

Safety Data Sheet

acc. to OSHA HCS

Printing date 05/05/2022

Reviewed on 05/05/2022

1 Identification

- **Product identifier**
- **Trade name:** CHROMIC ACID 4% AQUEOUS SOLUTION
- **Article number:** 12557, 26120-01
- **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**



GHS03 Flame over circle

Oxidizing Liquids 1

H271 May cause fire or explosion; strong oxidizer.



GHS06 Skull and crossbones

Acute Toxicity - Inhalation 2

H330 Fatal if inhaled.



GHS08 Health hazard

Sensitization - Respiratory 1

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ Cell Mutagenicity 1B

H340 May cause genetic defects.

Carcinogenicity 1A

H350 May cause cancer.

Toxic to Reproduction 2

H361 Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure 1 H372 Causes damage to the respiratory system through prolonged or repeated exposure.



GHS05 Corrosion

Skin Corrosion 1A

H314 Causes severe skin burns and eye damage.

Eye Damage 1

H318 Causes serious eye damage.



GHS07

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Acute Toxicity - Oral 4

H302 Harmful if swallowed.

Sensitization - Skin 1

H317 May cause an allergic skin reaction.

· **Label elements**

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

· **Hazard pictograms**



GHS03

GHS05

GHS06

GHS08

· **Signal word** Danger

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

chromium (VI) trioxide

· **Hazard statements**

May cause fire or explosion; strong oxidizer.

Harmful if swallowed.

Fatal if inhaled.

Causes severe skin burns and eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer.

Suspected of damaging fertility or the unborn child.

Causes damage to the respiratory system through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

Keep/Store away from clothing and other combustible materials

Take any precaution to avoid mixing with combustibles.

Do not breathe dusts or mists.

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

Wear fire/flame resistant/retardant clothing.

[In case of inadequate ventilation] wear respiratory protection.

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

If swallowed: Rinse mouth. Do NOT induce vomiting.

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

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

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

Continue rinsing.

Immediately call a poison center/doctor.

If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

IF exposed or concerned: Get medical advice/attention.

Specific treatment is urgent (see on this label).

Get medical advice/attention if you feel unwell.

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

If experiencing respiratory symptoms: Call a poison center/doctor.

Wash contaminated clothing before reuse.

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

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In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

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

Store locked up.

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

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



The substance possesses oxidizing properties.

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

HEALTH	*3	Health = *3
FIRE	3	Fire = 3
REACTIVITY	2	Reactivity = 2

- **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:**

1333-82-0	chromium (VI) trioxide	>2.5-≤10%
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4 First-aid measures

- **Description of first aid measures**
- **General information:**
 - Immediately remove any clothing soiled by the product.*
 - Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.*
 - Remove breathing apparatus only after contaminated clothing have been completely removed.*
 - In case of irregular breathing or respiratory arrest provide artificial respiration.*
- **After inhalation:**
 - Supply fresh air or oxygen; call for doctor.*
 - In case of unconsciousness place patient stably in side position for transportation.*
- **After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*
- **After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*
- **After swallowing:**
 - Immediately call a doctor.*
 - Drink copious amounts of water and provide fresh air. Immediately call a doctor.*
- **Information for doctor:**
 - **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*

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- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
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).
Use neutralizing agent.
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:**

1333-82-0	chromium (VI) trioxide	0.29 mg/m ³
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- **PAC-2:**

1333-82-0	chromium (VI) trioxide	5 mg/m ³
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- **PAC-3:**

1333-82-0	chromium (VI) trioxide	30 mg/m ³
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7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

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

8 Exposure controls/personal protection

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

· **Control parameters**

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

1333-82-0 chromium (VI) trioxide

PEL Long-term value: 0.005* mg/m³
Ceiling limit value: 0.1** mg/m³
*as Cr(VI) **as CrO₃; see 29 CFR 1910.1026

REL Long-term value: 0.0002 mg/m³
as Cr; See Pocket Guide Apps. A and C

TLV Short-term value: 0.0005 mg/m³
Long-term value: 0.0002 mg/m³
as Cr(VI); inhalable, Skin; BEI, DSEN, RSEN

· **Ingredients with biological limit values:**

1333-82-0 chromium (VI) trioxide

BEI 25 µg/L
Medium: urine
Time: end of shift at end of workweek
Parameter: Total chromium (fume)

10 µg/L
Medium: urine
Time: increase during shift
Parameter: Total chromium (fume)

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

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

· **Breathing equipment:**

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

· **Protection of hands:**



Protective gloves

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

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

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· **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:	Amber colored
Odor:	Odorless
Odor threshold:	Not determined.

· **pH-value at 20 °C (68 °F):** 0.4-0.6

· **Change in condition**

Melting point/Melting range:	0 °C (32 °F)
Boiling point/Boiling range:	100 °C (212 °F)

· **Flash point:** Not applicable.

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

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** Product does not present an explosion hazard.
Explosive when mixed with combustible material.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)

· **Density at 20 °C (68 °F):** 1.072 g/cm³ (8.94584 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not determined.

· **Evaporation rate** Not determined.

· **Solubility in / Miscibility with**

Water: Fully miscible.

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

· **Viscosity:**

Dynamic: Not determined.

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Kinematic:	Not determined.
Solvent content:	
Water:	96.0 %
VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gal
Solids content:	4.0 %
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:**

1333-82-0 chromium (VI) trioxide

Oral LD50 80 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
- **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Corrosive
Irritant
Very toxic
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
Carcinogenic.
The product can cause inheritable damage.

- **Carcinogenic categories**

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

1333-82-0 chromium (VI) trioxide

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· **NTP (National Toxicology Program)**

1333-82-0	chromium (VI) trioxide	K
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· **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.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
*Water hazard class 3 (Self-assessment): extremely hazardous for water
 Do not allow product to reach ground water, water course or sewage system, even in small quantities.
 Must not reach bodies of water or drainage ditch undiluted or unneutralized.
 Danger to drinking water if even extremely small quantities leak into the ground.
 Also poisonous for fish and plankton in water bodies.
 Toxic for aquatic organisms
 Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.*
- **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 | UN1755 |
| · UN proper shipping name | |
| · DOT | Chromic acid solution |
| · ADR | 1755 CHROMIC ACID SOLUTION, ENVIRONMENTALLY HAZARDOUS |

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· **IMDG, IATA**

CHROMIC ACID SOLUTION

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

8 Corrosive substances

· **Label**

8

· **ADR**· **Class**

8 Corrosive substances

· **Label**

8

· **IMDG, IATA**· **Class**

8 Corrosive substances

· **Label**

8

· **Packing group**· **DOT, ADR, IMDG, IATA**

II

· **Environmental hazards:**· **Special marking (ADR):**

Symbol (fish and tree)

· **Special precautions for user**

Warning: Corrosive substances

· **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable.

· **UN "Model Regulation":**

UN 1755 CHROMIC ACID SOLUTION, 8, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**· **Sara**· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

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

1333-82-0 chromium (VI) trioxide

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

All components have the value ACTIVE.

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· **Hazardous Air Pollutants**

1333-82-0	chromium (VI) trioxide
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· **Proposition 65**

· **Chemicals known to cause cancer:**

1333-82-0	chromium (VI) trioxide
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· **Chemicals known to cause reproductive toxicity for females:**

1333-82-0	chromium (VI) trioxide
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· **Chemicals known to cause reproductive toxicity for males:**

1333-82-0	chromium (VI) trioxide
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· **Chemicals known to cause developmental toxicity:**

1333-82-0	chromium (VI) trioxide
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· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

1333-82-0	chromium (VI) trioxide	A(inh), D(oral), K/L(inh), CBD(oral)
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· **TLV (Threshold Limit Value)**

1333-82-0	chromium (VI) trioxide	AI
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· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

1333-82-0	chromium (VI) trioxide
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· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS03 GHS05 GHS06 GHS08

· **Signal word** *Danger*

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

chromium (VI) trioxide

· **Hazard statements**

May cause fire or explosion; strong oxidizer.

Harmful if swallowed.

Fatal if inhaled.

Causes severe skin burns and eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer.

Suspected of damaging fertility or the unborn child.

Causes damage to the respiratory system through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

Keep/Store away from clothing and other combustible materials

Take any precaution to avoid mixing with combustibles.

Do not breathe dusts or mists.

Wash thoroughly after handling.

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

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Trade name: CHROMIC ACID 4% AQUEOUS SOLUTION

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Use only outdoors or in a well-ventilated area.

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

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

Wear fire/flame resistant/retardant clothing.

