatne środki gaśnicze:**
CO₂, proszek gaśniczy lub strumień wody. Większy pożar zwalczać strumieniem wody lub pianą odporną na działanie alkoholu.
- **5.2 Szczególne zagrożenia związane z substancją lub mieszaniną** Brak dostępnych dalszych istotnych danych
- **5.3 Informacje dla straży pożarnej**
- **Specjalne wyposażenie ochronne:** Złożyć urządzenie ochrony dróg oddechowych.

SEKCJA 6: Postępowanie w przypadku niezamierzonego uwolnienia do środowiska

- **6.1 Indywidualne środki ostrożności, wyposażenie ochronne i procedury w sytuacjach awaryjnych**
Nosić ubranie ochronne. Osoby nie zabezpieczone przenieść w bezpieczne miejsce.
- **6.2 Środki ostrożności w zakresie ochrony środowiska:**
Rozcieńczyć dużą ilością wody.
Nie dopuścić do przeniknięcia do kanalizacji /wód powierzchniowych /wód gruntowych.
- **6.3 Metody i materiały zapobiegające rozprzestrzenianiu się skażenia i służące do usuwania skażenia:**
Zebrać za pomocą materiału wiążącego ciecz (piasek, ziemia okrzemkowa, materiał wiążący kwasy, materiał wiążący uniwersalny, trociny).
Materiał skażony usunąć jako odpad wg punktu 13.
Zadbać o wystarczające przewietrzenie.
- **6.4 Odniesienia do innych sekcji**
Informacje na temat bezpiecznej obsługi patrz rozdział 7.
Informacje na temat osobistego wyposażenia ochronnego patrz rozdział 8.
Informacje na temat utylizacji patrz rozdział 13.

SEKCJA 7: Postępowanie z substancjami i mieszaninami oraz ich magazynowanie

- **7.1 Środki ostrożności dotyczące bezpiecznego postępowania**
Zadbać o dobry nawiew /odsysanie w miejscu pracy.
Unikać rozpylania.
- **Wskazówki dla ochrony przeciwpożarowej i przeciwybuchowej:**
Źródła zapłonu trzymać z daleka - nie palić tytoniu.
Chronić przed gorącym.
Przedsięwziąć środki przeciwko naładowaniom elektrostatycznym.
- **7.2 Warunki bezpiecznego magazynowania, w tym informacje dotyczące wszelkich wzajemnych niezgodności**
- **Składowanie:**
- **Wymagania w stosunku do pomieszczeń składowych i zbiorników:** Przechowywać w chłodnym miejscu.
- **Wskazówki odnośnie wspólnego składowania:** Nie konieczne.
- **Dalsze wskazówki odnośnie warunków składowania:**
Zbiornik trzymać szczelnie zamknięty.
Składować w dobrze zamkniętych beczkach w chłodnym i suchym miejscu.
Chronić przed gorącym i bezpośrednim promieniowaniem słonecznym.
- **7.3 Szczególne zastosowanie(-a) końcowe** Brak dostępnych dalszych istotnych danych

SEKCJA 8: Kontrola narażenia/środki ochrony indywidualnej

- **8.1 Parametry dotyczące kontroli**
- **Dodatkowe wskazówki dla wykonania urządzeń technicznych:** Brak dalszych danych, patrz punkt 7.

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· **Składniki wraz z kontrolowanymi wartościami granicznymi zależnymi od miejsca pracy:**

108-10-1 4-metylopentan-2-on

NDS NDSCh: 200 mg/m³

NDS: 83 mg/m³

· **Wskazówki dodatkowe:** Podstawą były aktualnie obowiązujące wykazy.

· **8.2 Kontrola narażenia**

· **Osobiste wyposażenie ochronne:**

· **Ogólne środki ochrony i higieny:**

Trzymać z dala od środków spożywczych napojów i pasz.

Zabrudzoną, nasączoną odzież natychmiast zdjąć.

Myć ręce przed przerwą i przed końcem pracy.

Unikać styczności z oczami.

Unikać styczności z oczami i skórą.

· **Ochrona dróg oddechowych:**

W przypadku krótkotrwałego lub nieznacznego obciążenia urządzenie filtrujące do oddychania; w przypadku intensywnej lub dłuższej ekspozycji zastosować urządzenie do ochrony dróg oddechowych niezależne od powietrza otoczenia.

· **Ochrona rąk:**

Material, z którego wykonane są rękawice musi być nieprzepuszczalny i odporny na działanie produktu / substancji / preparatu.

Z powodu braku badań nie można podać żadnego zalecenia dotyczącego materiału dla rękawic do ochrony przed produktem / preparatem / mieszaniną substancji chemicznych.

Wybór materiału na rękawice ochronne przy uwzględnieniu czasów przebicia, szybkości przenikania i degradacji.

· **Material, z którego wykonane są rękawice**

Wybór odpowiednich rękawic nie zależy tylko od materiału, lecz także od innych cech jakościowych i zmienia się od producenta do producenta. Ponieważ produkt jest preparatem składającym się z kilku substancji, to odporność materiałów, z których wykonano rękawice nie można wcześniej wyliczyć i dlatego też musi być ona sprawdzona przed zastosowaniem.

· **Czas penetracji dla materiału, z którego wykonane są rękawice**

Od producenta rękawic należy uzyskać informację na temat dokładnego czasu przebicia i go przestrzegać.

· **Ochrona oczu:**



Okulary ochronne szczelnie zamknięte

SEKCJA 9: Właściwości fizyczne i chemiczne

· **9.1 Informacje na temat podstawowych właściwości fizycznych i chemicznych**

· **Ogólne dane**

· **Wygląd:**

Forma:

Ciecz

Kolor:

Kolor srebrny

· **Zapach:**

Jak rozpuszczalnik

· **Próg zapachu:**

Nieokreślone.

· **Wartość pH w 20 °C:**

7

· **Zmiana stanu**

Temperatura topnienia/krzepnięcia:

<0 °C

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Początkowa temperatura wrzenia i zakres temperatur wrzenia:	116 °C
· Temperatura zapłonu:	16 °C
· Palność (ciała stałego, gazu):	Nie ma zastosowania.
· Temperatura palenia się:	460 °C
· Temperatura rozkładu:	Nieokreślone.
· Temperatura samozapłonu:	Produkt nie jest samozapalny.
· Właściwości wybuchowe:	Produkt nie jest grozi wybuchem, ale możliwe jest powstawanie par/ mieszanek powietrza groźących wybuchem.
· Granice niebezpieczeństwa wybuchu:	
Dolna:	1,2 Vol %
Górna:	8 Vol %
· Prężność par w 20 °C:	20 hPa
· Gęstość w 20 °C:	1,77 g/cm ³
· Gęstość względna	Nieokreślone.
· Gęstość par	Nieokreślone.
· Szybkość parowania	Nieokreślone.
· Rozpuszczalność w/ mieszalność z	
Woda:	W pełni mieszalny.
· Współczynnik podziału: n-oktanol/woda:	Nieokreślone.
· Lepkość:	
Dynamiczna w 20 °C:	1.700 mPas
Kinetyczna:	Nieokreślone.
· Zawartość rozpuszczalników:	
rozpuszczalniki organiczne:	30,0 %
VOC (EC)	30,00 %
Zawartość ciał stałych:	62,0 %
· 9.2 Inne informacje	Brak dostępnych dalszych istotnych danych

SEKCJA 10: Stabilność i reaktywność

- **10.1 Reaktywność** Brak dostępnych dalszych istotnych danych
- **10.2 Stabilność chemiczna**
- **Rozkład termiczny/ warunki których należy unikać:** Brak rozkładu przy użyciu zgodnym z przeznaczeniem.
- **10.3 Możliwość występowania niebezpiecznych reakcji** Reakcje niebezpieczne nie są znane.
- **10.4 Warunki, których należy unikać** Brak dostępnych dalszych istotnych danych
- **10.5 Materiały niezgodne:** Brak dostępnych dalszych istotnych danych
- **10.6 Niebezpieczne produkty rozkładu:** Niebezpieczne produkty rozkładu nie są znane.

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SEKCJA 11: Informacje toksykologiczne

- **11.1 Informacje dotyczące skutków toksykologicznych**
- **Toksyczność ostra** W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.

· **Istotne sklasyfikowane wartości LD/LC50:**

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Ustne	LD50	2.080 mg/kg (rat)
Skórne	LD50	16.000 mg/kg (rab)
Wdechowe	LC50/4 h	8,3-16,6 mg/l (rat)

- **Pierwotne działanie drażniące: Działanie Gatunek Metoda:**
- **Działanie żrące/drażniące na skórę** W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
- **Poważne uszkodzenie oczu/działanie drażniące na oczy**
Działa drażniąco na oczy.
- **Działanie uczulające na drogi oddechowe lub skórę**
W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
- **Dodatkowe wskazówki toksykologiczne:**
- **Działanie rakotwórcze, działanie mutagenne i szkodliwe działanie na rozrodczość (CMR)**
- **Działanie mutagenne na komórki rozrodcze** W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
- **Rakotwórczość** W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
- **Szkodliwe działanie na rozrodczość** W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
- **Działanie toksyczne na narządy docelowe – narażenie jednorazowe**
Może powodować podrażnienie dróg oddechowych.
- **Działanie toksyczne na narządy docelowe – narażenie powtarzane**
W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.
- **Zagrożenie spowodowane aspiracją** W oparciu o dostępne dane, kryteria klasyfikacji nie są spełnione.

SEKCJA 12: Informacje ekologiczne

- **12.1 Toksyczność**
- **Toksyczność wodna:** Brak dostępnych dalszych istotnych danych
- **12.2 Trwałość i zdolność do rozkładu** Brak dostępnych dalszych istotnych danych
- **12.3 Zdolność do bioakumulacji** Brak dostępnych dalszych istotnych danych
- **12.4 Mobilność w glebie** Brak dostępnych dalszych istotnych danych
- **Dalsze wskazówki ekologiczne:**
- **Wskazówki ogólne:**
Klasa szkodliwości dla wody 1 (samookręślenie): w ograniczonym stopniu szkodliwy dla wody
Nie dopuścić do przedostania się w stanie nierozcieńczonym lub w dużych ilościach do wód gruntowych, wód powierzchniowych bądź do kanalizacji.
- **12.5 Wyniki oceny właściwości PBT i vPvB**
- **PBT:** Nie ma zastosowania.
- **vPvB:** Nie ma zastosowania.
- **12.6 Inne szkodliwe skutki działania** Brak dostępnych dalszych istotnych danych

SEKCJA 13: Postępowanie z odpadami

- **13.1 Metody unieszkodliwiania odpadów**
- **Zalecenie:**
Nie może podlegać obróbce wspólnie z odpadkami domowymi. Nie dopuścić do przedostania się do kanalizacji.

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- **Opakowania nieoczyszczone:**
- **Zalecenie:** Usuwanie zgodnie z obowiązującymi przepisami.
- **Zalecany środek czyszczący:** Woda, w razie konieczności z dodatkiem środków czystości.

SEKCJA 14: Informacje dotyczące transportu

<ul style="list-style-type: none"> · 14.1 Numer UN · ADR, IMDG, IATA 	UN1245	
<ul style="list-style-type: none"> · 14.2 Prawidłowa nazwa przewozowa UN · ADR · IMDG · IATA 	1245 KETON IZOBUTYLOWOMETYLOWY METHYL ISOBUTYL KETONE, MARINE POLLUTANT METHYL ISOBUTYL KETONE	
<ul style="list-style-type: none"> · 14.3 Klasa(-y) zagrożenia w transporcie · ADR, IATA 	<div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Klasa · Nalepka 	<ul style="list-style-type: none"> · 3 materiały ciekłe zapalne · 3
<ul style="list-style-type: none"> · IMDG 	<div style="text-align: center;">  </div> <ul style="list-style-type: none"> · Class · Label 	<ul style="list-style-type: none"> · 3 materiały ciekłe zapalne · 3
<ul style="list-style-type: none"> · 14.4 Grupa pakowania · ADR, IMDG, IATA 	II	
<ul style="list-style-type: none"> · 14.5 Zagrożenia dla środowiska: · Zanieczyszczenia morskie: 	Symbol (ryby i drzewa)	
<ul style="list-style-type: none"> · 14.6 Szczególne środki ostrożności dla użytkowników · Numer rozpoznawczy zagrożenia (Liczba Kemlera): · Numer EMS: · Stowage Category 	<ul style="list-style-type: none"> Uwaga: materiały ciekłe zapalne 33 F-E,S-D A 	
<ul style="list-style-type: none"> · 14.7 Transport luzem zgodnie z załącznikiem II do konwencji MARPOL i kodeksem IBC 	Nie ma zastosowania.	
<ul style="list-style-type: none"> · Transport/ dalsze informacje: 	<ul style="list-style-type: none"> · ADR · Ilości ograniczone (LQ) · Ilości wyłączone (EQ) 	<ul style="list-style-type: none"> 5L Kod: E1 Maksymalna ilość netto na opakowanie wewnętrzne: 30 ml Maksymalna ilość netto na opakowanie zewnętrzne: 1000 ml
<ul style="list-style-type: none"> · Kategoria transportowa 	3	

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· Kodów zakazu przewozu przez tunele	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 1245 KETON IZOBUTYLOWOMETYLOWY, 3, II