[In case of inadequate ventilation] wear respiratory protection.

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

If swallowed: Rinse mouth. Do NOT induce vomiting.

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

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

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

Continue rinsing.

Immediately call a poison center/doctor.

If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

IF exposed or concerned: Get medical advice/attention.

Specific treatment is urgent (see on this label).

Get medical advice/attention if you feel unwell.

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

If experiencing respiratory symptoms: Call a poison center/doctor.

Wash contaminated clothing before reuse.

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

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

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

Store locked up.

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

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.

Exceptions can be made by the authorities in certain cases.

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

16 Other information

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

· **Contact:**

· **Date of preparation / last revision** 05/05/2022 / -

· **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

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

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*REL: Recommended Exposure Limit**BEI: Biological Exposure Limit**Oxidizing Liquids 1: Oxidizing liquids – Category 1**Acute Toxicity - Oral 4: Acute toxicity – Category 4**Acute Toxicity - Inhalation 2: Acute toxicity – Category 2**Skin Corrosion 1A: Skin corrosion/irritation – Category 1A**Eye Damage 1: Serious eye damage/eye irritation – Category 1**Sensitization - Respiratory 1: Respiratory sensitisation – Category 1**Sensitization - Skin 1: Skin sensitisation – Category 1**Germ Cell Mutagenicity 1B: Germ cell mutagenicity – Category 1B**Carcinogenicity 1A: Carcinogenicity – Category 1A**Toxic to Reproduction 2: Reproductive toxicity – Category 2**Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) – Category 1*

US

Safety Data Sheet

according to WHS Regulations

Printing date 05.05.2022

Revision: 05.05.2022

1 Identification

- **Product identifier**
- **Trade name:** CHROMIC ACID 4% AQUEOUS SOLUTION
- **Article number:** 12557, 26120-01
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: 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**



GHS03 flame over circle

Ox. Liq. 1 H271 May cause fire or explosion; strong oxidiser.



GHS06 skull and crossbones

Acute Tox. 2 H330 Fatal if inhaled.



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Muta. 1B H340 May cause genetic defects.

Carc. 1A H350 May cause cancer.

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

STOT RE 1 H372 Causes damage to the respiratory system through prolonged or repeated exposure.



GHS05 corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

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

· **Label elements**

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

· **Hazard pictograms**



GHS03



GHS05



GHS06



GHS08

· **Signal word** Danger

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

chromium (VI) trioxide

· **Hazard statements**

May cause fire or explosion; strong oxidiser.

Harmful if swallowed.

Fatal if inhaled.

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· **Precautionary statements**

Obtain special instructions before use.

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

Keep/Store away from clothing and other combustible materials

Take any precaution to avoid mixing with combustibles.

Do not breathe dusts or mists.

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

Wear fire/flammable resistant/retardant clothing.

Wear respiratory protection.

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

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

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- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.*
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
- Immediately call a POISON CENTER/doctor.*
- IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.*
- IF exposed or concerned: Get medical advice/attention.*
- Specific treatment is urgent (see on this label).*
- Get medical advice/attention if you feel unwell.*
- If skin irritation or rash occurs: Get medical advice/attention.*
- If experiencing respiratory symptoms: Call a POISON CENTER/doctor.*
- Wash contaminated clothing before reuse.*
- In case of fire: Use CO₂, powder or water spray for extinction.*
- In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.*
- Store in a well-ventilated place. Keep container tightly closed.*
- Store locked up.*
- Dispose of contents/container in accordance with local/regional/national/international regulations.*
- **Other hazards**
 - **Results of PBT and vPvB assessment**
 - **PBT:** Not applicable.
 - **vPvB:** Not applicable.

3 Composition and Information on Ingredients

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

- **Dangerous components:**

1333-82-0	chromium (VI) trioxide	>2.5-≤10%
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- **SVHC**

1333-82-0	chromium (VI) trioxide
-----------	------------------------

- **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:**

Immediately remove any clothing soiled by the product.

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

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

In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*
- **After eye contact:** *Rinse opened eye for several minutes under running water. Then consult a doctor.*
- **After swallowing:**

Call for a doctor immediately.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

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- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
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).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and Storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls and personal protection

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

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· **Control parameters**

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

1333-82-0 chromium (VI) trioxide

WES	Long-term value: 0.05 mg/m ³ Sen, as Cr
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· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

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

· **Protection of hands:**



Protective gloves

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

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

· **General Information**

· **Appearance:**

Form: Liquid

Colour: Amber coloured

· **Odour:** Odourless

· **Odour threshold:** Not determined.

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· pH-value at 20 °C:	0.4-0.6
· Change in condition Melting point/freezing point:	0 °C
Initial boiling point and boiling range:	100 °C
· Flash point:	Not applicable.
· Flammability (solid, gas):	Not applicable.
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard. Explosive when mixed with combustible material.
· Explosion limits: Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure at 20 °C:	23 hPa
· Density at 20 °C:	1.072 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity: Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content: Water:	96.0 %
VOC (EC)	0.00 %
Solids content:	4.0 %
· 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.

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11 Toxicological Information

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

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

1333-82-0 chromium (VI) trioxide

Oral	LD50	80 mg/kg (rat)
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- **Primary irritant effect:**
- **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
- **Serious eye damage/irritation**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.
- **Respiratory or skin sensitisation**
Sensitisation possible through inhalation.
Sensitisation possible through skin contact.
- **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Harmful
Corrosive
Irritant
Very toxic
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
Carcinogenic.
The product can cause inheritable damage.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
Muta. 1B, Carc. 1A, Repr. 2

12 Ecological Information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behaviour in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **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

- | | |
|---|---|
| <ul style="list-style-type: none"> · UN-Number · ADG, IMDG, IATA | <p style="text-align: center;">UNI755</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · ADG · IMDG, IATA | <p style="text-align: center;">1755 CHROMIC ACID SOLUTION, ENVIRONMENTALLY
HAZARDOUS
CHROMIC ACID SOLUTION</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · ADG | <div style="display: flex; align-items: center; justify-content: center;">   </div> |
| <ul style="list-style-type: none"> · Class · Label | <p style="text-align: center;">8 Corrosive substances.
8</p> |
| <ul style="list-style-type: none"> · IMDG, IATA | <div style="display: flex; align-items: center; justify-content: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | <p style="text-align: center;">8 Corrosive substances.
8</p> |
| <ul style="list-style-type: none"> · Packing group · ADG, IMDG, IATA | <p style="text-align: center;">II</p> |
| <ul style="list-style-type: none"> · Environmental hazards: · Special marking (ADG): | <p style="text-align: center;">Symbol (fish and tree)</p> |
| <ul style="list-style-type: none"> · Special precautions for user | <p style="text-align: center;">Warning: Corrosive substances.</p> |
| <ul style="list-style-type: none"> · Transport in bulk according to Annex II of Marpol and the IBC Code | <p style="text-align: center;">Not applicable.</p> |

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· **UN "Model Regulation":** UN 1755 CHROMIC ACID SOLUTION, 8, II,
ENVIRONMENTALLY HAZARDOUS

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**

1333-82-0	chromium (VI) trioxide	S6
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· **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**



GHS03 GHS05 GHS06 GHS08

· **Signal word** *Danger*

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

chromium (VI) trioxide

· **Hazard statements**

May cause fire or explosion; strong oxidiser.

Harmful if swallowed.

Fatal if inhaled.

Causes severe skin burns and eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer.

Suspected of damaging fertility or the unborn child.

Causes damage to the respiratory system through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

Keep/Store away from clothing and other combustible materials

Take any precaution to avoid mixing with combustibles.

Do not breathe dusts or mists.

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

Wear fire/flame resistant/retardant clothing.

Wear respiratory protection.

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

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

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Trade name: CHROMIC ACID 4% AQUEOUS SOLUTION

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

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

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

Immediately call a POISON CENTER/doctor.

IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

IF exposed or concerned: Get medical advice/attention.

Specific treatment is urgent (see on this label).

Get medical advice/attention if you feel unwell.

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

If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

Wash contaminated clothing before reuse.

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

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

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

Store locked up.

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

· **Directive 2012/18/EU**

· **Named dangerous substances - ANNEX I** None of the ingredients is listed.

· **Seveso category**

H2 ACUTE TOXIC

P8 OXIDISING LIQUIDS AND SOLIDS

E2 Hazardous to the Aquatic Environment

· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t

· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.

Exceptions can be made by the authorities in certain cases.

· **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**

1333-82-0	chromium (VI) trioxide
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· **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

SVHC: Substances of Very High Concern

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vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 1: Oxidizing liquids – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 2: Acute toxicity – Category 2
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Muta. 1B: Germ cell mutagenicity – Category 1B
Carc. 1A: Carcinogenicity – Category 1A
Repr. 2: Reproductive toxicity – Category 2
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

AU

Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/05/2022

Reviewed on 05/05/2022

1 Identification

- **Product identifier**
- **Trade name:** CHROMIC ACID 4% AQUEOUS SOLUTION
- **Article number:** 12557, 26120-01
- **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**



GHS03 Flame over circle

Oxidizing Liquids - Category 1

H271 May cause fire or explosion; strong oxidizer.



GHS06 Skull and crossbones

Acute Toxicity (Inhalation) - Category 2

H330 Fatal if inhaled.



GHS08 Health hazard

Respiratory Sensitizer - Category 1

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ Cell Mutagenicity - Category 1B

H340 May cause genetic defects.

Carcinogenicity - Category 1A

H350 May cause cancer.

Reproductive Toxicity - Category 2

H361 Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure - Category 1

H372 Causes damage to the respiratory system through prolonged or repeated exposure.



GHS05 Corrosion

Skin Corrosion - Category 1A

H314 Causes severe skin burns and eye damage.

Serious Eye Damage - Category 1

H318 Causes serious eye damage.

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GHS07

Acute Toxicity (Oral) - Category 4

H302 Harmful if swallowed.

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

· **Label elements**

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

· **Hazard pictograms**



GHS03

GHS05

GHS06

GHS08

· **Signal word** Danger

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

chromium (VI) trioxide

· **Hazard statements**

May cause fire or explosion; strong oxidizer.

Harmful if swallowed.

Fatal if inhaled.

Causes severe skin burns and eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer.

Suspected of damaging fertility or the unborn child.

Causes damage to the respiratory system through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Keep away from clothing and other combustible materials.

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

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

Wear fire resistant or flame retardant clothing.

[In case of inadequate ventilation] wear respiratory protection.

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

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

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

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

Continue rinsing.

Immediately call a poison center/doctor.

IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

IF exposed or concerned: Get medical advice/attention.

Specific treatment is urgent (see on this label).

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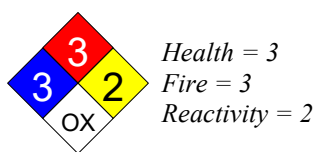
Reviewed on 05/05/2022

Trade name: CHROMIC ACID 4% AQUEOUS SOLUTION

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Get medical advice/attention if you feel unwell.
 Take off contaminated clothing and wash it before reuse.
 If skin irritation or rash occurs: Get medical advice/attention.
 If experiencing respiratory symptoms: Call a poison center/doctor.
 Wash contaminated clothing before reuse.
 In case of fire: Use CO₂, powder or water spray to extinguish.
 In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.
 Store in a well-ventilated place. Keep container tightly closed.
 Store locked up.
 Store separately.
 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



The substance possesses oxidizing properties.

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

HEALTH	*3	Health = *3
FIRE	3	Fire = 3
REACTIVITY	2	Reactivity = 2

3 Composition/Information on ingredients

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

- **Dangerous components:**

1333-82-0	chromium (VI) trioxide	1-5% w/w *
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* Actual concentration ranges are withheld as a trade secret.

4 First-aid measures

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

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Safety Data Sheet

according to HPR, Schedule 1

Printing date 05/05/2022

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Trade name: CHROMIC ACID 4% AQUEOUS SOLUTION

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- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
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).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/ Personal protection

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

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Safety Data Sheet

according to HPR, Schedule 1

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Trade name: CHROMIC ACID 4% AQUEOUS SOLUTION

(Contd. of page 4)

· **Control parameters**

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

1333-82-0 chromium (VI) trioxide

EL	TWA: 0.025 mg/m ³ Ceiling: 0.1 mg/m ³ as Cr; ACGIH A1, IARC 1; Skin; S(D), S(R)
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· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **Breathing equipment:**

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

· **Protection of hands:**



Protective gloves

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

· **General Information**

· **Appearance:**

Form:	Liquid
Color:	Amber colored
Odor:	Odorless

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Trade name: **CHROMIC ACID 4% AQUEOUS SOLUTION**

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· Odor threshold:	Not determined.
· pH-value at 20 °C:	0.4-0.6
· Change in condition	
Melting point/Melting range:	0 °C
Boiling point/Boiling range:	100 °C
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not flammable.
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard. Explosive when mixed with combustible material.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure at 20 °C:	23 hPa
· Density at 20 °C:	1.072 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:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Water:	96.0 %
Solids content:	4.0 %
· 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.

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11 Toxicological information

- **Information on toxicological effects**

- **Acute toxicity:**

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

1333-82-0 chromium (VI) trioxide

Oral	LD50	80 mg/kg (rat)
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- **Primary irritant effect:**

- **on the skin:** Strong caustic effect on skin and mucous membranes.

- **on the eye:**

Strong caustic effect.

Strong irritant with the danger of severe eye injury.

- **Sensitization:**

Sensitization possible through inhalation.

Sensitization possible through skin contact.

- **Additional toxicological information:**

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

Harmful

Corrosive

Irritant

Very toxic

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

Carcinogenic.

The product can cause inheritable damage.

- **Carcinogenic categories**

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

1333-82-0	chromium (VI) trioxide	I
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- **NTP (National Toxicology Program)**

1333-82-0	chromium (VI) trioxide	K
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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.

- **Ecotoxic effects:**

- **Remark:** Toxic for fish

- **Additional ecological information:**

- **General notes:**

Water hazard class 3 (Self-assessment): extremely hazardous for water

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

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even extremely small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

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Toxic for aquatic organisms



Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- **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;">UN1755</p> |
| <ul style="list-style-type: none"> · UN proper shipping name · DOT/TDG · ADR · IMDG, IATA | <p style="margin-left: 20px;">Chromic acid solution
1755 CHROMIC ACID SOLUTION, ENVIRONMENTALLY
HAZARDOUS
CHROMIC ACID SOLUTION</p> |
| <ul style="list-style-type: none"> · Transport hazard class(es) · DOT/TDG (Transport dangerous goods): | <div style="text-align: center; margin-bottom: 10px;">  </div> <ul style="list-style-type: none"> · Class 8 Corrosive substances · Label 8 |
| <ul style="list-style-type: none"> · ADR | <div style="text-align: center; margin-bottom: 10px;">  </div> <ul style="list-style-type: none"> · Class 8 Corrosive substances · Label 8 |

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· **IMDG, IATA**

· Class	8 Corrosive substances
· Label	8
· Packing group	
· DOT/TDG, ADR, IMDG, IATA	II
· Environmental hazards:	
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Corrosive substances
· Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN 1755 CHROMIC ACID SOLUTION, 8, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**· **Sara**· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

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

1333-82-0 chromium (VI) trioxide

· **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.

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

1333-82-0 chromium (VI) trioxide

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

None of the ingredients is listed.

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

GHS03

GHS05

GHS06

GHS08

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Trade name: CHROMIC ACID 4% AQUEOUS SOLUTION

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· **Signal word** *Danger*

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

chromium (VI) trioxide

· **Hazard statements**

May cause fire or explosion; strong oxidizer.

Harmful if swallowed.

Fatal if inhaled.

Causes severe skin burns and eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

May cause genetic defects.

May cause cancer.

Suspected of damaging fertility or the unborn child.

Causes damage to the respiratory system through prolonged or repeated exposure.

· **Precautionary statements**

Obtain special instructions before use.

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

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

Keep away from clothing and other combustible materials.

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

Wash thoroughly after handling.

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

Use only outdoors or in a well-ventilated area.

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

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

Wear fire resistant or flame retardant clothing.

[In case of inadequate ventilation] wear respiratory protection.

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

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

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

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

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

Continue rinsing.

Immediately call a poison center/doctor.

IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.

IF exposed or concerned: Get medical advice/attention.

Specific treatment is urgent (see on this label).

Get medical advice/attention if you feel unwell.

Take off contaminated clothing and wash it before reuse.

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

If experiencing respiratory symptoms: Call a poison center/doctor.

Wash contaminated clothing before reuse.

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

In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

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

Store locked up.

Store separately.

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

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.

Exceptions can be made by the authorities in certain cases.