SEKCJA 15: Informacje dotyczące przepisów prawnych

- **15.1 Przepisy prawne dotyczące bezpieczeństwa, zdrowia i ochrony środowiska specyficzne dla substancji i mieszaniny**
- **Rady 2012/18/UE**
- **Wskazane substancje niebezpieczne - ZAŁĄCZNIK I** żaden ze składników nie znajduje się na liście
- **Kategorię Seveso P5c CIECZE ŁATWOPALNE**
- **Ilości progowe (w tonach) wiążące się z zastosowaniem wymogów dotyczących zakładów o zwiększonym ryzyku**
5.000 t
- **Ilości progowe (w tonach) wiążące się z zastosowaniem wymogów dotyczących zakładów o dużym ryzyku**
50.000 t
- **Rozporządzenie (WE) nr 1907/2006 ZAŁĄCZNIK XVII** Warunki ograniczenia: 3
- **Dyrektywa 2011/65/UE w sprawie ograniczenia stosowania niektórych niebezpiecznych substancji w sprzęcie elektrycznym i elektronicznym - Załącznik II**
żaden ze składników nie znajduje się na liście
- **ROZPORZĄDZENIE (UE) 2019/1148**
- **Załącznik I - PREKURSORY MATERIAŁÓW WYBUCHOWYCH PODLEGAJĄCE OGRANICZENIOM (Górna wartość graniczna do celów wydawania pozwoleń na podstawie art. 5 ust. 3)**
żaden ze składników nie znajduje się na liście
- **Załącznik II - PREKURSORY MATERIAŁÓW WYBUCHOWYCH PODLEGAJĄCE OBOWIĄZKOWI ZGŁOSZENIA**
żaden ze składników nie znajduje się na liście
- **Rozporządzenie (WE) nr 273/2004 w sprawie prekursorów narkotykowych**
żaden ze składników nie znajduje się na liście
- **Rozporządzenie (WE) NR 111/2005 określające zasady nadzorowania handlu prekursorami narkotyków pomiędzy Wspólnotą a państwami trzecimi**
żaden ze składników nie znajduje się na liście
- **15.2 Ocena bezpieczeństwa chemicznego: Ocena Bezpieczeństwa Chemicznego nie została przeprowadzona.**

SEKCJA 16: Inne informacje

Dane opierają się na dzisiejszym stanie naszej wiedzy, nie określają jednak w sposób ostateczny właściwości produkcyjnych i nie mogą być uzasadnieniem prawomocnych umów.

- **Oдноśne zwroty**
H225 Wysoce łatwopalna ciecz i pary.
H319 Działa drażniąco na oczy.
H332 Działa szkodliwie w następstwie wdychania.
H335 Może powodować podrażnienie dróg oddechowych.

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Skróty i akronimy:

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Substancje ciekłe łatwopalne – Kategoria 2

Acute Tox. 4: Toksyczność ostra – Kategoria 4

Eye Irrit. 2: Poważne uszkodzenie oczu/działanie drażniące na oczy – Kategoria 2

STOT SE 3: Działanie toksyczne na narządy docelowe (narażenie jednorazowe) – Kategoria 3

- PL -

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SECÇÃO 1: Identificação da substância/mistura e da sociedade/empresa

- **1.1 Identificador do produto**
- **Nome comercial:** SILVER CONDUCTIVE PAINT, 503
- **Código do produto:** 12686-15, 12686-15-SP
- **UFI:** R7Q1-Y0Q5-X00D-XPWD
- **1.2 Utilizações identificadas relevantes da substância ou mistura e utilizações desaconselhadas**
Não existe mais nenhuma informação relevante disponível.
- **Utilização da substância / da preparação** Químicos de laboratório
- **1.3 Identificação do fornecedor da ficha de dados de segurança**
- **Fabricante/fornecedor:**
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
- **Entidade para obtenção de informações adicionais:** Product safety department
- **1.4 Número de telefone de emergência:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECÇÃO 2: Identificação dos perigos

- **2.1 Classificação da substância ou mistura**
- **Classificação em conformidade com o Regulamento (CE) n.º 1272/2008**



GHS02 chama

Flam. Liq. 2 H225 Líquido e vapor facilmente inflamáveis.



GHS07

Eye Irrit. 2 H319 Provoca irritação ocular grave.

STOT SE 3 H335 Pode provocar irritação das vias respiratórias.

- **2.2 Elementos do rótulo**
- **Rotulagem em conformidade com o Regulamento (CE) n.º 1272/2008**
O produto classificou-se e está etiquetado em conformidade com o regulamento CLP.
- **Pictogramas de perigo**



GHS02



GHS07

- **Palavra-sinal Perigo**
- **Componentes determinantes para os perigos constantes do rótulo:**
4-metilpentano-2-ona
- **Advertências de perigo**
H225 Líquido e vapor facilmente inflamáveis.
H319 Provoca irritação ocular grave.

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H335 Pode provocar irritação das vias respiratórias.

· **Recomendações de prudência**

P210 Manter afastado do calor, superfícies quentes, faíscas, chamas abertas e outras fontes de ignição. Não fumar.

P241 Utilizar equipamento [elétrico/de ventilação/de iluminação] à prova de explosão.

P303+P361+P353 SE ENTRAR EM CONTACTO COM A PELE (ou o cabelo): Retirar imediatamente toda a roupa contaminada. Enxaguar a pele com água [ou tomar um duche].

P305+P351+P338 SE ENTRAR EM CONTACTO COM OS OLHOS: Enxaguar cuidadosamente com água durante vários minutos. Se usar lentes de contacto, retire-as, se tal lhe for possível. Continue a enxaguar.

P405 Armazenar em local fechado à chave.

P501 Eliminar o conteúdo/recipiente de acordo com a legislação local/regional/nacional/internacional.

· **2.3 Outros perigos**· **Resultados da avaliação PBT e mPmB**· **PBT:** Não aplicável.· **mPmB:** Não aplicável.**SECÇÃO 3: Composição/informação sobre os componentes**· **3.2 Caracterização química: Misturas**· **Descrição:** Mistura das seguintes substâncias com aditivos não perigosos.· **Substâncias perigosas:**

CAS: 108-10-1	4-metilpentano-2-ona	>25-≤50%
EINECS: 203-550-1	⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	

· **Avisos adicionais:** O texto das indicações de perigo aqui incluído poderá ser consultado no capítulo 16.**SECÇÃO 4: Medidas de primeiros socorros**· **4.1 Descrição das medidas de primeiros socorros**· **Indicações gerais:**

Os sintomas de envenenamento podem surgir apenas após várias horas, por isso é necessária vigilância médica pelo menos 48 horas após o acidente.

· **Em caso de inalação:**

Remover a vítima para um local arejado. Se necessário administrar respiração artificial. Manter a vítima aquecida. Se os sintomas persistirem, consultar o médico.

Se a vítima estiver inconsciente, posicioná-la e transportá-la com estabilidade, deitada lateralmente.

· **Em caso de contacto com a pele:** Em geral o produto não é irritante para a pele.· **Em caso de contacto com os olhos:**

Enxaguar os olhos durante alguns minutos sob água corrente, mantendo as pálpebras abertas. Em caso de persistência dos sintomas, consultar o médico.

· **Em caso de ingestão:** Se os sintomas persistirem, consultar o médico.· **4.2 Sintomas e efeitos mais importantes, tanto agudos como retardados**

Não existe mais nenhuma informação relevante disponível.

· **4.3 Indicações sobre cuidados médicos urgentes e tratamentos especiais necessários**

Não existe mais nenhuma informação relevante disponível.

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SECÇÃO 5: Medidas de combate a incêndios

- **5.1 Meios de extinção**
- **Meios adequados de extinção:**
CO₂, pó extintor ou jacto de água. Um incêndio de grandes dimensões deve ser combatido com jacto de água ou espuma resistente ao álcool.
- **5.2 Perigos especiais decorrentes da substância ou mistura**
Não existe mais nenhuma informação relevante disponível.
- **5.3 Recomendações para o pessoal de combate a incêndios**
- **Equipamento especial de protecção:** Colocar máscara de respiração.

SECÇÃO 6: Medidas a tomar em caso de fugas acidentais

- **6.1 Precauções individuais, equipamento de protecção e procedimentos de emergência**
Usar equipamento de protecção. Manter as pessoas desprotegidas afastadas.
- **6.2 Precauções a nível ambiental:**
Diluir em bastante água.
Evitar que penetre na canalização / águas superficiais / águas subterrâneas.
- **6.3 Métodos e materiais de confinamento e limpeza:**
Recolher com produtos que absorvam líquidos (areia, seixos, absorventes universais, serradura).
Eliminar residualmente as substâncias contaminadas como um resíduo segundo o Ponto 13.
Assegurar uma ventilação adequada.
- **6.4 Remissão para outras secções**
Para informações sobre uma manipulação segura, ver o capítulo 7.
Para informações referentes ao equipamento de protecção individual, ver o capítulo 8.
Para informações referentes à eliminação residual, ver o capítulo 13.

SECÇÃO 7: Manuseamento e armazenagem

- **7.1 Precauções para um manuseamento seguro**
Assegurar uma boa ventilação / exaustão no local de trabalho.
Evitar a formação de aerossóis.
- **Precauções para prevenir incêndios e explosões:**
Manter afastado de fontes de ignição - não fumar.
Proteger do calor.
Proteger contra descargas electrostáticas.
- **7.2 Condições de armazenagem segura, incluindo eventuais incompatibilidades**
- **Armazenagem:**
- **Requisitos para espaços ou contentores para armazenagem:** Armazenar num local fresco.
- **Avisos para armazenagem conjunta:** Não necessário.
- **Outros avisos sobre as condições de armazenagem:**
Manter o recipiente hermeticamente fechado.
Armazenar em recipientes bem fechados, em local fresco e seco.
Proteger do calor e da radiação directa do sol.
- **7.3 Utilização(ões) final(is) específica(s)** Não existe mais nenhuma informação relevante disponível.

SECÇÃO 8: Controlo da exposição/Protecção individual

- **8.1 Parâmetros de controlo**
- **Indicações adicionais para concepção de instalações técnicas:** Não existem outras informações, ver ponto 7.

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· **Componentes cujo valor do limite de exposição no local de trabalho deve ser monitorizado:**

108-10-1 4-metilpentano-2-ona

VLE	Valor para exposição curta: 75 ppm Valor para exposição longa: 20 ppm A3, IBE ;Irritação do TRS; tonturas; cefaleias
-----	--

· **Componentes con valores-limite biológicos:**

108-10-1 4-metilpentano-2-ona

IBE	1 mg/L Amostra: urina Momento da amostragem: Fim do turno Indicador biológico: Metilisobutilcetona (MIBK)
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· **Indicações adicionais:** Foram utilizadas como base as listas válidas à data da elaboração.

· **8.2 Controlo da exposição**

· **Equipamento de protecção individual:**

· **Medidas gerais de protecção e higiene:**

Manter afastado de alimentos, bebidas e forragens.
Despir imediatamente a roupa contaminada e embebida.
Lavar as mãos antes das pausas e no fim do trabalho.
Evitar o contacto com os olhos.
Evitar o contacto com os olhos e com a pele.

· **Protecção respiratória:**

Utilizar uma máscara respiratória se a exposição for reduzida ou durante um curto espaço de tempo; se esta for mais prolongada ou mais intensa, utilizar uma máscara respiratória independente do ar ambiente.

· **Protecção das mãos:**

O material das luvas tem de ser impermeável e resistente ao produto / à substância / preparação.
Uma vez que não foram realizados testes nesta área, não podemos recomendar um determinado tipo de material para as luvas que seja adequado para o produto / a preparação / a mistura de químicos.
Escolher o material das luvas tendo em consideração a durabilidade, a permeabilidade e a degradação.

· **Material das luvas**

A escolha das luvas mais adequadas não depende apenas do material, mas também de outras características qualitativas e varia de fabricante para fabricante. O facto de o produto ser composto por uma variedade de materiais leva a que não seja possível prever a duração dos mesmos e, conseqüentemente, das luvas, sendo assim necessário proceder a uma verificação antes da sua utilização.

· **Tempo de penetração no material das luvas**

Deve informar-se sobre a validade exacta das suas luvas junto do fabricante e respeitá-la.

· **Protecção dos olhos:**



Óculos de protecção totalmente fechados

SECÇÃO 9: Propriedades físico-químicas

· **9.1 Informações sobre propriedades físicas e químicas de base**

· **Informações gerais**

· **Aspetto:**

Forma:	Líquido
Cor:	Prateado
Odor:	tipo solvente

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· Limiar olfactivo:	Não determinado.
· valor pH em 20 °C:	7
· Mudança do estado: Ponto de fusão/ponto de congelação:	<0 °C
Ponto de ebulição inicial e intervalo de ebulição:	116 °C
· Ponto de inflamação:	16 °C
· Inflamabilidade (sólido, gás):	Não aplicável.
· Temperatura de ignição:	460 °C
· Temperatura de decomposição:	Não determinado.
· Temperatura de autoignição:	O produto não é auto-inflamável.
· Propriedades explosivas:	O produto não é explosivo. Contudo, é possível a formação de misturas explosivas ar/vapor.
· Limites de explosão: Inferior:	1,2 Vol %
Superior:	8 Vol %
· Pressão de vapor em 20 °C:	20 hPa
· Densidade em 20 °C:	1,77 g/cm ³
· Densidade relativa	Não determinado.
· Densidade de vapor	Não determinado.
· Taxa de evaporação:	Não determinado.
· Solubilidade em / miscibilidade com água:	Completamente misturável.
· Coefficiente de partição: n-octanol/água	Não determinado.
· Viscosidade: Dinâmico em 20 °C:	1.700 mPas
Cinemático:	Não determinado.
· Percentagem de solvente: Solventes orgânicos:	30,0 %
VOC (UE)	30,00 %
· Percentagem de substâncias sólidas:	62,0 %
· 9.2 Outras informações	Não existe mais nenhuma informação relevante disponível.