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Trade name: CHROMIC ACID 4% AQUEOUS SOLUTION

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

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

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

- **1.1 Product identifier**
- **Trade name:** CHROMIC ACID 4% AQUEOUS SOLUTION
- **Article number:** 12557, 26120-01
- **1.2 Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture** Laboratory chemicals
- **1.3 Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: 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 over circle

Ox. Liq. 1 H271 May cause fire or explosion; strong oxidiser.



skull and crossbones

Acute Tox. 2 H330 Fatal if inhaled.



health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Muta. 1B H340 May cause genetic defects.

Carc. 1A H350 May cause cancer.

Repr. 2 H361f Suspected of damaging fertility.

STOT RE 2 H373 May cause damage to the respiratory system through prolonged or repeated exposure.



corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

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Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



Acute Tox. 4 H302 Harmful if swallowed.
Skin Sens. 1 H317 May cause an allergic skin reaction.
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**



GHS03 GHS05 GHS06 GHS08 GHS09

· **Signal word** *Danger*

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

chromium (VI) trioxide

· **Hazard statements**

H271 *May cause fire or explosion; strong oxidiser.*
H302 *Harmful if swallowed.*
H330 *Fatal if inhaled.*
H314 *Causes severe skin burns and eye damage.*
H334 *May cause allergy or asthma symptoms or breathing difficulties if inhaled.*
H317 *May cause an allergic skin reaction.*
H340 *May cause genetic defects.*
H350 *May cause cancer.*
H361f *Suspected of damaging fertility.*
H335 *May cause respiratory irritation.*
H373 *May cause damage to the respiratory system through prolonged or repeated exposure.*
H411 *Toxic to aquatic life with long lasting effects.*

· **Precautionary statements**

P283 *Wear fire resistant or flame retardant clothing.*
P303+P361+P353 *IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].*
P305+P351+P338 *IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
P310 *Immediately call a POISON CENTER/doctor.*
P320 *Specific treatment is urgent (see on this label).*
P362+P364 *Take off contaminated clothing and wash it before reuse.*
P405 *Store locked up.*
P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

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











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- **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: 1333-82-0	chromium (VI) trioxide	>2.5-≤10%
EINECS: 215-607-8	 Ox. Sol. 1, H271;  Acute Tox. 3, H301;  Acute Tox. 3, H311;  Acute Tox. 2, H330;  Resp. Sens. 1, H334;  Muta. 1B, H340;  Carc. 1A, H350;  Repr. 2, H361f;  STOT RE 1, H372;  Skin Corr. 1A, H314;  Aquatic Acute 1, H400;  Aquatic Chronic 1, H410;  Skin Sens. 1, H317	

- **SVHC**

1333-82-0	chromium (VI) trioxide	
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- **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:**
 - Immediately remove any clothing soiled by the product.
 - Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
 - Remove breathing equipment only after contaminated clothing have been completely removed.
 - In case of irregular breathing or respiratory arrest provide artificial respiration.
- **After inhalation:**
 - Supply fresh air or oxygen; call for doctor.
 - In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
 - Call for a doctor immediately.
 - Drink plenty of water and provide fresh air. Call for a doctor immediately.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
 - No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

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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:**
Inform respective authorities in case of seepage into water course or sewage system.
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).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **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:**

1333-82-0 chromium (VI) trioxide	
WEL	Long-term value: 0.01 0.025* mg/m ³ as Cr; Carc, Sen, BMGV; *process generated

- **Ingredients with biological limit values:**

1333-82-0 chromium (VI) trioxide	
BMGV	10 µmol/mol creatinine Medium: urine Sampling time: post shift Parameter: chromium

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

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· **8.2 Exposure controls**· **Personal protective equipment:**· **General protective and hygienic measures:***Keep away from foodstuffs, beverages and feed.**Immediately remove all soiled and contaminated clothing**Wash hands before breaks and at the end of work.**Store protective clothing separately.**Avoid contact with the eyes.**Avoid contact with the eyes and skin.*· **Respiratory protection:***In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.*· **Protection of hands:**

Protective gloves

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.**Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.**Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation*· **Material of gloves***The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.*· **Penetration time of glove material***The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.*· **Eye protection:**

Tightly sealed goggles

SECTION 9: Physical and chemical properties

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

Form:	Liquid
Colour:	Amber coloured
Odour:	Odourless
Odour threshold:	Not determined.

· **pH-value at 20 °C:** 0.4-0.6· **Change in condition**

Melting point/freezing point:	0 °C
Initial boiling point and boiling range:	100 °C

· **Flash point:** Not applicable.

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· Flammability (solid, gas):	Not applicable.
· Decomposition temperature:	Not determined.
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product does not present an explosion hazard. Explosive when mixed with combustible material.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapour pressure at 20 °C:	23 hPa
· Density at 20 °C:	1.072 g/cm ³
· Relative density	Not determined.
· Vapour density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with water:	Fully miscible.
· Partition coefficient: n-octanol/water:	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Water:	96.0 %
VOC (EC)	0.00 %
Solids content:	4.0 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

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

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
Harmful if swallowed.
Fatal if inhaled.

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

1333-82-0 chromium (VI) trioxide

Oral LD50 80 mg/kg (rat)

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- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
- **Additional toxicological information:**
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity**
May cause genetic defects.
- **Carcinogenicity**
May cause cancer.
- **Reproductive toxicity**
Suspected of damaging fertility.
- **STOT-single exposure**
May cause respiratory irritation.
- **STOT-repeated exposure**
May cause damage to the respiratory system through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
Rinse off of bigger amounts into drains or the aquatic environment may lead to decreased pH-values. A low pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably increased, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.
- **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.

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- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

· 14.1 UN-Number · ADR, IMDG, IATA	UN1755
· 14.2 UN proper shipping name · ADR · IMDG, IATA	1755 CHROMIC ACID SOLUTION, ENVIRONMENTALLY HAZARDOUS CHROMIC ACID SOLUTION
· 14.3 Transport hazard class(es) · ADR	
	
· Class · Label	8 Corrosive substances. 8
· IMDG, IATA	
	
· Class · Label	8 Corrosive substances. 8
· 14.4 Packing group · ADR, IMDG, IATA	II
· 14.5 Environmental hazards: · Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Corrosive substances.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· UN "Model Regulation":	UN 1755 CHROMIC ACID SOLUTION, 8, II, ENVIRONMENTALLY HAZARDOUS

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**
H2 ACUTE TOXIC
P8 OXIDISING LIQUIDS AND SOLIDS
E2 Hazardous to the Aquatic Environment

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- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t

- **National regulations:**

- **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

- **Other regulations, limitations and prohibitive regulations**

- **Substances of very high concern (SVHC) according to REACH, Article 57**

1333-82-0	chromium (VI) trioxide
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- **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**

H271 May cause fire or explosion; strong oxidiser.
 H301 Toxic if swallowed.
 H311 Toxic in contact with skin.
 H314 Causes severe skin burns and eye damage.
 H317 May cause an allergic skin reaction.
 H330 Fatal if inhaled.
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 H340 May cause genetic defects.
 H350 May cause cancer.
 H361f Suspected of damaging fertility.
 H372 Causes damage to organs through prolonged or repeated exposure.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.

- **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
 SVHC: Substances of Very High Concern
 vPvB: very Persistent and very Bioaccumulative
 Ox. Liq. 1: Oxidizing liquids – Category 1
 Ox. Sol. 1: Oxidizing solids – Category 1
 Acute Tox. 3: Acute toxicity – Category 3
 Acute Tox. 4: Acute toxicity – Category 4
 Acute Tox. 2: Acute toxicity – Category 2
 Skin Corr. 1A: Skin corrosion/irritation – Category 1A
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Resp. Sens. 1: Respiratory sensitisation – Category 1
 Skin Sens. 1: Skin sensitisation – Category 1
 Muta. 1B: Germ cell mutagenicity – Category 1B
 Carc. 1A: Carcinogenicity – Category 1A
 Repr. 2: Reproductive toxicity – Category 2

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*STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1**STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2**Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1**Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1**Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2*

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PUNKT 1: Identifikation af stoffet/blandingen og af selskabet/virksomheden

- **1.1 Produktidentifikator**
- **Handelsnavn:** CHROMIC ACID 4% AQUEOUS SOLUTION
- **Artikelnummer:** 12557, 26120-01
- **UFI:** D092-R0KC-A00U-VCHR
- **1.2 Relevante identificerede anvendelser for stoffet eller blandingen samt anvendelser, der frarådes**
Der står ingen yderligere, relevante informationer til rådighed.
- **Stoffets/præparatets anvendelse** Laboratoriekemikalier
- **1.3 Nærmere oplysninger om leverandøren af sikkerhedsdatabladet**
- **Producent/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
- **For yderligere information:** Product safety department
- **1.4 Nødtelefon:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

PUNKT 2: Fareidentifikation

- **2.1 Klassificering af stoffet eller blandingen**
- **Klassificering i henhold til forordning (EF) nr. 1272/2008**



GHS03 flamme over en cirkel

Ox. Liq. 1 H271 Kan forårsage brand eller eksplosion, stærkt brandnærende.



GHS06 dødningshoved og korslagte knogler

Acute Tox. 2 H330 Livsfarlig ved indånding.



GHS08 sundhedsfarer

Resp. Sens. 1 H334 Kan forårsage allergi- eller astmasymptomer eller åndedrætsbesvær ved indånding.

Muta. 1B H340 Kan forårsage genetiske defekter.

Carc. 1A H350 Kan fremkalde kræft.

Repr. 2 H361f Mistænkes for at skade forplantningsevnen.

STOT RE 2 H373 Kan beskadige respirationssystemet ved længere eller gentagen eksponering.



GHS05 ætsning

Skin Corr. 1A H314 Forårsager svære ætsninger af huden og øjenskader.

Eye Dam. 1 H318 Forårsager alvorlig øjenskade.

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GHS09 miljø

Aquatic Chronic 2 H411 Giftig for vandlevende organismer, med langvarige virkninger.



GHS07

Acute Tox. 4 H302 Farlig ved indtagelse.
 Skin Sens. 1 H317 Kan forårsage allergisk hudreaktion.
 STOT SE 3 H335 Kan forårsage irritation af luftvejene.

· 2.2 Mærkningselementer

- **Mærkning i henhold til forordning (EF) nr. 1272/2008**
 Dette produkt er klassificeret og mærket iht. CLP-forordningen.
- **Farepiktogrammer**



GHS03



GHS05



GHS06



GHS08



GHS09

· Signalord Fare

· Farebestemmende komponent(er) til etikettering:

chromtrioxid

· Faresætninger

- H271 Kan forårsage brand eller eksplosion, stærkt brandnærende.
 H302 Farlig ved indtagelse.
 H330 Livsfarlig ved indånding.
 H314 Forårsager svære ætsninger af huden og øjenskader.
 H334 Kan forårsage allergi- eller astmasymptomer eller åndedrætsbesvær ved indånding.
 H317 Kan forårsage allergisk hudreaktion.
 H340 Kan forårsage genetiske defekter.
 H350 Kan fremkalde kræft.
 H361f Mistænkes for at skade forplantningsevnen.
 H335 Kan forårsage irritation af luftvejene.
 H373 Kan beskadige respirationssystemet ved længere eller gentagen eksponering.
 H411 Giftig for vandlevende organismer, med langvarige virkninger.

· Sikkerhedssætninger

- P283 Bær brandbestandig eller brandhæmmende beklædning.
 P303+P361+P353 VED KONTAKT MED HUDEN (eller håret): Tilsmudset tøj tages straks af/fjernes. Skyl [eller brus] huden med vand.
 P305+P351+P338 VED KONTAKT MED ØJNENE: Skyl forsigtigt med vand i flere minutter. Fjern eventuelle kontaklinser, hvis dette kan gøres let. Fortsæt skylning.
 P310 Ring omgående til en GIFTINFORMATION/læge.
 P320 Særlig behandling straks påkrævet (se på denne etiket).
 P362+P364 Alt tilsmudset tøj tages af og vaskes inden genanvendelse.
 P405 Opbevares under lås.
 P501 Bortskaffelse af indholdet/beholderen i henhold til de lokale/regionale/nationale/internationale forskrifter.

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- **2.3 Andre farer**
- **Resultater af PBT- og vPvB-vurdering**
- **PBT:** Ikke relevant.
- **vPvB:** Ikke relevant.

PUNKT 3: Sammensætning af/oplysning om indholdsstoffer

- **3.2 Kemisk betegnelse: Blandinger**
- **Beskrivelse:** Blanding med nedenstående stoffer med ufarlige tilsætningsstoffer.

· **Farlige indholdsstoffer:**

CAS: 1333-82-0	chromtrioxid	>2,5-≤10%
EINECS: 215-607-8	Ox. Sol. 1, H271; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 2, H330; Resp. Sens. 1, H334; Muta. 1B, H340; Carc. 1A, H350; Repr. 2, H361f; STOT RE 1, H372; Skin Corr. 1A, H314; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317	

· **SVHC**

1333-82-0	chromtrioxid
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- **Yderligere anvisninger:** Teksten til de anførte farehenvisninger fremgår af kapitel 16.

PUNKT 4: Førstehjælpsforanstaltninger

- **4.1 Beskrivelse af førstehjælpsforanstaltninger**
- **Generelle anvisninger:**

Tøj, der er forurenet med produktet, skal tages af med det samme.

Forgiftningssymptomer kan optræde med mange timers forsinkelse, derfor skal lægeovervågningen vare mindst 48 timer efter et uheld.

Åndedrætsværnet må først tages af, efter at det forurenede tøj er blevet fjernet.

I tilfælde af uregelmæssigt åndedræt eller hvis åndedrættet ophører, skal der gives kunstigt åndedræt.
- **Efter indånding:**

Tilførsel af frisk luft eller ilt. Søg lægehjælp.

I tilfælde af bevidstløshed skal den tilskadedkomne lægges ned og transporteres i stabilt sideleje.
- **Efter hudkontakt:** Skal omgående vaskes af med vand og sæbe, skyl godt efter.
- **Efter øjenkontakt:** Skyl øjnene med åbent øjenlåg i flere minutter under rindende vand og søg læge.
- **Efter indtagelse:**

Søg læge.

Drik rigeligt vand og sørg for frisk luft. Tilkald omgående læge.
- **4.2 Vigtigste symptomer og virkninger, både akutte og forsinkede**

Der står ingen yderligere, relevante informationer til rådighed.
- **4.3 Angivelse af om øjeblikkelig lægehjælp og særlig behandling er nødvendig**

Der står ingen yderligere, relevante informationer til rådighed.

PUNKT 5: Brandbekæmpelse

- **5.1 Slukningsmidler**
- **Egnede slukningsmidler:** Tilpas foranstaltningerne til brandbekæmpelse efter omgivelserne.
- **5.2 Særlige farer i forbindelse med stoffet eller blandingen**

Der står ingen yderligere, relevante informationer til rådighed.

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- **5.3 Anvisninger for brandmandskab**
- **Særlige værnemidler:** Bær åndedrætsværn.

PUNKT 6: Forholdsregler over for udslip ved uheld

- **6.1 Personlige sikkerhedsforanstaltninger, personlige værnemidler og nødprocedurer**
Bær beskyttelsesudstyr. Hold ubeskyttede personer borte.
- **6.2 Miljøbeskyttelsesforanstaltninger:**
I tilfælde af indtrængen i vandløb eller kloaksystem skal de pågældende myndigheder underrettes.
Fortynd med rigeligt vand.
Må ikke udledes i kloaksystemet/overfladevand/grundvand.
- **6.3 Metoder og udstyr til inddæmning og oprensning:**
Opsamles med væskebindende materiale (sand, kiselgur, syrebindemiddel, universalbindemiddel, savsmuld).
Brug neutraliseringsmiddel.
Kontamineret materiale skal bortskaffes som affald ifølge punkt 13.
Sørg for tilstrækkelig udluftning.
- **6.4 Henvisning til andre punkter**
Information om sikker håndtering se kapitel 7.
Informationer vedrørende personlige værnemidler se kapitel 8.
Informationer om bortskaffelse se kapitel 13.

PUNKT 7: Håndtering og opbevaring

- **7.1 Forholdsregler for sikker håndtering**
Sørg for god udluftning/udsugning på arbejdspladsen.
Beholdere skal åbnes og håndteres med forsigtighed.
Undgå aerosoldannelse.
- **Anvisninger vedrørende brand- og eksplosionsbeskyttelse:** Hold åndedrætsværn i beredskab.
- **7.2 Betingelser for sikker opbevaring, herunder eventuel uforenelighed**
- **Opbevaring:**
- **Krav til opbevaringsrum og beholdere:** Ingen særlige krav.
- **Henvisninger vedrørende opbevaring med andre stoffer:** Ikke påkrævet.
- **Yderligere oplysninger vedrørende opbevaringsbetingelserne:** Hold beholderen tætsluttende lukket.
- **7.3 Særlige anvendelser** Der står ingen yderligere, relevante informationer til rådighed.