SECCÃO 10: Estabilidade e reactividade

- **10.1 Reactividade** Não existe mais nenhuma informação relevante disponível.
- **10.2 Estabilidade química**
- **Decomposição térmica / condições a evitar:** Não existe decomposição se usado de acordo com as especificações.
- **10.3 Possibilidade de reações perigosas** Não se conhecem reacções perigosas.
- **10.4 Condições a evitar** Não existe mais nenhuma informação relevante disponível.
- **10.5 Materiais incompatíveis:** Não existe mais nenhuma informação relevante disponível.
- **10.6 Produtos de decomposição perigosos:** Não se conhecem produtos de decomposição perigosos.

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SECÇÃO 11: Informação toxicológica

- **11.1 Informações sobre os efeitos toxicológicos**
- **Toxicidade aguda** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.

- **Valores LD/LC50 relevantes para a classificação:**

108-10-1 4-metilpentano-2-ona

por via oral	LD50	2.080 mg/kg (rat)
por via dérmica	LD50	16.000 mg/kg (rab)
por inalação	LC50/4 h	8,3-16,6 mg/l (rat)

- **Efeito de irritabilidade primário:**
- **Corrosão/irritação cutânea** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Lesões oculares graves/irritação ocular**
Provoca irritação ocular grave.
- **Sensibilização respiratória ou cutânea**
Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Avisos adicionais de toxicologia:**
- **Efeitos CMR (carcinogenicidade, mutagenicidade e efeitos tóxicos na reprodução)**
- **Mutagenicidade em células germinativas**
Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Carcinogenicidade** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Toxicidade reprodutiva** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Toxicidade para órgãos-alvo específicos (STOT) - exposição única**
Pode provocar irritação das vias respiratórias.
- **Toxicidade para órgãos-alvo específicos (STOT) - exposição repetida**
Com base nos dados disponíveis, os critérios de classificação não são preenchidos.
- **Perigo de aspiração** Com base nos dados disponíveis, os critérios de classificação não são preenchidos.

SECÇÃO 12: Informação ecológica

- **12.1 Toxicidade**
- **Toxicidade aquática:** Não existe mais nenhuma informação relevante disponível.
- **12.2 Persistência e degradabilidade** Não existe mais nenhuma informação relevante disponível.
- **12.3 Potencial de bioacumulação** Não existe mais nenhuma informação relevante disponível.
- **12.4 Mobilidade no solo** Não existe mais nenhuma informação relevante disponível.
- **Outras indicações ecológicas:**
- **Indicações gerais:**
Classe de perigo para a água 1 (D) (auto-classificação): pouco perigoso para a água
Não deixar chegar substâncias concentradas, ou seja quantidades grandes, às águas subterrâneas, aos cursos de água ou à canalização.
- **12.5 Resultados da avaliação PBT e mPmB**
- **PBT:** Não aplicável.
- **mPmB:** Não aplicável.
- **12.6 Outros efeitos adversos** Não existe mais nenhuma informação relevante disponível.

SECÇÃO 13: Considerações relativas à eliminação

- **13.1 Métodos de tratamento de resíduos**
- **Recomendação:** Não se pode eliminar juntamente com o lixo doméstico. Não permita que chegue à canalização.

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- **Embalagens contaminadas:**
- **Recomendação:** Eliminação residual conforme o regulamento dos serviços públicos.
- **Meio de limpeza recomendado:** Água, eventualmente com adição de produtos de limpeza

SECÇÃO 14: Informações relativas ao transporte

- **14.1 Número ONU**
- **ADR, IMDG, IATA**

UN1245

- **14.2 Designação oficial de transporte da ONU**

- **ADR**
- **IMDG**
- **IATA**

1245 METILISOBUTILCETONA
METHYL ISOBUTYL KETONE, MARINE POLLUTANT
METHYL ISOBUTYL KETONE

- **14.3 Classes de perigo para efeitos de transporte**

- **ADR, IATA**



- **Classe**
- **Rótulo**

3 Líquidos inflamáveis
3

- **IMDG**



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

3 Líquidos inflamáveis
3

- **14.4 Grupo de embalagem**

- **ADR, IMDG, IATA**

II

- **14.5 Perigos para o ambiente:**

- **Poluente das águas:**

Símbolo convencional (peixes e árvore)

- **14.6 Precauções especiais para o utilizador**

Atenção: Líquidos inflamáveis

- **Número de identificação de perigo (Nº Kemler):**

33

- **Nº EMS:**

F-E,S-D

- **Stowage Category**

A

- **14.7 Transporte a granel em conformidade com o anexo II da Convenção MARPOL e o Código IBC Não aplicável.**

- **Transporte/outras informações:**

- **ADR**

- **Quantidades Limitadas (LQ)**

5L

- **Quantidades exceptuadas (EQ)**

Código: E1

Quantidade líquida máxima por embalagem interior: 30 ml

Quantidade líquida máxima por embalagem exterior: 1000

ml

- **Categoria de transporte**

3

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· Código de restrição em túneis	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 1245 METILISOBUTILCETONA, 3, II

SECÇÃO 15: Informação sobre regulamentação

· **15.1 Regulamentação/legislação específica para a substância ou mistura em matéria de saúde, segurança e ambiente**

- **Diretiva 2012/18/UE**
- **Substâncias perigosas designadas - ANEXO I Nenhum dos componentes se encontra listado.**
- **Categoria "Seveso" P5c LÍQUIDOS INFLAMÁVEIS**
- **Quantidades-limiar (em toneladas), para a aplicação de requisitos de nível inferior 5.000 t**
- **Quantidades-limiar (em toneladas), para a aplicação de requisitos de nível superior 50.000 t**
- **Regulamento (CE) n.º 1907/2006 ANEXO XVII Condições de limitação: 3**

· **Directiva 2011/65/UE relativa à restrição do uso de determinadas substâncias perigosas em equipamentos eléctricos e electrónicos - Anexo II**

Nenhum dos componentes se encontra listado.

· **REGULAMENTO (UE) 2019/1148**

· **Anexo I - PRECURSORES DE EXPLOSIVOS OBJETO DE RESTRIÇÕES (Valor-limite máximo para efeitos de licenciamento nos termos do artigo 5.o, n.o 3)**

Nenhum dos componentes se encontra listado.

· **Anexo II - PRECURSORES DE EXPLOSIVOS PASSÍVEIS DE PARTICIPAÇÃO**

Nenhum dos componentes se encontra listado.

· **Regulamento (CE) n.º 273/2004 relativo aos precursores de drogas**

Nenhum dos componentes se encontra listado.

· **Regulamento (CE) n.º 111/2005 que estabelece regras de controlo do comércio de precursores de drogas entre a Comunidade e países terceiros**

Nenhum dos componentes se encontra listado.

· **15.2 Avaliação da segurança química: Não foi realizada nenhuma Avaliação de Segurança Química.**

SECÇÃO 16: Outras informações

As informações fornecidas baseiam-se no estado actual dos nossos conhecimentos, embora não representem uma garantia das propriedades do produto e não fundamentam uma relação contratual.

· **Frases relevantes**

- H225 Líquido e vapor facilmente inflamáveis.
- H319 Provoca irritação ocular grave.
- H332 Nocivo por inalação.
- H335 Pode provocar irritação das vias respiratórias.

· **Abreviaturas e acrónimos:**

- ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association

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PT

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

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Revisión: 06.05.2022

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

- **1.1 Identificador del producto**
- **Nombre comercial:** SILVER CONDUCTIVE PAINT, 503
- **Número del artículo:** 12686-15, 12686-15-SP
- **UFI:** R7Q1-Y0Q5-X00D-XPWD
- **1.2 Usos pertinentes identificados de la sustancia o de la mezcla y usos desaconsejados**
No existen más datos relevantes disponibles.
- **Utilización del producto / de la elaboración** Sustancias químicas de laboratorio
- **1.3 Datos del proveedor de la ficha de datos de seguridad**
- **Fabricante/distribuidor:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- **Aname**
C/ Perez Galdos no. 2
28693 Quijorna
Madrid, Spain
Tel: +34.91.816.89.50
Fax: +34.91.816.85.94
email: ventas@aname.es
- **Área de información:** Product safety department
- **1.4 Teléfono de emergencia:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

SECCIÓN 2: Identificación de los peligros

- **2.1 Clasificación de la sustancia o de la mezcla**
- **Clasificación con arreglo al Reglamento (CE) n° 1272/2008**



GHS02 llama

Flam. Liq. 2 H225 Líquido y vapores muy inflamables.



GHS07

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**
El producto se ha clasificado y etiquetado de conformidad con el reglamento CLP.

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· **Pictogramas de peligro**

GHS02 GHS07

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

4-metilpentan-2-ona

· **Indicaciones de peligro**

H225 Líquido y vapores muy inflamables.

H319 Provoca irritación ocular grave.

H335 Puede irritar las vías respiratorias.

· **Consejos de prudencia**

P210 Mantener alejado del calor, de superficies calientes, de chispas, de llamas abiertas y de cualquier otra fuente de ignición. No fumar.

P241 Utilizar material [eléctrico/ de ventilación/iluminación] antideflagrante.

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

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

P405 Guardar bajo llave.

P501 Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

· **2.3 Otros peligros**· **Resultados de la valoración PBT y mPmB**· **PBT:** No aplicable.· **mPmB:** No aplicable.

SECCIÓN 3: Composición/información sobre los componentes

· **3.2 Caracterización química: Mezclas**· **Descripción:** Mezcla formada por las sustancias especificadas a continuación con adiciones no peligrosas.· **Componentes peligrosos:**

CAS: 108-10-1	4-metilpentan-2-ona	>25-≤50%
EINECS: 203-550-1	Flam. Liq. 2, H225; Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	

· **Indicaciones adicionales:** El texto de los posibles riesgos aquí indicados se puede consultar en el capítulo 16.

SECCIÓN 4: Primeros auxilios

· **4.1 Descripción de los primeros auxilios**· **Instrucciones generales:**

Los síntomas de intoxicación pueden presentarse después de muchas horas, por lo que se requiere una supervisión médica durante un mínimo de 48 horas después del accidente.

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

Suministrar aire fresco; eventualmente hacer respiración artificial, calor. Si los trastornos persisten, consultar al médico.

Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.

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- **En caso de contacto con la piel:** Por regla general, el producto no irrita la piel.
- **En caso de con los ojos:**
Limpiar los ojos abiertos durante varios minutos con agua corriente. En caso de trastornos persistentes consultar un médico.
- **En caso de ingestión:** Consultar un médico si los trastornos persisten.
- **4.2 Principales síntomas y efectos, agudos y retardados** No existen más datos relevantes disponibles.
- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**
No existen más datos relevantes disponibles.

SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:**
CO₂, polvo extintor o chorro de agua rociada. Combatir incendios mayores con chorro de agua rociada o espuma resistente al alcohol.
- **5.2 Peligros específicos derivados de la sustancia o la mezcla** No existen más datos relevantes disponibles.
- **5.3 Recomendaciones para el personal de lucha contra incendios**
- **Equipo especial de protección:** Colocarse la protección respiratoria.

SECCIÓN 6: Medidas en caso de vertido accidental

- **6.1 Precauciones personales, equipo de protección y procedimientos de emergencia**
Llevar puesto equipo de protección. Mantener alejadas las personas sin protección.
- **6.2 Precauciones relativas al medio ambiente:**
Diluir con mucha agua.
Evitar que penetre en la canalización /aguas de superficie /agua subterráneas.
- **6.3 Métodos y material de contención y de limpieza:**
Quitar con material absorbente (arena, kieselgur, aglutinante de ácidos, aglutinante universal, aserrín).
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.
Evitar la formación de aerosoles.
- **Prevención de incendios y explosiones:**
Mantener alejadas las fuentes de encendido. No fumar.
Proteger del calor.
Tomar medidas contra las cargas electrostáticas.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** Almacenar en un lugar fresco.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**
Mantener el recipiente cerrado herméticamente.
Almacenarlo en envases bien cerrados en un lugar fresco y seco.

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Proteger del calor y de la luz directa del sol.

· **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

SECCIÓN 8: Controles de exposición/protección individual

· **8.1 Parámetros de control**· **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**

Sin datos adicionales, ver punto 7.

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

108-10-1 4-metilpentan-2-ona

LEP	Valor de corta duración: 208 mg/m ³ , 50 ppm Valor de larga duración: 83 mg/m ³ , 20 ppm VLB, VLI
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· **Componentes con valores límite biológicos:**

108-10-1 4-metilpentan-2-ona

VLB	1 mg/l Muestra: orina Momento de Muestreo: Final de la jornada laboral Indicador Biológico: Metilisobutilcetona
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· **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.

Evitar el contacto con los ojos.

Evitar el contacto con los ojos y la piel.

· **Protección respiratoria:**

Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.

· **Protección de manos:**

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado.

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

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

· **Material de los guantes**

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro. Teniendo en cuenta que el producto está fabricado a partir de diferentes materiales, su calidad no puede ser evaluada de antemano, de modo que los guantes deberán ser controlados antes de su utilización.

· **Tiempo de penetración del material de los guantes**

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

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· **Protección de ojos:**

Gafas de protección herméticas

SECCIÓN 9: Propiedades físicas y químicas

· **9.1 Información sobre propiedades físicas y químicas básicas**· **Datos generales**· **Aspecto:**

· Forma:	Líquido
· Color:	Plateado
· Olor:	Similar al disolvente
· Umbral olfativo:	No determinado.