PUNKT 8: Eksponeringskontrol/personlige værnemidler

- **8.1 Kontrolparametre**
- **Yderligere anvisninger vedrørende udformning af tekniske anlæg:** Ingen yderligere oplysninger, se punkt 7.

· **Indholdsstoffer med arbejdspladsrelaterede grænseværdier, der skal overvåges:**

1333-82-0 chromtrioxid

GV	Langtidsværdi: 0,001 mg/m ³
	EK, som Cr

· **Yderligere anvisninger:** Baseret på de lister, der var gældende på tidspunktet for udarbejdelsen.

- **8.2 Eksponeringskontrol**
- **Personlige værnemidler:**
- **Generelle forholdsregler vedrørende beskyttelse og hygiejne:**
Skal holdes borte fra føde- og drikkevarer og foderstoffer.
Forurenet, gennemvædet tøj skal det tages af med det samme.

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Vask hænder inden der holdes pause og ved arbejdsophør.
Adskilt opbevaring af beskyttelsesklædning.
Undgå kontakt med øjnene.
Undgå kontakt med øjne og hud.

· **Åndedrætsværn:**

Ved kortvarig eller ringe belastning skal der benyttes åndedrætsværn med filter, ved intensiv eller længere eksponering skal der benyttes luftforsynet åndedrætsværn.

· **Håndbeskyttelse:**



Beskyttelseshandsker

Handskematerialet skal være uigennemtrængeligt og kunne tåle produktet/stoffet/præparatet.

På grund af manglende tests kan der ikke anbefales noget handskemateriale til produktet/præparatet/kemikalieblandingen.

Ved valg af handskematerialet skal der tages højde for gennemtrængningstider, permeabilitetstal og nedbrydning.

· **Handskemateriale:**

Valg af en egnet handske afhænger ikke blot af materialet, men også af yderligere kvalitetskriterier og er forskelligt fra den ene fabrikant til den anden. Da produktet er et præparat af flere forskellige stoffer, kan handskematerialernes bestandighed ikke beregnes på forhånd og skal derfor efterprøves inden brugen.

· **Handskematerialets gennemtrængningstid**

Hos handskefabrikanten skal man forespørge om den nøjagtige gennemtrængningstid og overholde denne.

· **Øjenbeskyttelse:**



Tætsluttende beskyttelsesbriller

PUNKT 9: Fysiske og kemiske egenskaber

· **9.1 Oplysninger om grundlæggende fysiske og kemiske egenskaber**

· **Generelle oplysninger**

· **Udseende:**

· Form:	Væske
· Farve:	Ravfarvet
· Lugt:	Lugtfri
· Lugttærskel:	Ikke bestemt.

· **pH-værdi ved 20 °C:** 0,4-0,6

· **Tilstandsændring**

· Smeltepunkt/frysepunkt:	0 °C
· Begyndelseskogepunkt og kogepunktsinterval:	100 °C

· **Flammepunkt:** Ikke relevant.

· **Antændelighed (fast stof, luftart):** Ikke relevant.

· **Dekomponeringstemperatur:** Ikke bestemt.

· **Selvantændelsestemperatur:** Produktet er ikke selvantændeligt.

· **Eksplorative egenskaber:** Produktet er ikke eksplosivt.
Eksplodingsfarlig ved blanding med brandbare stoffer.

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· Eksplisionsgrænser:	
Nedre:	Ikke bestemt.
Øvre:	Ikke bestemt.
· Damptryk ved 20 °C:	23 hPa
· Densitet ved 20 °C:	1,072 g/cm ³
· Relativ massefylde:	Ikke bestemt.
· Dampmassefylde:	Ikke bestemt.
· Fordampningshastighed	Ikke bestemt.
· Opløselighed i/blandbarhed med vand:	Fuldt blandbar.
· Fordelingskoefficient: n-oktanol/vand:	Ikke bestemt.
· Viskositet:	
dynamisk:	Ikke bestemt.
kinematisk:	Ikke bestemt.
· Opløsningsmiddelindhold:	
Vand	96,0 %
VOC (EU)	0,00 %
· Tørstofindhold:	4,0 %
· 9.2 Andre oplysninger	Der står ingen yderligere, relevante informationer til rådighed.

PUNKT 10: Stabilitet og reaktivitet

- **10.1 Reaktivitet** Der står ingen yderligere, relevante informationer til rådighed.
- **10.2 Kemisk stabilitet**
- **Termisk nedbrydning/forhold, der bør undgås** Ingen nedbrydning ved formålsbestemt brug.
- **10.3 Risiko for farlige reaktioner** Der er ikke kendskab til nogen farlige reaktioner.
- **10.4 Forhold, der skal undgås** Der står ingen yderligere, relevante informationer til rådighed.
- **10.5 Materialer, der skal undgås:** Der står ingen yderligere, relevante informationer til rådighed.
- **10.6 Farlige nedbrydningsprodukter:** Der er ikke kendskab til nogen farlige nedbrydningsprodukter.

PUNKT 11: Toksikologiske oplysninger

- **11.1 Oplysninger om toksikologiske virkninger**
- **Akut toksicitet**
Farlig ved indtagelse.
Livsfarlig ved indånding.

· **Klassificeringsrelevante LD/LC50-værdier:**

1333-82-0 chromtrioxid

Oral LD50 80 mg/kg (rat)

- **Primær irritationsvirkning:**
- **Hudætsning/-irritation**
Forårsager svære ætsninger af huden og øjenskader.
- **Alvorlig øjenskade/øjenirritation**
Forårsager alvorlig øjenskade.
- **Respiratorisk sensibilisering eller hudsensibilisering**
Kan forårsage allergi- eller astmasymptomer eller åndedrætsbesvær ved indånding.

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- Kan forårsage allergisk hudreaktion.
- **Yderligere toksikologiske oplysninger:**
- **CMR-virkninger (kræftfremkaldende egenskaber, mutagenitet og reproduktionstoksicitet)**
- **Kimcellemutagenitet**
- Kan forårsage genetiske defekter.
- **Kræftfremkaldende egenskaber**
- Kan fremkalde kræft.
- **Reproduktionstoksicitet**
- Mistænkes for at skade forplantningsevnen.
- **Enkel STOT-eksponering**
- Kan forårsage irritation af luftvejene.
- **Gentagne STOT-eksponeringer**
- Kan beskadige respirationssystemet ved længere eller gentagne eksponering.
- **Aspirationsfare**
- Kriterierne for klassificering kan på grundlag af de foreliggende data ikke anses for at være opfyldt.

PUNKT 12: Miljøoplysninger

- **12.1 Toksicitet**
- **Toksicitet i vand:** Der står ingen yderligere, relevante informationer til rådighed.
- **12.2 Persistens og nedbrydelighed** Der står ingen yderligere, relevante informationer til rådighed.
- **12.3 Bioakkumuleringspotentiale** Der står ingen yderligere, relevante informationer til rådighed.
- **12.4 Mobilitet i jord** Der står ingen yderligere, relevante informationer til rådighed.
- **Økotoksicitet**
- **Bemærkning:** Giftig for fisk.
- **Yderligere økologiske oplysninger:**
- **Generelle anvisninger:**
- Fareklasse for vand 3 (Selvklassificering): stærkt vandforurenende
- Må ikke udledes i grundvandet, vandløb eller kloaksystemet, heller ikke i små mængder.
- Må ikke udledes ufortyndet eller unneutraliseret i spildevandet eller recipienten.
- Risiko for forurening af drikkevandet allerede ved udslip af ganske små mængder i undergrunden.
- I vandløb også giftig for fisk og plankton.
- giftig for vandorganismer
- Udskylning af større mængder i kloaksystemet eller i vandløb kan medføre en nedsat pH-værdi. En lav pH-værdi er skadelig for vandorganismer. I anvendelseskoncentrationens fortyndelse øges pH-værdien kraftigt, så det spildevand, der skylles ud i kloaksystemet efter brug af produktet kun har en svag vandskadelig virkning.
- **12.5 Resultater af PBT- og vPvB-vurdering**
- **PBT:** Ikke relevant.
- **vPvB:** Ikke relevant.
- **12.6 Andre negative virkninger** Der står ingen yderligere, relevante informationer til rådighed.

PUNKT 13: Bortskaffelse

- **13.1 Metoder til affaldsbehandling**
- **Anbefaling:** Må ikke bortskaffes sammen med husholdningsaffald. Må ikke udledes i kloaksystemet.
- **Urensede emballager:**
- **Anbefaling:** Bortskaffes i overensstemmelse med myndighedernes forskrifter.
- **Anbefalet rengøringsmiddel:** Vand, eventuelt tilsat rengøringsmidler.

DK

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PUNKT 14: Transportoplysninger

· 14.1 UN-nummer · ADR, IMDG, IATA	UNI755
· 14.2 UN-forsendelsesbetegnelse (UN proper shipping name) · ADR · IMDG, IATA	1755 CHROMSYREOPLØSNING, MILJØFARLIGT CHROMIC ACID SOLUTION
· 14.3 Transportfareklasse(r) · ADR	
 	
· klasse · Faremærkat	8 Ætsende stoffer 8
· IMDG, IATA	
	
· Class · Label	8 Ætsende stoffer 8
· 14.4 Emballagegruppe · ADR, IMDG, IATA	II
· 14.5 Miljøfarer: · Særlige mærkningsbe (ADR):	Symbol (fisk og træ)
· 14.6 Særlige forsigtighedsregler for brugeren	Advarsel: Ætsende stoffer
· 14.7 Bulktransport i henhold til bilag II til MARPOL og IBC-koden	Ikke relevant.
· UN "Model Regulation":	UN 1755 CHROMSYREOPLØSNING, 8, II, MILJØFARLIGT

PUNKT 15: Oplysninger om regulering

- 15.1 Særlige bestemmelser/særlig lovgivning for stoffet eller blandingen med hensyn til sikkerhed, sundhed og miljø
- Direktiv 2012/18/EU
- Navngivne farlige stoffer - BILAG I Ingen af indholdsstofferne er optaget i listen.
- Seveso-bestemmelser
H2 AKUT TOKSISK
P8 OXIDERENDE VÆSKER OG FASTE STOFFER
E2 Farlig for vandmiljøet
- Tærskelmængde (tons) for anvendelse af Kolonne 2-krav 50 t
- Tærskelmængde (tons) for anvendelse af Kolonne 3-krav 200 t

· FORTEGNELSE OVER STOFFER, DER KRÆVER GODKENDELSE (BILAG XIV)

1333-82-0 chromtrioxid

Sunset date: 2017-09-21

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- **Forordning (EF) nr. 1907/2006 BILAG XVII** Begrænsninger: 3, 28, 29, 47, 72

- **Direktiv 2011/65/EU om begrænsning af anvendelsen af visse farlige stoffer i elektrisk og elektronisk udstyr - Bilag II**

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

- **Bilag I - UDANGSSTOFFER TIL EKSPLOSIVSTOFFER UNDERLAGT BEGRÆNSNINGER (Øvre grænseværdi med henblik på licens i henhold til artikel 5, stk. 3)**

Ingen af indholdsstofferne er optaget i listen.

- **Bilag II - INDBERETNINGSPLIGTIGE UDANGSSTOFFER TIL EKSPLOSIVSTOFFER**

Ingen af indholdsstofferne er optaget i listen.

- **Forordning (EF) nr. 273/2004 om narkotikaprækursorer**

Ingen af indholdsstofferne er optaget i listen.

- **Forordning (EF) Nr. 111/2005 om regler for overvågning af handel med narkotikaprækursorer mellem Fællesskabet og tredjelande**

Ingen af indholdsstofferne er optaget i listen.

- **Nationale forskrifter:**

- **Oplysninger vedrørende beskæftigelsesbegrænsning:**

Arbejdstagere må ikke udsættes for de kræftfremkaldende farestoffer som dette præparat indeholder. I enkelte tilfælde kan myndighederne bevillige undtagelser.

- **Øvrige forskrifter, restriktioner og forbudsforordninger**

- **Særligt problematiske stoffer (SVHC) ifølge REACH, artikel 57**

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- **MAL-Code: 00-6**

- **15.2 Kemikaliesikkerhedsvurdering:** Der er ikke udført kemikaliesikkerhedsvurdering.

PUNKT 16: Andre oplysninger

Alle ovenstående angivelser er baseret på vores aktuelle viden, udgør dog ikke nogen tilsikring af produkt egenskaber og stifter heller ikke noget kontraktligt retsforhold.

- **Risikoangivelser**

H271 Kan forårsage brand eller eksplosion, stærkt brandnærende.

H301 Giftig ved indtagelse.

H311 Giftig ved hudkontakt.

H314 Forårsager svære ætsninger af huden og øjenskader.

H317 Kan forårsage allergisk hudreaktion.

H330 Livsfarlig ved indånding.

H334 Kan forårsage allergi- eller astmasymptomer eller åndedrætsbesvær ved indånding.

H340 Kan forårsage genetiske defekter.

H350 Kan fremkalde kræft.

H361f Mistænkes for at skade forplantningsevnen.

H372 Forårsager organskader ved længerevarende eller gentagen eksponering.

H400 Meget giftig for vandlevende organismer.

H410 Meget giftig med langvarige virkninger for vandlevende organismer.

- **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

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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)
Måleteknisk Arbejdshygiejnisk Luftbehov
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Ox. Liq. 1: Brandnærende væsker – Kategori 1
Ox. Sol. 1: Brandnærende faste stoffer – Kategori 1
Acute Tox. 3: Akut toksicitet – Kategori 3
Acute Tox. 4: Akut toksicitet – Kategori 4
Acute Tox. 2: Akut toksicitet – Kategori 2
Skin Corr. 1A: Hudætsning/hudirritation – Kategori 1A
Eye Dam. 1: Alvorlige øjenskader/øjenirritation – Kategori 1
Resp. Sens. 1: Respiratorisk sensibilisering – Kategori 1
Skin Sens. 1: Hudsensibilisering – Kategori 1
Muta. 1B: Kimcellemutagenicitet – Kategori 1B
Carc. 1A: Carcinogenicitet – Kategori 1A
Repr. 2: Reproduktionstoksicitet – Kategori 2
STOT SE 3: Specifik målorgantoksicitet (enkelt eksponering) – Kategori 3
STOT RE 1: Specifik målorgantoksicitet (gentagen eksponering) – Kategori 1
STOT RE 2: Specifik målorgantoksicitet (gentagen eksponering) – Kategori 2
Aquatic Acute 1: Farlig for vandmiljøet - akut fare for vandmiljøet – Kategori 1
Aquatic Chronic 1: Farlig for vandmiljøet - langtidsfare for vandmiljøet – Kategori 1
Aquatic Chronic 2: Farlig for vandmiljøet - langtidsfare for vandmiljøet – Kategori 2

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

1.1 Productidentificatie

· Handelsnaam: **CHROMIC ACID 4% AQUEOUS SOLUTION**

· Artikelnummer: 12557, 26120-01

· UFI: D092-R0KC-A00U-VCHR

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



GHS03 vlam boven cirkel

Ox. Liq. 1

H271 Kan brand of ontploffingen veroorzaken; sterk oxiderend.



GHS06 doodshoofd met gekruiste beenderen

Acute Tox. 2

H330 Dodelijk bij inademing.



GHS08 gezondheidsgevaar

Resp. Sens. 1

H334 Kan bij inademing allergie- of astmasymptomen of ademhalingsmoeilijkheden veroorzaken.

Muta. 1B

H340 Kan genetische schade veroorzaken.

Carc. 1A

H350 Kan kanker veroorzaken.

Repr. 2

H361f Wordt ervan verdacht de vruchtbaarheid te schaden.

STOT RE 2

H373 Kan schade aan het ademhalingsstelsel veroorzaken bij langdurige of herhaalde blootstelling.

(Vervolg op blz. 2)

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(Vervolg van blz. 1)



GHS05 corrosie

Skin Corr. 1A H314 Veroorzaakt ernstige brandwonden en oogletsel.

Eye Dam. 1 H318 Veroorzaakt ernstig oogletsel.



GHS09 milieu

Aquatic Chronic 2 H411 Giftig voor in het water levende organismen, met langdurige gevolgen.



GHS07

Acute Tox. 4 H302 Schadelijk bij inslikken.

Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.

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.

· Gevarenpictogrammen



GHS03



GHS05



GHS06



GHS08



GHS09

· Signaalwoord Gevaar

· Gevaaraanduidende componenten voor de etikettering:

chromtrioxide

· Gevarenaanduidingen

H271 Kan brand of ontploffingen veroorzaken; sterk oxiderend.

H302 Schadelijk bij inslikken.

H330 Dodelijk bij inademing.

H314 Veroorzaakt ernstige brandwonden en oogletsel.