· **valor pH a 20 °C:** 7· **Cambio de estado**

· Punto de fusión/punto de congelación:	<0 °C
· Punto inicial de ebullición e intervalo de ebullición:	116 °C

· **Punto de inflamación:** 16 °C· **Inflamabilidad (sólido, gas):** No aplicable.· **Temperatura de ignición:** 460 °C· **Temperatura de descomposición:** No determinado.· **Temperatura de auto-inflamación:** El producto no es autoinflamable.· **Propiedades explosivas:** El producto no es explosivo; sin embargo, pueden formarse mezclas explosivas de vapor / aire.· **Límites de explosión:**

· Inferior:	1,2 Vol %
· Superior:	8 Vol %

· **Presión de vapor a 20 °C:** 20 hPa· **Densidad a 20 °C:** 1,77 g/cm³· **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 a 20 °C:	1.700 mPas
· Cinemática:	No determinado.

· **Concentración del disolvente:**

· Disolventes orgánicos:	30,0 %
· VOC (CE)	30,00 %

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Contenido de cuerpos sólidos:	62,0 %
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· 9.2 Otros datos	No existen más datos relevantes disponibles.
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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** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

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

108-10-1 4-metilpentan-2-ona

Oral	LD50	2.080 mg/kg (rat)
Dermal	LD50	16.000 mg/kg (rab)
Inhalatorio	LC50/4 h	8,3-16,6 mg/l (rat)

- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas** A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Lesiones o irritación ocular graves**
Provoca irritación ocular grave.
- **Sensibilización respiratoria o cutánea**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Indicaciones toxicológicas adicionales:**
- **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.

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· **Indicaciones medioambientales adicionales:**· **Indicaciones generales:**

Nivel de riesgo para el agua 1 (autoclasiación): 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**

UN1245

· **14.2 Designación oficial de transporte de las Naciones Unidas**· **ADR**

1245 METILISOBUTILCETONA

· **IMDG**

METHYL ISOBUTYL KETONE, MARINE POLLUTANT

· **IATA**

METHYL ISOBUTYL KETONE

· **14.3 Clase(s) de peligro para el transporte**· **ADR, IATA**· **Clase**

3 Líquidos inflamables

· **Etiqueta**

3

· **IMDG**· **Class**

3 Líquidos inflamables

· **Label**

3

· **14.4 Grupo de embalaje**· **ADR, IMDG, IATA**

II

· **14.5 Peligros para el medio ambiente:**· **Contaminante marino:**

Símbolo (pez y árbol)

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· 14.6 Precauciones particulares para los usuarios	Atención: Líquidos inflamables
· Número de identificación de peligro (Número Kemler):	33
· Número EMS:	F-E,S-D
· Stowage Category	A
· 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	3
· 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 1245 METILISOBUTILCETONA, 3, II

SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
- **Directiva 2012/18/UE**
- **Sustancias peligrosas nominadas - ANEXO I** ninguno de los componentes está incluido en una lista
- **Categoría Seveso P5c LÍQUIDOS INFLAMABLES**
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior** 5.000 t
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior** 50.000 t
- **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII Restricciones:** 3

· **Directiva 2011/65/UE sobre restricciones a la utilización de determinadas sustancias peligrosas en aparatos eléctricos y electrónicos - Anexo II**

ninguno de los componentes está incluido en una lista

· **REGLAMENTO (UE) 2019/1148**

· **Anexo I - PRECURSORES DE EXPLOSIVOS RESTRINGIDOS (Valor límite superior a efectos de la concesión de licencias con arreglo al artículo 5, apartado 3)**

ninguno de los componentes está incluido en una lista

· **Anexo II - PRECURSORES DE EXPLOSIVOS NOTIFICABLES**

ninguno de los componentes está incluido en una lista

· **Reglamento (CE) no 273/2004 sobre precursores de drogas**

ninguno de los componentes está incluido en una lista

· **Reglamento (CE) N o 111/2005 por el que establecen normas para la vigilancia del comercio de precursores de drogas entre la Comunidad y terceros países**

ninguno de los componentes está incluido en una lista

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

SECCIÓN 16: Otra información

Los datos se fundan en el estado actual de nuestros conocimientos, pero no constituyen garantía alguna de cualidades del producto y no generan ninguna relación jurídica contractual.

· **Frases relevantes**

H225 Líquido y vapores muy inflamables.

H319 Provoca irritación ocular grave.

H332 Nocivo en caso de inhalación.

H335 Puede irritar las vías respiratorias.

· **Abreviaturas y acrónimos:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Líquidos inflamables – Categoría 2

Acute Tox. 4: Toxicidad aguda – Categoría 4

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

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

Säkerhetsdatablad

enligt förordning (EG) nr. 1907/2006, Artikel 31

Datum för utskrift: 06.05.2022

Omarbetad: 06.05.2022

AVSNITT 1: Namnet på ämnet/blandningen och bolaget/företaget

- **1.1 Produktbeteckning**
- **Handelsnamn:** SILVER CONDUCTIVE PAINT, 503
- **Artikelnummer:** 12686-15, 12686-15-SP
- **UFI:** R7Q1-Y0Q5-X00D-XPWD
- **1.2 Relevanta identifierade användningar av ämnet eller blandningen och användningar som det avråds från**
Ingen ytterligare relevant information finns till förfogande.
- **Ämnets användning / tillredningen** Laboratoriekemikalier
- **1.3 Närmare upplysningar om den som tillhandahåller säkerhetsdatablad**
- **Tillverkare/leverantör:**
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
- **Område där upplysningar kan inhämtas:** Product safety department
- **1.4 Telefonnummer för nödsituationer:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

AVSNITT 2: Farliga egenskaper

- **2.1 Klassificering av ämnet eller blandningen**
- **Klassificering enligt förordning (EG) nr 1272/2008**



GHS02 flamma

Flam. Liq. 2 H225 Mycket brandfarlig vätska och ånga.



GHS07

Eye Irrit. 2 H319 Orsakar allvarlig ögonirritation.
STOT SE 3 H335 Kan orsaka irritation i luftvägarna.

- **2.2 Märkningsuppgifter**
- **Märkning enligt förordning (EG) nr 1272/2008** Produkten är klassificerad och märkt enligt CLP-förordningen.
- **Faropiktogram**



GHS02 GHS07

- **Signalord** Fara
- **Riskbestämmande komponenter för etikettering:**
metylisobutylketon
- **Faroangivelser**
H225 Mycket brandfarlig vätska och ånga.
H319 Orsakar allvarlig ögonirritation.
H335 Kan orsaka irritation i luftvägarna.

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Säkerhetsdatablad

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(Fortsättning från sida 1)

· Skyddsangivelser

- P210 Får inte utsättas för värme, heta ytor, gnistor, öppna lågor och andra antändningskällor. Rökning förbjuden.
- P241 Använd explosionssäker [elektrisk/ventilations-/belysnings-]utrustning.
- P303+P361+P353 VID HUDKONTAKT (även håret): Ta omedelbart av alla nedstänkta kläder. Skölj huden med vatten [eller duscha].
- P305+P351+P338 VID KONTAKT MED ÖGONEN: Skölj försiktigt med vatten i flera minuter. Ta ur eventuella kontaktlinser om det går lätt. Fortsätt att skölja.
- P405 Förvaras inlåst.
- P501 Innehållet / behållaren avfallshanteras enligt lokala / regionala / nationella / internationella föreskrifter.

· 2.3 Andra faror**· Resultat av PBT- och vPvB-bedömningen**

- **PBT:** Ej användbar.
- **vPvB:** Ej användbar.

AVSNITT 3: Sammansättning/information om beståndsdelar**· 3.2 Kemisk karakterisering: Blandningar**

· **Beskrivning:** Blandning bestående av nedan upplistade ämnen med ofarliga tillsatser.

· Farliga ingredienser:

CAS: 108-10-1	metylisobutylketon	>25-≤50%
EINECS: 203-550-1	⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	

· **Ytterligare hänvisningar:** De angivna farohänvisningarnas ordalydelse framgår av kapitel 16.

AVSNITT 4: Åtgärder vid första hjälpen**· 4.1 Beskrivning av åtgärder vid första hjälpen****· Allmänna hänvisningar:**

Förgiftningssymptom kan uppträda först efter många timmar. Av denna anledning krävs läkarövervakning i minst 48 timmar efter ett olycksfall.

· Vid inandning:

Tillförsel av friskluft, i förekommande fall konstgjord andning, värme. Vid ihållande besvär kontakta läkare. Vid medvetslöshet lägg och transportera patient stabilt i framstupa sidoläge.

· **Vid kontakt med huden:** I allmänhet kan produkten ej irritera huden.

· Vid kontakt med ögonen:

Spola ögonen öppna i flera minuter under rinnande vatten. Om besvär kvarstår, kontakta läkare.

· **Vid förtäring:** Om besvär kvarstår, kontakta läkare.

· 4.2 De viktigaste symptomen och effekterna, både akuta och fördröjda

Ingen ytterligare relevant information finns till förfogande.

· 4.3 Angivande av omedelbar medicinsk behandling och särskild behandling som eventuellt krävs

Ingen ytterligare relevant information finns till förfogande.

AVSNITT 5: Brandbekämpningsåtgärder**· 5.1 Släckmedel****· Lämpliga släckningsmedel:**

CO₂, släckningspulver eller spridd vattenstråle. Större bränder skall bekämpas med spridd vattenstråle eller alkoholbeständigt skum.

(Fortsättning på sida 3)

Säkerhetsdatablad

enligt förordning (EG) nr. 1907/2006, Artikel 31

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(Fortsättning från sida 2)

- **5.2 Särskilda faror som ämnet eller blandningen kan medföra**
Ingen ytterligare relevant information finns till förfogande.
- **5.3 Råd till brandbekämpningspersonal**
- **Speciell skyddsutrustning:** Använd andningsskyddsutrustning.

AVSNITT 6: Åtgärder vid oavsiktliga utsläpp

- **6.1 Personliga skyddsåtgärder, skyddsutrustning och åtgärder vid nödsituationer**
Använd skyddsutrustning. Håll oskyddade personer på avstånd.
- **6.2 Miljöskyddsåtgärder:**
Blanda ut med mycket vatten.
Förhindra produkten att tränga ner i avloppsnät/ytvatten/grundvatten.
- **6.3 Metoder och material för inneslutning och sanering:**
Sug upp med vätskebindande material (sand, kiselgur, syrabindemedel, universalbindemedel, sågspån).
Omhändertat förorenat material som avfall enligt punkt 13.
Se till att ventilationen är tillräcklig.
- **6.4 Hänvisning till andra avsnitt**
Information beträffande säker hantering se kapitel 7.
Information beträffande personlig skyddsutrustning se kapitel 8.
Information beträffande avfallshantering se kapitel 13.

AVSNITT 7: Hantering och lagring

- **7.1 Försiktighetsmått för säker hantering**
Sörj för god ventilation/utsug på arbetsplatsen.
Undvik bildning av aerosol.
- **Hänvisningar beträffande brand- och explosionsskydd:**
Håll åtskild från antändningskällor - rök ej.
Skyddas mot värme.
Vidta åtgärder mot elektrostatisk uppladdning.
- **7.2 Förhållanden för säker lagring, inklusive eventuell oförenlighet**
- **Lagring:**
- **Krav på lagerutrymmen och behållare:** Förvaras svalt.
- **Hänvisningar beträffande sammanlagring:** Erfordras ej.
- **Ytterligare uppgifter till lagringsvillkoren:**
Förvara behållaren tätt tillsluten.
Förvaras svalt och torrt i väl tillslutet emballage.
Skyddas mot värme och direkt solljus.
- **7.3 Specifik slutanvändning** Ingen ytterligare relevant information finns till förfogande.

AVSNITT 8: Begränsning av exponeringen/personligt skydd

- **8.1 Kontrollparametrar**
- **Ytterligare hänvisningar beträffande utformning av tekniska anläggningar:** Inga övriga uppgifter, se punkt 7.

· **Ämnen med yrkeshygieniska gränsvärden som bör övervakas:**

108-10-1 metylisobutylketon

OEL	Korttidsvärde: 200 mg/m ³ , 50 ppm
	Nivågränsvärde: 83 mg/m ³ , 20 ppm

- **Ytterligare hänvisningar:** De vid framställningen gällande listorna har använts som utgångspunkt.

(Fortsättning på sida 4)

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(Fortsättning från sida 3)

· 8.2 Begränsning av exponeringen

· Personlig skyddsutrustning:

· Allmänna skydds- och hygienåtgärder:

Undvik kontakt med livsmedel, drycker och fodermedel.

Nedsmutsade, indränkta klädesplagg skall omedelbart tas av.

Tvätta händerna före raster och efter arbetet.

Undvik kontakt med ögonen.

Undvik kontakt med ögonen och huden.

· Andningsskydd:

Vid kortvarig eller ringa belastning - använd andningsfilterutrustning; vid intensiv resp. längre exponering - använd andningsskyddsutrustning som är oberoende av omgivningsluften.

· Handskydd:

Handskmaterialet måste vara tätt och beständigt mot produkt/ämne/tillredning.

Handskmaterialrekommendationer kan inte ges för produkt/tillredning/kemikalielösning, då inga tester genomförts.

Val av handskmaterial beaktande penetrationstider, permeationskvoter och degradation.

· Handskmaterial

Val av lämplig handske är inte enbart beroende av material utan även av andra kvalitetskriterier och varierar från en tillverkare till nästa. Då produkten bereds av flera material, kan handskmaterialets beständighet inte förutses och måste därför kontrolleras före användningen.

· Handskmaterialets penetreringstid

Exakt penetrationstid fastställs av skyddshandskarnas tillverkare och skall beaktas.

· Ögonskydd:



Tättslutande skyddsglasögon

AVSNITT 9: Fysikaliska och kemiska egenskaper

· 9.1 Information om grundläggande fysikaliska och kemiska egenskaper

· Allmänna uppgifter

· Utseende:

Form:	Vätska
Färg:	Silverfärgad
Lukt:	Lösningssmedelaktig
Lukttröskel:	Ej bestämd.

pH-värde vid 20 °C:	7
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· Tillståndsändring

Smältpunkt/frys punkt:	<0 °C
Initial kokpunkt och kokpunktsintervall:	116 °C

Flampunkt:	16 °C
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Brandfarlighet (fast form, gas):	Ej användbar.
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Tändtemperatur:	460 °C
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Sönderfallstemperatur:	Ej bestämd.
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Självantändningstemperatur:	Produkten är ej självantändande.
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(Fortsättning på sida 5)

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(Fortsättning från sida 4)

· Explosiva egenskaper:	Produkten är ej explosionsfarlig, men bildning av explosionsfarliga ångluft-blandningar är möjlig.
· Explosionsgränser:	
Nedre:	1,2 Vol %
Övre:	8 Vol %
· Ångtryck vid 20 °C:	20 hPa
· Densitet vid 20 °C:	1,77 g/cm ³
· Relativ densitet	Ej bestämd.
· Ångdensitet	Ej bestämd.
· Avdunstningshastighet:	Ej bestämd.
· Löslighet i / blandbarhet med Vatten:	Fullständigt blandbar.
· Fördelningskoefficient: n-oktanol/vatten:	Ej bestämd.
· Viskositet:	
Dynamisk vid 20 °C:	1.700 mPas
Kinematisk:	Ej bestämd.
· Lösningsmedelhalt:	
Organiska lösningsmedel:	30,0 %
VOC (EG)	30,00 %
Andel av fasta partiklar:	62,0 %
· 9.2 Annan information	Ingen ytterligare relevant information finns till förfogande.

AVSNITT 10: Stabilitet och reaktivitet

- **10.1 Reaktivitet** Ingen ytterligare relevant information finns till förfogande.
- **10.2 Kemisk stabilitet**
- **Termisk sönderdelning / förhållanden som bör undvikas:** Inget sönderfall vid ändamålsenlig användning.
- **10.3 Risken för farliga reaktioner** Inga farliga reaktioner kända.
- **10.4 Förhållanden som ska undvikas** Ingen ytterligare relevant information finns till förfogande.
- **10.5 Oförenliga material:** Ingen ytterligare relevant information finns till förfogande.
- **10.6 Farliga sönderdelningsprodukter:** Inga farliga sönderfallsprodukter kända.

AVSNITT 11: Toxikologisk information

- **11.1 Information om de toxikologiska effekterna**
- **Akut toxicitet** Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.

· **Klassificeringsrelevanta LD/LC50-värden:**

108-10-1 metylisobutylketon

Oral	LD50	2.080 mg/kg (rat)
Dermal	LD50	16.000 mg/kg (rab)
Inhalativ	LC50/4 h	8,3-16,6 mg/l (rat)

- **Primär retningsseffekt:**
- **Frätande/irriterande på huden**
Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.

(Fortsättning på sida 6)

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(Fortsättning från sida 5)

- **Allvarlig ögonskada/ögonirritation**
Orsakar allvarlig ögonirritation.
- **Luftvägs-/hudsensibilisering**
Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.
- **Ytterligare toxikologiska hänvisningar:**
- **CMR-effekter (cancerframkallande, mutagena och reproduktionstoxiska egenskaper)**
- **Mutagenitet i könsceller**
Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.
- **Cancerogenitet** Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.
- **Reproduktionstoxicitet**
Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.
- **Specifik organtoxicitet – enstaka exponering**
Kan orsaka irritation i luftvägarna.
- **Specifik organtoxicitet – upprepad exponering**
Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.
- **Fara vid aspiration** Kriterierna för klassificering kan på grundval av tillgängliga data inte anses vara uppfyllda.

AVSNITT 12: Ekologisk information

- **12.1 Toxicitet**
- **Akvatisk toxicitet:** Ingen ytterligare relevant information finns till förfogande.
- **12.2 Persistens och nedbrytbarhet** Ingen ytterligare relevant information finns till förfogande.
- **12.3 Bioackumuleringsförmåga** Ingen ytterligare relevant information finns till förfogande.
- **12.4 Rörlighet i jord** Ingen ytterligare relevant information finns till förfogande.
- **Ytterligare ekologiska hänvisningar:**
- **Allmänna hänvisningar:**
Vattenföroreningsklass 1 (Självtvärdering): liten risk för vattenförorening.
Låt ej tränga ner i grundvatten, vattendrag eller i avloppsnätet i utspätt tillstånd resp. i större mängder.
- **12.5 Resultat av PBT- och vPvB-bedömningen**
- **PBT:** Ej användbar.
- **vPvB:** Ej användbar.
- **12.6 Andra skadliga effekter** Ingen ytterligare relevant information finns till förfogande.

AVSNITT 13: Avfallshantering

- **13.1 Avfallsbehandlingsmetoder**
- **Rekommendation:** Får inte deponeras ihop med hushållsavfall. Får inte tömmas i avloppsnätet.
- **Ej rengjorda förpackningar:**
- **Rekommendation:** Avfallshanteras enligt myndigheters föreskrifter.
- **Rekommenderat rengöringsmedel:** Vatten, eventuellt med tillsats av rengöringsmedel.

AVSNITT 14: Transportinformation

- | | |
|--|--|
| · 14.1 UN-nummer | |
| · ADR, IMDG, IATA | UN1245 |
| · 14.2 Officiell transportbenämning | |
| · ADR | 1245 METYLISOBUTYLKETON |
| · IMDG | METHYL ISOBUTYL KETONE, MARINE POLLUTANT |
| · IATA | METHYL ISOBUTYL KETONE |

(Fortsättning på sida 7)

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(Fortsättning från sida 6)

· 14.3 Faroklass för transport

· ADR, IATA



· Klass 3 Brandfarliga vätskor
· Etikett 3

· IMDG



· Class 3 Brandfarliga vätskor
· Label 3

· 14.4 Förpackningsgrupp

· ADR, IMDG, IATA II

· 14.5 Miljöfaror:

· Marine pollutant: Symbol (fisk och träd)

· 14.6 Särskilda skyddsåtgärder

Varning: Brandfarliga vätskor

· Farlighetsnummer (Kemler-tal): 33

· EMS-nummer: F-E,S-D

· Stowage Category A

· 14.7 Bulktransport enligt bilaga II till Marpol 73/78 och IBC-koden

Ej användbar.

· Transport / ytterligare uppgifter:

· ADR

· Begränsade mängder (LQ) 5L

· Reducerade mängder (EQ) Kod: E1

Högsta nettomängd per innerförpackning: 30 ml

Högsta nettomängd per ytterförpackning: 1000 ml

· Transportkategori 3

· Tunnelrestriktionskod 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 1245 METYLISOBUTYLKETON, 3, II

AVSNITT 15: Gällande föreskrifter

· 15.1 Föreskrifter/lagstiftning om ämnet eller blandningen när det gäller säkerhet, hälsa och miljö

· Direktiv 2012/18/EU

· Namngivna farliga ämnen - BILAGA I Inga beståndsdelar är listade.

(Fortsättning på sida 8)

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(Fortsättning från sida 7)

- **Seveso-kategorier P5c BRANDFARLIGA VÄTSKOR**
- **Tröskelvärden (i ton) för tillämpning av krav för lägre nivå 5.000 t**
- **Tröskelvärden (i ton) för tillämpning av krav för övre nivå 50.000 t**
- **Förordning (EG) nr 1907/2006 BILAGA XVII Villkor: 3**

· **Direktiv 2011/65/EU om begränsning av användning av vissa farliga ämnen i elektrisk och elektronisk utrustning - Bilaga II**

Inga beståndsdelar är listade.

· **FÖRORDNING (EU) 2019/1148**

· **Bilaga I - SPRÄNGÄMNESPREKURSORER SOM OMFATTAS AV RESTRIKTIONER (Övre gränsvärde för beviljande av tillstånd enligt artikel 5.3)**

Inga beståndsdelar är listade.

· **Bilaga II - SPRÄNGÄMNESPREKURSORER SOM OMFATTAS AV RAPPORTERINGSKRAV**

Inga beståndsdelar är listade.

· **Förordning (EG) nr 273/2004 om narkotikaprekursorer**

Inga beståndsdelar är listade.

· **Förordning (EG) nr 111/2005 om regler för övervakning av handeln med narkotikaprekursorer mellan gemenskapen och tredjeländer**

Inga beståndsdelar är listade.

· **15.2 Kemikaliesäkerhetsbedömning:** En kemikaliesäkerhetsbedömning har ej gjorts.

AVSNITT 16: Annan information

Uppgifterna är baserade på våra aktuella kunskaper. De representerar emellertid ingen som helst garanti beträffande produktens egenskaper och utgör ingen grund för ett avtalat rättsförhållande.

· **Relevanta fraser**

H225 Mycket brandfarlig vätska och ånga.

H319 Orsakar allvarlig ögonirritation.

H332 Skadligt vid inandning.

H335 Kan orsaka irritation i luftvägarna.

· **Förkortningar och akronymer:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Brandfarliga vätskor – Kategori 2

Acute Tox. 4: Akut toxicitet – Kategori 4

Eye Irrit. 2: Allvarlig ögonskada eller ögonirritation – Kategori 2

STOT SE 3: Specifik organotoxicitet (enstaka exponering) – Kategori 3

แผ่นข้อมูลความปลอดภัย ตาม GHS

วันที่พิมพ์ 2022.05.06

การปรับปรุงใหม่ : 2022.05.06

1 การบ่งชี้สารเดี่ยวหรือสารผสม และผู้ผลิต

- 1.1 ลักษณะเฉพาะของผลิตภัณฑ์
- ชื่อทางการค้า **SILVER CONDUCTIVE PAINT, 503**
- เลขที่รายชื่อ 12686-15, 12686-15-SP
- 1.2 สารหรือสารผสมที่เกี่ยวข้องที่ระบุให้ใช้และที่ไม่ควรให้ใช้ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- การประยุกต์ใช้สาร/ การทำ เคมีภัณฑ์ห้องทดลอง
- 1.3 รายละเอียดของผู้จัดหาข้อมูลด้านความปลอดภัย
- ผู้ผลิต/ ผู้จัดหา
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: info@emsdiasum.com
www.emsdiasum.com
- ข้อมูลรายละเอียดเพิ่มเติมหาได้จาก Product safety department
- 1.4 หมายเลขโทรศัพท์ฉุกเฉิน:
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 การบ่งชี้ความเป็นอันตราย

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



เปลวไฟ

Flam. Liq. 2 H225 ของเหลวและไอที่ไวไฟสูง



Eye Irrit. 2 H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา

STOT SE 3 H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ

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



GHS02 GHS07

- สัญลักษณ์คำ อันตราย
- ส่วนประกอบที่ระบุอันตรายบนฉลาก
เมทิลไอโซบิวทิลคีโตน
- ประกาศสิ่งที่เป็นอันตราย
H225 ของเหลวและไอที่ไวไฟสูง
H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ
- ประกาศการป้องกันระดับระวังภัย
P210 เก็บให้ห่างจากความร้อน/ ประกายไฟ/ เปลวไฟ/ ผิวที่ร้อน - ห้ามสูบบุหรี่

(ต่อหน้า 2)

แผนข้อมูลความปลอดภัย ตาม GHS

วันที่พิมพ์ 2022.05.06

การปรับปรุงใหม่ : 2022.05.06

ชื่อทางการค้า SILVER CONDUCTIVE PAINT, 503

(ต่อหน้า 1)

- P241 ใช้อุปกรณ์ไฟฟ้า/ ระบายอากาศ/ไฟฟ้า/ อุปกรณ์เครื่องใช้ชนิดกันระเบิด
- P303+P361+P353 หากสัมผัสผิวหนัง (หรือเส้นผม) ถอดเสื้อผ้าที่เปื้อนทั้งหมดทันที ล้างผิวด้วยน้ำ/อาบน้ำ
- P305+P351+P338 หากเข้าตา : เช็ดด้วยน้ำอย่างระมัดระวังเป็นเวลาหลายๆนาทีถอดคอนแทกซ์เลนซ์ถ้ายังอยู่ที่เดิมและสะดวกที่จะทำก็ให้ชะล้างต่อไป
- P405 เก็บในที่ใส่กุญแจปิด
- P501 ทิ้งสิ่งที่ย่อย/ภาชนะที่ย่อยตามกฎหมายของท้องถิ่น/แคว้น/ในประเทศ/ระหว่างประเทศ
- 2.3 อันตรายอื่นๆ
 - ผลของ PBT และการประเมิน vPvB
 - PBT: ไม่สามารถใช้ได้
 - vPvB: ไม่สามารถใช้ได้

3 องค์ประกอบและข้อมูลเกี่ยวกับส่วนผสม

- 3.2 คุณลักษณะทางเคมี: ส่วนผสม
- คำอธิบาย ส่วนผสมของสารในรายการข้างล่างพร้อมสารเติมแต่งที่ไม่เป็นอันตราย

· ส่วนประกอบที่มีอันตราย

CAS: 108-10-1	เมทิลไอโซบิวทิลคีโตน	>25-≤50%
EINECS: 203-550-1	⚠ Flam. Liq. 2, H225; ⚠ Acute Tox. 4, H332; Eye Irrit. 2, H319; STOT SE 3, H335	

- ข้อมูลรายละเอียดเสริม สำหรับข้อมูลที่ระบุในรายการความเสี่ยงที่อ้างอิงถึงในส่วนที่ 16

4 มาตรการปฐมพยาบาล

- 4.1 คำอธิบายถึงมาตรการปฐมพยาบาล
- ข้อมูลรายละเอียดทั่วไป
อาการจากพิษอาจเกิดขึ้นหลังจากนั้นหลายชั่วโมงดังนั้นจะต้องเฝ้าติดตามอาการทางการแพทย์อย่างน้อย 48 ชั่วโมงหลังจากอุบัติเหตุ
- หลังจากการสูดหายใจเข้าไป
หาบริเวณที่มีอากาศบริสุทธิ์หากจำเป็นให้ใช้เครื่องช่วยหายใจให้คนไข้ชอบอุ่นปรึกษาแพทย์หากอาการยังไม่บรรเทา ในกรณีที่ไม่รู้สีกตัวให้ขนย้ายคนไข้อย่างมั่นคงในท่าตะแคงด้านข้าง
- หลังจากการสัมผัสผิวหนัง โดยท้าวไปผลิตภัณฑ์ไม่ก่อความระคายเคืองต่อผิวหนัง
- หลังจากการสัมผัสลูกตา ชะตาที่เปิดอยู่ใต้น้ำที่กำลังไหลเป็นเวลาหลายๆนาทีถ้าอาการไม่ดีขึ้นให้ปรึกษาแพทย์
- หลังจากการกลืนเข้าไป ถ้าอาการยังไม่บรรเทาให้ปรึกษาแพทย์
- 4.2 อาการสำคัญส่วนใหญ่และผลกระทบ ทั้งชนิดเฉียบพลันและค่อยๆ แสดงอาการ ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 4.3 ข้อบ่งชี้ของอาการที่ต้องเข้ารับการรักษาจากแพทย์ทันทีและการบำบัดพิเศษที่จำเป็น ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

5 มาตรการผจญเพลิง

- 5.1 สารที่ใช้ดับเพลิง
- สารดับเพลิงที่เหมาะสม คาร์บอนไดออกไซด์สเปรย์ผงหรือน้ำดับเพลิงขนาดใหญ่ด้วยการฉีดน้ำหรือโฟมแอลกอฮอล์ที่ทนทาน
- 5.2 อันตรายเฉพาะอย่างที่เกิดจากสารหรือส่วนผสม ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- 5.3 คำแนะนำสำหรับพนักงานดับเพลิง
- อุปกรณ์ป้องกันกันภัย อุปกรณ์ป้องกันซึ่งเหมาะสำหรับการหายใจทางปาก

6 มาตรการจัดการเมื่อมีการหกรั่วไหลของสาร

- 6.1 การป้องกันส่วนบุคคล อุปกรณ์ป้องกัน และขั้นตอนดำเนินการเมื่อเกิดกรณีฉุกเฉิน
สวมอุปกรณ์ป้องกันกับคนที่ไม่ใช่ผู้ปฏิบัติงานออกไป
- 6.2 การให้ความคุ้มครองสิ่งแวดล้อมล่วงหน้า:
ทำให้เจือจางด้วยน้ำมากๆ
อย่าปล่อยให้เข้าไปในท่อน้ำทิ้ง/ น้ำบนดินหรือใต้ดิน

(ต่อหน้า 3)

แผนข้อมูลความปลอดภัย ตาม GHS

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- **6.3 วิธีดำเนินการและวัสดุสำหรับการบรรจุและการทำความสะอาด:**
ดูดซับด้วยวัสดุที่สามารถยึดของเหลวไว้ (ทรายไดอะไดไมท์ตัวยึดเกาะกรดตัวยึดทั่วๆ ไปซีลเลอร์)
ทิ้งวัสดุที่ปนเปื้อนเป็นของเสียตามรายการในบัญชี 13
ตรวจให้แน่ใจว่ามีการระบายอากาศที่ดีพอ
- **6.4 การอ้างอิงถึงส่วนอื่น**
ดูข้อมูลรายละเอียดเรื่องความปลอดภัยในการขนถ่ายจากส่วนที่ 7
ดูข้อมูลรายละเอียดเรื่องอุปกรณ์ป้องกันส่วนบุคคลจากส่วนที่ 8
ดูข้อมูลรายละเอียดเรื่องการจัดเก็บจากส่วนที่ 13

7 การขนถ่าย เคลื่อนย้าย ใช้งาน และเก็บรักษา

- **7.1 การป้องกันล่วงหน้าสำหรับการจัดการด้านความปลอดภัย**
ทำให้แน่ใจว่าสถานที่ทำงานมีการระบายอากาศ/ ใกล้เคียงที่ดี
ป้องกันการเกิดละอองสารฟุ้ง
- **ข้อมูลรายละเอียดเกี่ยวกับการป้องกันอันตรายและการระเบิด**
ออกห่างจากแหล่งที่ติดไฟอย่างสมบูรณ์
ป้องกันให้พ้นจากความร้อน
ป้องกันให้พ้นจากประกายไฟฟ้าสถิตย์
- **7.2 เงื่อนไขในการเก็บรักษาอย่างปลอดภัย, รวมถึงสิ่งที่เข้ากันไม่ได้ใดๆ**
- **การจัดเก็บ**
- **ข้อกำหนดที่ต้องปฏิบัติตามสำหรับห้องเก็บและภาชนะบรรจุ** เก็บในบริเวณที่เย็น
- **ข้อมูลรายละเอียดด้านการจัดเก็บในสถานที่จัดเก็บรวม** ไม่ได้กำหนด
- **ข้อมูลรายละเอียดเพิ่มเติมด้านสภาพการจัดเก็บ**
เก็บโดยปิดผนึกอย่างแน่นหนา
เก็บในที่เย็นสภาพแห้งในภาชนะบรรจุที่ปิดผนึกอย่างดี
ป้องกันให้พ้นจากความร้อนและแสงแดดส่อง
- **7.3 การระบุถึงการสิ้นสุดการใช้** ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

8 การควบคุมการสัมผัสและการป้องกันส่วนบุคคล

- **8.1 การควบคุมตัวแปร**
- **ข้อมูลรายละเอียดเสริมสำหรับการออกแบบสิ่งอำนวยความสะดวกทางเทคนิค** ไม่มีข้อมูลนอกเหนือจากนี้ดูรายการ 7

• **ส่วนผสมพร้อมค่าขอบเขตที่ต้องเฝ้าดูในสถานที่ปฏิบัติงาน**

108-10-1 เมทิลไอโซบิวทิลดีโตน

PEL (US)	ค่าระยะยาว: 410 mg/m ³ , 100 ppm
REL (US)	ค่าระยะสั้น: 300 mg/m ³ , 75 ppm ค่าระยะยาว: 205 mg/m ³ , 50 ppm
TLV (US)	ค่าระยะสั้น: 75 ppm ค่าระยะยาว: 20 ppm BEI, A3

• **ส่วนประกอบต่างๆ ที่มีค่าขีดจำกัดทางชีวภาพ:**

108-10-1 เมทิลไอโซบิวทิลดีโตน

BEI (US)	1 mg/L Medium: urine Time: end of shift Parameter: MIBK
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- **ข้อมูลรายละเอียดเสริม** รายการถูกต้องระหว่างที่จัดทำโดยอาศัยการชี้งานเป็นหลัก

(ต่อหน้า 4)

แผนข้อมูลความปลอดภัย ตาม GHS

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- **8.2 การควบคุมการสัมผัส**
- **อุปกรณ์ป้องกันส่วนบุคคล**
- **มาตรการการป้องกันและสุขอนามัยทั่วไป**
เก็บให้ห่างจากสิ่งของที่เป็นอาหาร เครื่องดื่ม และอาหารสัตว์
ให้ถอดเสื้อผ้าที่เปื้อนและเช็ดออกทันที
ล้างมือก่อนที่จะหยุดพักและเมื่อสิ้นสุดเวลาทำงาน
หลีกเลี่ยงการสัมผัสถูกตา
หลีกเลี่ยงการสัมผัสถูกตาและผิวหนัง
- **การป้องกันการสูดหายใจเข้าไป**
ในกรณีที่อยู่เป็นเวลาสั้นหรืออากาศเป็นพิษระดับต่ำ ใช้หน้ากากกรองเพื่อช่วยหายใจในกรณีที่มีความเข้มข้นสูงหรืออยู่เป็นเวลานาน ให้ใช้เครื่องป้องกันที่มีอุปกรณ์ช่วยหายใจในตัว
- **การป้องกันมือ**
วัสดุของถุงมือจะต้องไม่ให้อากาศผ่านเข้าออกและทนทานต่อผลิตภัณฑ์/ สาร/ การผลิต
เนื่องจากขาดการทดสอบจึงไม่มีคำแนะนำสำหรับวัสดุที่ใช้ทำถุงมือสำหรับผลิตภัณฑ์/ การผลิต/ ของผสมเคมี
เลือกวัสดุสำหรับถุงมือโดยพิจารณาจากเวลาที่ใช้ในการซึมผ่านอัตราการแพร่และการเสื่อม
- **วัสดุที่ใช้ทำถุงมือ**
การเลือกใช้ถุงมือที่เหมาะสมไม่เพียงแต่ขึ้นอยู่กับวัสดุแต่ยังขึ้นอยู่กับมาตรฐานด้านคุณภาพและข้อแตกต่างระหว่างผู้ผลิตแต่ละแห่งโดยที่ผู้ผลิตแต่ละแห่งเตรียมมาจากสารหลายชนิด ความทนทานของวัสดุถุงมือไม่สามารถที่จะคำนวณล่วงหน้าดังนั้นจึงต้องตรวจสอบกับการใช้งาน
- **เวลาที่ใช้ในการทะลุผ่านวัสดุที่ใช้ทำถุงมือ** ผู้ผลิตถุงมือป้องกันจะต้องทดสอบหาเวลาแน่นอนที่ใช้ในการทะลุผ่านและจะต้องมีการตรวจสอบติดตาม
- **การป้องกันตา**



แว่นตาที่ขอบปิดสนิท

9 คุณสมบัติทางกายภาพและทางเคมี

· 9.1 ข้อมูลคุณสมบัติพื้นฐานทางกายภาพและเคมี

· ข้อมูลรายละเอียดทั่วไป

· ลักษณะ :

· รูปลักษณ์	ของเหลว
· สี	ทำเป็นสีเงิน
· กลิ่น	เหมือนสารละลาย
· เกณฑ์กลิ่น :	ไม่ได้กำหนดไว้.

· ค่า pH ที่ 20 °C

7

· การเปลี่ยนสภาวะ

จุดหลอมเหลว/ ขอบเขตการหลอมละลาย	<0 °C
จุดเดือด/ ขอบเขตการเดือด	116 °C

· จุดวาบไฟ

16 °C

· ความสามารถติดไฟ (ของแข็งแกส)

ไม่สามารถใช้ได้

· อุณหภูมิจุดระเบิด

460 °C

· อุณหภูมิสลายตัว

ไม่ได้กำหนดไว้.

· การเผาไหม้ด้วยตัวเอง

ผลิตภัณฑ์ไม่เป็นสารจุดไฟติดด้วยตัวเอง

· อันตรายจากการระเบิด

ผลิตภัณฑ์ไม่ได้เป็นสารระเบิดอย่างไรก็ตามอาจเป็นไปได้ที่การผสมของอากาศ /
ไอจะทำให้เกิดการ

· ขอบเขตการระเบิด

· ชั้นต่ำ

1.2 Vol %

(ต่อหน้า 5)

แผนข้อมูลความปลอดภัย
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ชั้นสูง	8 Vol %
· ความดันไอ ที่ 20 °C	20 hPa
· ความหนาแน่น ที่ 20 °C	1.77 g/cm ³
· ความหนาแน่นสัมพัทธ์	ไม่ได้กำหนดไว้.
· ความหนาแน่นของไอ	ไม่ได้กำหนดไว้.
· อัตราการระเหย	ไม่ได้กำหนดไว้.
· ความสามารถในการละลายใน ความสามารถผสมเป็นสารละลายเนื้อเดียวทุกส่วนผสมกับ น้ำ	/ ผสมกันได้อย่างเต็มที่
· สมบัติการแยกตัว (เอิน-ออกทานอล/น้ำ)	ไม่ได้กำหนดไว้.
· ความหนืด (ไดนามิก) พลศาสตร์ ที่ 20 °C	1,700 mPas
(คินเมตริก) จลนศาสตร์	ไม่ได้กำหนดไว้.
· ปริมาณส่วนประกอบตัวทำละลาย ตัวทำละลายอินทรีย์	30.0 %
VOC (EC)	30.00 %
ส่วนประกอบที่เป็นของแข็ง	62.0 %
· 9.2 ข้อมูลอื่นๆ	ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้

10 ความเสถียรและการเกิดปฏิกิริยา

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

11 ข้อมูลด้านพิษวิทยา

- 11.1 ข้อมูลเกี่ยวกับผลกระทบทางพิษวิทยา
- ความเป็นพิษอย่างสาหัส: Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi.

· การจัดแบ่งตามค่า LD/LC50		
108-10-1 เมทิลไอโซบิวทิลดีโตน		
ทางปาก	LD50	2,080 mg/kg (rat)
ทางผิวหนัง	LD50	16,000 mg/kg (rab)
ทางการสูดหายใจ	LC50/4 h	8.3-16.6 mg/l (rat)

- อาการระคายเคืองเบื้องต้น
- บนผิวหนัง Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi.
- ที่ดวงตา
เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา
- การทำให้แพ้ Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi.
- ข้อมูลรายละเอียดเสริมเกี่ยวกับพิษวิทยา
- ผลกระทบ CMR (การทำให้เกิดมะเร็งการผ่าเหล่าและพิษต่อการสืบพันธุ์)
- การผ่าเหล่าในเซลล์สืบพันธุ์ Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi.

(ต่อหน้า 6)

แผนข้อมูลความปลอดภัย
ตาม GHS

วันที่พิมพ์ 2022.05.06

การปรับปรุงใหม่ : 2022.05.06

ชื่อทางการค้า SILVER CONDUCTIVE PAINT, 503

(ต่อหน้า 6)

· ฉลากสิ่งที่เป็นอันตราย	3
· IMDG	
· Class	3 ของเหลวติดไฟได้
· Label	3
· 14.4 กลุ่มของภาชนะบรรจุ	
· ADR, IMDG, IATA	II
· 14.5 สิ่งที่เป็นอันตรายต่อสภาพแวดล้อม	
· สารที่เป็นพิษต่อทะเล	สัญลักษณ์ (ปลาและต้นไม้)
· 14.6 การป้องกันพิเศษล่วงหน้าสำหรับผู้ใช้	คำเตือน !: ของเหลวติดไฟได้
· รหัสความอันตราย:	33
· หมายเลข EMS	F-E,S-D
· Stowage Category	A
· 14.7 การขนส่งขนาดใหญ่ตามภาคผนวก 2 ของ MARPOL73/78 และรหัส IBC	ไม่สามารถใช้ได้
· การขนส่ง/ข้อมูลรายละเอียดเสริม	
· ADR	
· ปริมาณที่จำกัด (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· หมวดหมู่การขนส่ง	3
· รหัสควบคุมการผ่านอุโมงค์	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
· “กฎระเบียบต้นแบบ” ของ UN	UN 1245 METHYL ISOBUTYL KETONE, 3, II

15 ข้อมูลด้านกฎข้อบังคับ

- 15.1 ความปลอดภัย สุขภาพและระเบียบ/กฎหมายสิ่งแวดล้อมโดยเฉพาะของสารหรือสารผสม ไม่มีข้อมูลที่เกี่ยวข้องนอกเหนือจากนี้
- บัญชีรายชื่อวัตถุอันตราย

· กรมวิชาการเกษตร	ไม่มีส่วนผสมอยู่ในรายการ
· กรมประมง	ไม่มีส่วนผสมอยู่ในรายการ
· กรมปศุสัตว์	ไม่มีส่วนผสมอยู่ในรายการ
· อาหารและยา	ไม่มีส่วนผสมอยู่ในรายการ

(ต่อหน้า 8)

แผนข้อมูลความปลอดภัย
ตาม GHS

วันที่พิมพ์ 2022.05.06

การปรับปรุงใหม่ : 2022.05.06

ชื่อทางการค้า SILVER CONDUCTIVE PAINT, 503

(ต่อหน้า 7)

· **กรมโรงงานอุตสาหกรรม**

108-10-1

เมทิลไฮโปทิลโคโตน

ชนิดที่ 1

· **กรมธุรกิจพลังงาน**

ไม่มีส่วนผสมอยู่ในรายการ

· **ทำเนียบสารเคมีที่มีอยู่แล้วของประเทศไทย (กรมโรงงานอุตสาหกรรม)**

ส่วนผสมทั้งหมดอยู่ในรายการ

· **15.2 การประเมินความปลอดภัยของสารเคมี:** ไม่ได้ดำเนินการตามการประเมินความปลอดภัยของสารเคมี

16 ข้อมูลอื่นๆ

ข้อมูลรายละเอียดนี้ใช้ความรู้ปัจจุบันของเราเป็นหลักอย่างไรก็ตามข้อมูลนี้ไม่ใช่การรับประกันจากสถาบันต่อคุณสมบัติเฉพาะของผลิตภัณฑ์และไม่สามารถยืนยันการบังคับใช้ตามกฎหมายที่เกี่ยวข้องกับสัญญา

· **วลีที่เกี่ยวข้องกับ**

H225 ของเหลวและไอที่ไวไฟสูง

H319 เป็นสาเหตุให้เกิดการระคายเคืองอย่างร้ายแรงที่ตา

H332 ให้โทษหากสูดหายใจเข้า

H335 อาจเป็นสาเหตุให้เกิดการระคายเคืองต่อระบบหายใจ

· **คำย่อและชื่อย่อที่ผสมขึ้น**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 4: Acute toxicity – Category 4

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

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

TH

Phiếu an toàn hóa chất
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Phần 1: Nhận dạng hóa chất và thông tin về nhà cung cấp

- **Phân loại sản phẩm**
- **Tên thương mại SILVER CONDUCTIVE PAINT, 503**
- **Mã giao dịch:** 12686-15, 12686-15-SP
- **Mục đích sử dụng và hạn chế khi sử dụng:** Không có thêm thông tin có liên quan.
- **Hướng dẫn sử dụng** Phòng thí nghiệm hóa chất
- **Thông tin chi tiết của các nhà cung cấp các bảng dữ liệu an toàn**
- **Nhà sản xuất / Nhà phân phối:**
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
- **Các thông tin chi tiết có thể tìm thấy ở:** Product safety department
- **Số điện thoại liên hệ trong trường hợp khẩn cấp**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

Phần 2: Nhận dạng đặc tính nguy hiểm của hóa chất

- **Phân loại chất và hỗn hợp**



Ngọn lửa

Chất lỏng dễ cháy - Cấp 2

H225 Hơi và chất lỏng rất dễ cháy



Tổn thương nghiêm trọng/ kích ứng mắt – Cấp 2A H319 Gây kích ứng mắt nghiêm trọng
Độc tính đến cơ quan cụ thể sau phơi nhiễm đơn – Cấp 3 H335 Có thể gây kích ứng hô hấp

Độc cấp tính – Hô hấp – Cấp 5

H333 Có thể có hại nếu hít phải.

- **Các phân tử nhãn hiệu**
- **Các yếu tố trên nhãn GHS** Sản phẩm được xếp loại và ghi nhãn theo quy định của GHS
- **Các hình biểu thị sự nguy hiểm**



GHS02



GHS07

- **Từ cảnh báo** Nguy hiểm
- **Các thành phần nguy hiểm về việc ghi nhãn:**
Metyl isobutyl keton
- **Các hướng dẫn về các nguy hiểm**
Hơi và chất lỏng rất dễ cháy
Có thể có hại nếu hít phải.
Gây kích ứng mắt nghiêm trọng
Có thể gây kích ứng hô hấp

(Xem tiếp ở trang 2)

Phiếu an toàn hóa chất

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Tên thương mại SILVER CONDUCTIVE PAINT, 503

(Xem tiếp ở trang 1)

- **Các hướng dẫn an toàn**
Tránh nhiệt/tia lửa/ngọn lửa/bề mặt nóng – Không hút thuốc.
Sử dụng các thiết bị điện/thông gió/chiếu sáng chống nổ.
Nếu tiếp xúc trên da (hoặc tóc): ngay lập tức cởi bỏ tất cả quần áo nhiễm độc. Rửa bằng nước/ vòi hoa sen
NẾU DÍNH MẮT: Rửa thật cẩn thận với nước trong vài phút. Tháo kính áp tròng nếu có và nếu dễ làm.
Sau đó tiếp tục rửa
Nơi cất giữ được khóa lại
Vứt sản phẩm/vỏ hộp theo quy định của địa phương/khu vực/quốc gia/quốc tế.
- **Các dấu hiệu nguy hiểm khác:**
- **Kết quả của đánh giá PBT và vPvB Results**
- **PBT:** Không được áp dụng
- **vPvB:** Không được áp dụng

Phần 3: Thông tin về thành phần các chất

- **Hỗn hợp chất**
- **Mô tả** Hỗn hợp các chất sau với những thành phần phụ gia không gây nguy hiểm

· Các chất thành phần nguy hiểm:

108-10-1	Metyl isobutyl keton	>25-≤50%
	<ul style="list-style-type: none"> ⚠️ Chất lỏng dễ cháy - Cấp 2, H225; ⚠️ Độc cấp tính – Hô hấp – Cấp 4, H332; Tổn thương nghiêm trọng/ kích ứng mắt – Cấp 2, H319; Độc tính đến cơ quan cụ thể sau phơi nhiễm đơn – Cấp 3, H335; Độc cấp tính – Miệng – Cấp 5, H303 	

- **Các hướng dẫn đính kèm:** Đối với các từ ngữ dùng để chỉ rủi ro được liệt kê trong mục 16

Phần 4: Biện pháp sơ cứu về y tế

- **Mô tả về các biện pháp sơ cứu**
- **Hướng dẫn chung:**
Triệu chứng nhiễm độc có thể xuất hiện sau một vài giờ, nên những quan sát y tế cần phải được kéo dài ít nhất 48 giờ sau tai nạn.
- **Sau khi hít vào:**
Cung cấp không khí trong lành. Hô hấp nhân tạo nếu được yêu cầu. Giữ người bệnh ấm. Supply fresh air.
Trong trường hợp người bệnh bất tỉnh giữ bệnh nhân ở vị trí nằm nghiêng và chuyển đi.
- **Sau khi tiếp xúc với da:** Nhìn chung sản phẩm không gây kích ứng da
- **Sau khi tiếp xúc với mắt:**
Mở mắt và rửa dưới vòi nước trong vài phút, nếu không thấy đỡ thì phải gọi cho bác sĩ ngay
- **Sau khi nuốt phải:** Nếu triệu chứng không giảm thì phải xin tư vấn của bác sĩ
- **Thông tin dành cho bác sĩ:**
- **Những triệu chứng và tác dụng cấp và chậm quan trọng nhất:**
Không có thông tin liên quan nào khác
- **Các chỉ dẫn về sự giúp đỡ tức thời của bác sĩ và trợ giúp đặc biệt**
Không có thêm thông tin liên quan

Phần 5: Biện pháp xử lý khi có hỏa hoạn

- **Các phương tiện chữa cháy**
- **Các giải pháp chữa cháy thích hợp**
CO2, bột hay phun bụi nước. Chữa đám cháy lớn hơn phải phun bụi nước hay bột ARC
- **Những nguy cơ gây cháy từ các chất hoặc hỗn hợp** Không có thêm thông tin liên quan

(Xem tiếp ở trang 3)

Phiếu an toàn hóa chất

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- **Hướng dẫn trong trường hợp chữa cháy**
- **Các thiết bị bảo vệ Mặt nạ phòng độc**

(Xem tiếp ở trang 2)

Phần 6: Biện pháp phòng ngừa, ứng phó khi có sự cố

- **Trang thiết bị bảo hộ và quy trình ứng phó sự cố**
Đeo thiết bị bảo vệ. Những ai không có thiết bị bảo vệ không được vào khu vực nguy hiểm
- **Các cảnh báo về môi trường**
Làm loãng đi bằng nhiều nước
Ngăn không cho tràn vào hệ thống nước thải, nước mặt hay nước ngầm
- **Biện pháp, vật liệu vệ sinh sau khi xảy ra sự cố**
Có thể ngấm vào vật liệu giữ chất lỏng (cát, diatomite, vữa axit, vữa thường, mùn cưa)
Loại bỏ vật liệu bị ô nhiễm theo quy định về chất thải tại mục 13
Đảm bảo thoáng khí
- **Liên hệ đến các phần khác**
Xem phần 7 để biết thông tin về xử lý an toàn
Xem phần 8 để biết thông tin và thiết bị bảo hộ cá nhân
Xem phần 13 để biết thông tin về xử thải

Phần 7: Yêu cầu về sử dụng, bảo quản

- **Xử lý**
- **Các biện pháp bảo vệ để xử lý an toàn**
Đảm bảo nơi làm việc thoáng khí
Tránh hình thành aerosol
- **Thông tin về các biện pháp chống cháy,**
Tránh xa nguồn cháy nổ. Không hút thuốc
Tránh nhiệt
Tránh tích điện
- **Điều kiện cho việc lưu trữ an toàn, bao gồm cả sự không tương thích**
- **Lưu trữ:**
- **Yêu cầu đối với phòng chứa và dụng cụ chứa** Đặt ở nơi thoáng mát
- **Thông tin về lưu trữ đối với một cơ sở lưu trữ thông thường** Không yêu cầu
- **Thông tin thêm về điều kiện lưu trữ**
Đậy kín bình chứa
Đề ở nơi thoáng mát và trong điều kiện được dán kín
Tránh nhiệt và ánh sáng mặt trời trực tiếp
- **Tác dụng của sản phẩm** Không có thêm thông tin liên quan

Phần 8: Kiểm soát phơi nhiễm/yêu cầu về thiết bị bảo vệ cá nhân

- **Thông tin thêm về thiết kế các phương tiện kỹ thuật** Không có thêm dữ liệu; xem mục 7
- **Các thông số kiểm soát**

- **Các thành phần với giá trị giới hạn cần được yêu cầu giám sát tại nơi làm việc**

108-10-1 Metyl isobutyl keton

PEL (US)	Giới hạn tiếp xúc ca làm việc: 410 mg/m ³ , 100 ppm
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(Xem tiếp ở trang 4)

Phiếu an toàn hóa chất
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(Xem tiếp ở trang 3)

REL (US)	Giới hạn tiếp xúc ngắn: 300 mg/m ³ , 75 ppm Giới hạn tiếp xúc ca làm việc: 205 mg/m ³ , 50 ppm
TLV (US)	Giới hạn tiếp xúc ngắn: 75 ppm Giới hạn tiếp xúc ca làm việc: 20 ppm BEI, A3
IOELV (EU)	Giới hạn tiếp xúc ngắn: 208 mg/m ³ , 50 ppm Giới hạn tiếp xúc ca làm việc: 83 mg/m ³ , 20 ppm

Thành phần có giá trị giới hạn sinh học:**108-10-1 Metyl isobutyl keton**

BEI (US)	1 mg/L Medium: urine Time: end of shift Parameter: MIBK
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· **Thông tin bổ sung** Danh sách có hiệu lực trong suốt quá trình thực hiện được sử dụng làm cơ sở

· **Kiểm soát các tình huống nguy hiểm**· **Các thiết bị an toàn cá nhân**· **Các biện pháp bảo vệ và vệ sinh tổng thể**

Tránh xa thực phẩm, đồ uống và đồ ăn cho vật nuôi

Loại bỏ ngay tập tức tất cả quần áo bị nhiễm bẩn

rửa tay trước giờ nghỉ và cuối giờ làm

Tránh tiếp xúc với mắt

Tránh tiếp xúc với mắt và da

· **Bảo vệ đường hô hấp:**

Trong trường hợp tiếp xúc ít hoặc ô nhiễm ở mức độ thấp hãy sử dụng mặt nạ phòng độc. Trong trường hợp tiếp xúc nhiều và trong thời gian lâu thì phải sử dụng bình thở ôxi

· **Bảo vệ tay**

Chất liệu làm găng phải chống thấm dòn với sản phẩm/chất/chế phẩm

Do không thấy các cuộc thử nghiệm nên không có khuyến cáo về chất liệu làm găng tay cho sản phẩm/chế phẩm/hỗn hợp hóa chất

Chọn chất liệu găng theo số lần và thời gian sử dụng

· **Chất liệu của găng tay**

Khi sản phẩm là một chế phẩm của một số chất, khả năng kháng độc của găng tay không thể tính toán trước được và do đó phải được kiểm tra trước khi ứng dụng

· **Thời gian xâm nhập của găng tay vật liệu**

Việc phá vỡ chính xác qua thời gian đã được phát hiện bởi các nhà sản xuất găng tay bảo vệ và phải được giám sát

· **Bảo vệ mắt Eye**

Kính bảo hộ dán kín

Phần 9: Đặc tính lý, hóa của hóa chất· **Thông tin về tính chất vật lý và hóa học cơ bản**· **Thông tin tổng quát**· **Diện mạo:****Hình thức::**

Chất lỏng

Màu sắc

Màu bạc

· **Mùi:**

Giống dung môi

(Xem tiếp ở trang 5)

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(Xem tiếp ở trang 4)

· Ngưỡng mùi:	Không xác định.
· Độ pH tại 20 °C	7
· Thay đổi trong điều kiện Điểm tan / Phạm vi tan Điểm sôi / Phạm vi sôi	<0 °C 116 °C
· Điểm cháy	16 °C
· Tính dễ cháy (rắn, khí):	Không thể áp dụng.
· Nhiệt độ cháy:	460 °C
· Nhiệt độ phân hủy:	Không xác định.
· Nhiệt độ tự cháy	Sản phẩm không tự bốc cháy.
· Nguy hiểm do cháy nổ:	Sản phẩm không nổ. Nhưng có khả năng hình thành khí, hỗn hợp hơi gây nổ.
· Giới hạn nổ: Dưới: Trên:	1.2 Vol % 8 Vol %
· Áp suất hóa hơi tại 20 °C	20 hPa
· Mật độ tại 20 °C: · Mật độ tương đối: · Mật độ của hơi: · Tỷ lệ hóa hơi	1.77 g/cm ³ Không xác định. Không xác định. Không xác định.
· Độ hòa tan trong / Độ hòa trộn với: Nước:	Có thể trộn lẫn hoàn toàn.
· Sự phân biệt hệ số (n-octanol / Nước):	Không xác định.
· Độ nhớt: Động tại 20 °C Tĩnh	1,700 mPas Không xác định.
· Thành phần dung môi: Dung môi hữu cơ: VOC (EC):	30.0 % 30.00 %
Thành phần chất rắn:	62.0 %
· Thông tin khác:	Không có thông tin chi tiết tương ứng

Phần 10: Mức ổn định và phản ứng của hóa chất

- Khả năng phản ứng Không có thêm thông tin liên quan
- Tính ổn định
- Phân hủy nhiệt / Điều kiện cần tránh:: Không phân hủy nếu được sử dụng theo tiêu chuẩn.
- Khả năng phản ứng nguy hiểm: Chưa có phản ứng nguy hiểm nào được biết tới.
- Các điều kiện cần tránh: Không có thêm thông tin liên quan
- Vật liệu không tương thích Không có thêm thông tin liên quan.
- Sản phẩm phân hủy nguy hiểm: Chưa có sản phẩm phân hủy nào được biết đến.

VN

(Xem tiếp ở trang 6)

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Phần 11: Thông tin về độc tính

- Thông tin về các hiệu ứng độc tính:
- Ngộ độc cấp tính:

- Phân loại liên quan tới giá trị LD/LC50

108-10-1 Metyl isobutyl keton

Miệng	LD50	2,080 mg/kg (rat)
Da	LD50	16,000 mg/kg (rab)
Hít phải	LC50/4 h	8.3-16.6 mg/l (rat)

- Hiệu ứng kích thích sơ cấp:
- Trên da Không có tác dụng kích ứng.
- Trên mắt: Tác dụng kích ứng.
- Độ nhạy cảm Không có tác dụng mẫn cảm nào được biết tới.
- Thông tin thêm về độc tính::

Sản phẩm này chỉ ra những tác hại sau theo phương pháp tính toán của hướng dẫn phân loại Châu Âu chung được ban hành trong biên bản mới nhất:

Có hại
Kích ứng

Phần 12: Thông tin về sinh thái

- Độc tính
- Thủy sản độc tính: Không có thêm thông tin liên quan.
- Sự kiên trì và khả năng nhậ dẫn: Không có thêm thông tin liên quan.
- Hành vi trong các hệ thống môi trường:
- Khả năng tích lũy sinh học Không có thêm thông tin liên quan.
- Độ linh động trong đất Không có thêm thông tin liên quan.
- Bổ sung thông tin sinh thái:

- Ghi chú tổng quát:

Độc hại cho nước loại 1 (quy định của Đức) (Tự đánh giá): hơi độc cho nước.

Không để sản phẩm chưa pha loãng hoặc số lượng lớn tiếp xúc với nước ngầm, nguồn nước hoặc hệ thống nước thải.

- Kết quả của đánh giá PBT và vPvB

- PBT PBT: Không có khả năng ứng dụng.
- vPvB vPvB: Không có khả năng ứng dụng.
- Các hiệu ứng bất lợi Không có thêm thông tin liên quan.

Phần 13: Thông tin về thải bỏ

- Phương pháp xử lý chất thải
- Khuyến nghị
Không được xử lý cùng rác thải sinh hoạt. Không được bỏ sản phẩm vào hệ thống nước thải.
- Bao bì bản
- Khuyến nghị: Việc xử lý phải thực hiện theo các quy định của chính quyền.
- Các chất tẩy rửa được khuyến nghị sử dụng Nước, nếu cần, kết hợp với chất tẩy rửa.

VN

(Xem tiếp ở trang 7)

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Phần 14: Thông tin khi vận chuyển

<ul style="list-style-type: none"> · Mã LHQ (UN) · ADR, IMDG, IATA 	UN1245
<ul style="list-style-type: none"> · Tên vận chuyển theo quy ước của LHQ · ADR · IMDG · IATA 	1245 METHYL ISOBUTYL KETONE METHYL ISOBUTYL KETONE, MARINE POLLUTANT METHYL ISOBUTYL KETONE
<ul style="list-style-type: none"> · vận chuyển các lớp học nguy hiểm · ADR, IATA 	
	
<ul style="list-style-type: none"> · lớp · nhãn 	3 Các chất lỏng dễ cháy. 3
<ul style="list-style-type: none"> · IMDG 	
	
<ul style="list-style-type: none"> · Class · Label 	3 Các chất lỏng dễ cháy. 3
<ul style="list-style-type: none"> · Nhóm bao bì · ADR, IMDG, IATA 	II
<ul style="list-style-type: none"> · Các môi trường nguy hiểm: · Ô nhiễm biển: 	Biểu tượng (cá và cây)
<ul style="list-style-type: none"> · Các biện pháp phòng ngừa đặc biệt cho người sử dụng: · Mã nguy hiểm: · Mã EMS: · Stowage Category 	Cảnh báo: Các chất lỏng dễ cháy. 33 F-E,S-D A
<ul style="list-style-type: none"> · Vận chuyển với số lượng lớn theo Phụ Lục II của MARPOL73/78 và mã IBC 	Không có khả năng ứng dụng.
<ul style="list-style-type: none"> · Vận chuyển/ Thông tin thêm: 	
<ul style="list-style-type: none"> · ADR · Số lượng giới hạn (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"> · Danh mục vận chuyển · Mã hạn chết đường hầm 	3 E
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) 	5L

(Xem tiếp ở trang 8)

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(Xem tiếp ở trang 7)

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **Mẫu chuẩn của LHQ:**

UN 1245 METHYL ISOBUTYL KETONE, 3, II

Phần 15: Thông tin về pháp luật

· **An toàn, sức khỏe và các quy định, pháp luật về môi trường cho các chất và hỗn hợp**

Không có thêm thông tin liên quan

· **Kho hóa chất và chất hóa học của Philippin**

Tất cả các thành phần được liệt kê.

· **Lập kế hoạch cho thuốc và chất độc theo mẫu chuẩn**

7440-22-4 | silver

S2

108-10-1 | Metyl isobutyl keton

S5

· **Danh mục hóa chất sản xuất, kinh doanh có điều kiện trong lĩnh vực công nghiệp - phụ lục I**

108-10-1 | Metyl isobutyl keton

· **Danh mục hóa chất hạn chế sản xuất, kinh doanh trong lĩnh vực công nghiệp - phụ lục II**

Không có các thành phần được liệt kê.

· **Danh mục hóa chất nguy hiểm phải xây dựng kế hoạch phòng ngừa, ứng phó sự cố hóa chất - phụ lục IV - Ngưỡng khối lượng hóa chất tồn trữ lớn nhất tại một thời điểm (kg)**

Không có các thành phần được liệt kê.

· **Danh mục hóa chất phải khai báo - phụ lục V**

108-10-1 | Metyl isobutyl keton

· **Các yếu tố trên nhãn GHS** Sản phẩm được xếp loại và ghi nhãn theo quy định của GHS· **Các hình biểu thị sự nguy hiểm**

GHS02 GHS07

· **Từ cảnh báo** Nguy hiểm· **Các thành phần nguy hiểm về việc ghi nhãn:**

Metyl isobutyl keton

· **Các hướng dẫn về các nguy hiểm**

Hơi và chất lỏng rất dễ cháy

Có thể có hại nếu hít phải.

Gây kích ứng mắt nghiêm trọng

Có thể gây kích ứng hô hấp

· **Các hướng dẫn an toàn**

Tránh nhiệt/tia lửa/ngọn lửa/bề mặt nóng – Không hút thuốc.

Sử dụng các thiết bị điện/thông gió/chiếu sáng chống nổ.

Nếu tiếp xúc trên da (hoặc tóc): ngay lập tức cởi bỏ tất cả quần áo nhiễm độc. Rửa bằng nước/ vòi hoa sen

NẾU DÍNH MẮT: Rửa thật cẩn thận với nước trong vài phút. Tháo kính áp tròng nếu có và nếu dễ làm.

Sau đó tiếp tục rửa

Nơi cất giữ được khóa lại

Vứt sản phẩm/vỏ hộp theo quy định của địa phương/khu vực/quốc gia/quốc tế.

(Xem tiếp ở trang 9)

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· **Đánh giá an toàn hóa chất:** Đánh giá an toàn hóa chất chưa được tiến hành.

(Xem tiếp ở trang 8)

Phần 16: Các thông tin cần thiết khác

Thông tin này dựa trên kiến thức hiện nay của chúng tôi. Tuy nhiên, điều này không đảm bảo cho bất cứ tính chất cụ thể nào của sản phẩm và không thiết lập mối quan hệ hợp tác có giá trị pháp lý nào.

· **Liên hệ:**

- **Ngày tháng biên soạn phiếu:** 2022.05.06
- **Ngày tháng sửa đổi, bổ sung gần nhất:** 2022.05.06
- **Chữ viết tắt hoặc Viết tắt chữ cái đầu:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Chất lỏng dễ cháy - Cấp 2: Flammable liquids – Category 2

Độc cấp tính – Miệng – Cấp 5: Acute toxicity – Category 5

Độc cấp tính – Hô hấp – Cấp 4: Acute toxicity – Category 4

Tổn thương nghiêm trọng/ kích ứng mắt – Cấp 2: Serious eye damage/eye irritation – Category 2

Tổn thương nghiêm trọng/ kích ứng mắt – Cấp 2A: Serious eye damage/eye irritation – Category 2A

Độc tính đến cơ quan cụ thể sau phơi nhiễm đơn – Cấp 3: Specific target organ toxicity (single exposure) – Category 3