H334 Kan bij inademing allergie- of astmasymptomen of ademhalingsmoeilijkheden veroorzaken.

H317 Kan een allergische huidreactie veroorzaken.

H340 Kan genetische schade veroorzaken.

H350 Kan kanker veroorzaken.

H361f Wordt ervan verdacht de vruchtbaarheid te schaden.

H335 Kan irritatie van de luchtwegen veroorzaken.

H373 Kan schade aan het ademhalingsstelsel veroorzaken bij langdurige of herhaalde blootstelling.

H411 Giftig voor in het water levende organismen, met langdurige gevolgen.

· Veiligheidsaanbevelingen

P283 Vuurbestendige of vlamvertragende kleding dragen.

P303+P361+P353 BIJ CONTACT MET DE HUID (of het haar): verontreinigde kleding onmiddellijk uittrekken.

Huid met water afspoelen [of afdouchen].

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

P310 Onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.

P320 Specifieke behandeling dringend vereist (zie op dit etiket).

(Vervolg op blz. 3)

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- P362+P364 Verontreinigde kleding uittrekken en wassen alvorens deze opnieuw te gebruiken.
 P405 Achter slot bewaren.
 P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

- **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: 1333-82-0	chromtrioxide	>2,5-≤10%
EINECS: 215-607-8	<ul style="list-style-type: none"> ⚠ Ox. Sol. 1, H271; ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 2, H330; ⚠ Resp. Sens. 1, H334; Muta. 1B, H340; Carc. 1A, H350; Repr. 2, H361f; STOT RE 1, H372; ⚠ Skin Corr. 1A, H314; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Sens. 1, H317 	

- **SVHC**

1333-82-0	chromtrioxide
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- **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:**

Verontreinigde kleding onmiddellijk uittrekken.
 Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.
 Ademhalingsstoestel pas afnemen nadat de verontreinigde kleding verwijderd is.
 Bij onregelmatige ademhaling of ademstilstand kunstmatige ademhaling toepassen.
- **Na het inademen:**

Verse lucht of zuurstof toedienen; deskundige medische hulp inroepen.
 Bij bewusteloosheid ligging en vervoer in stabiele zijligging.
- **Na huidcontact:** Onmiddellijk met water en zeep afwassen en goed naspoelen.
- **Na oogcontact:** Ogen met open ooglid een aantal minuten onder stromend water afspoelen en dokter raadplegen.
- **Na inslikken:**

Onmiddellijk arts raadplegen.
 Drink zeer veel water en voer verse lucht aan. Onmiddellijk een dokter waarschuwen.
- **4.2 Belangrijkste acute en uitgestelde symptomen en effecten** Geen verdere relevante informatie verkrijgbaar.
- **4.3 Vermelding van de vereiste onmiddellijke medische verzorging en speciale behandeling**

Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 5: Brandbestrijdingsmaatregelen

- **5.1 Blusmiddelen**
- **Geschikte blusmiddelen:** Brandblusmaatregelen op omgeving afstemmen.

(Vervolg op blz. 4)

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- **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:**
Bij indringen in afvalwater of riolering moet de bevoegde instantie gewaarschuwd worden.
Met veel water verdunnen.
Niet in de riolering/het oppervlaktewater/het grondwater laten terechtkomen.
- **6.3 Insluifings- en reinigingsmethoden en -materiaal:**
Met vloeistofbindend materiaal (zand, bergmeel, zuurbinder, universele binder, zaagmeel) opnemen.
Neutralisatiemiddel gebruiken.
Besmet materiaal zoals afval volgens punt 13 verwijderen.
Voor voldoende ventilatie zorgen.
- **6.4 Verwijzing naar andere rubrieken**
Informatie inzake veilig gebruik - zie hoofdstuk 7.
Informatie inzake persoonlijke beschermingsuitrusting - zie hoofdstuk 8.
Informatie inzake berging - zie hoofdstuk 13.

RUBRIEK 7: Hantering en opslag

- **7.1 Voorzorgsmaatregelen voor het veilig hanteren van de stof of het mengsel**
Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.
Tanks voorzichtig openen en behandelen.
Aërosolvorming vermijden.
- **Informatie m.b.t. brand- en ontploffingsgevaar:** Ademhalingstoestellen gereedhouden.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:** Tanks ondoordringbaar gesloten houden.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

- **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:**

1333-82-0 chroomtrioxide

WGW	Lange termijn waarde: 0,001 mg/m ³
als Cr	

- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.

(Vervolg op blz. 5)

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- **8.2 Maatregelen ter beheersing van blootstelling**
- **Persoonlijke beschermingsvoorzieningen:**
- **Algemene beschermings- en gezondheidsmaatregelen:**
 - Verwijderd houden van eet- en drinkwaren.
 - Verontreinigde kleding onmiddellijk uittrekken.
 - Vóór de pauze en aan het einde van werktijd handen wassen.
 - Beschermende kleding afzonderlijk bewaren.
 - Aanraking met de ogen 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 ademhalingsstoestel gebruiken.
- **Handbescherming:**



Veiligheidshandschoenen

Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.
Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.
Kies handschoenmateriaal rekening houdend met de penetratietijden, de permeatiegraden en de degradatie.

- **Handschoenmateriaal**
 - De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant. Aangezien het product uit meerdere stoffen is samengesteld, is de duurzaamheid van de handschoenmaterialen niet vooraf berekenbaar en moet derhalve vóór het gebruik worden getest.
- **Doordringingstijd van het handschoenmateriaal**
 - De precieze penetratietijd kunt u te weten komen bij de handschoenfabrikant; houd er rekening mee.
- **Oogbescherming:**



Nauw aansluitende veiligheidsbril

RUBRIEK 9: Fysische en chemische eigenschappen

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

Vorm:	Vloeistof
Kleur:	Barnsteenkleurig
Geur:	Reukloos
Geurdrempelwaarde:	Niet bepaald.
- **pH-waarde bij 20 °C:** 0,4-0,6
- **Toestandsverandering**

Smelt-/vriespunt:	0 °C
Beginkookpunt en kooktraject:	100 °C
- **Vlampunt:** Niet bruikbaar.

(Vervolg op blz. 6)

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(Vervolg van blz. 5)

· Ontvlambaarheid (vast, gas):	Niet bruikbaar.
· Ontledingstemperatuur:	Niet bepaald.
· Zelfontbrandingstemperatuur:	Het produkt ontbrandt niet uit zichzelf.
· Ontploffingseigenschappen:	Het produkt is niet ontploffingsgevaarlijk. Ontploffingsgevaar bij menging met brandbare stoffen.
· Ontploffingsgrenzen:	
Onderste:	Niet bepaald.
Bovenste:	Niet bepaald.
· Dampspanning bij 20 °C:	23 hPa
· Dichtheid bij 20 °C:	1,072 g/cm ³
· Relatieve dichtheid	Niet bepaald.
· Dampdichtheid	Niet bepaald.
· Verdampingssnelheid	Niet bepaald.
· Oplosbaarheid in/mengbaarheid met Water:	Volledig mengbaar.
· Verdelingscoëfficiënt: n-octanol/water:	Niet bepaald.
· Viscositeit	
Dynamisch:	Niet bepaald.
Kinematisch:	Niet bepaald.
· Oplosmiddelgehalte:	
Water:	96,0 %
VOC (EG)	0,00 %
Gehalte aan vaste bestanddelen:	4,0 %
· 9.2 Overige informatie	Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 10: Stabiliteit en reactiviteit

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

RUBRIEK 11: Toxicologische informatie

- **11.1 Informatie over toxicologische effecten**
- **Acute toxiciteit**
- Schadelijk bij inslikken.
- Dodelijk bij inademing.

· Indelingsrelevantie LD/LC50-waarden:		
1333-82-0 chroomtrioxide		
Oraal	LD50	80 mg/kg (rat)

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- **Primaire aandoening:**
- **Huidcorrosie/-irritatie**
Veroorzaakt ernstige brandwonden en oogletsel.
- **Ernstig oogletsel/oogirritatie**
Veroorzaakt ernstig oogletsel.
- **Sensibilisatie van de luchtwegen/de huid**
Kan bij inademing allergie- of astmasymptomen of ademhalingsmoeilijkheden veroorzaken.
Kan een allergische huidreactie veroorzaken.
- **Aanvullende toxicologische informatie:**
- **CMR-effecten (kankerverwekkendheid, mutageniteit en giftigheid voor de voortplanting)**
- **Mutageniteit in geslachtscellen**
Kan genetische schade veroorzaken.
- **Kankerverwekkendheid**
Kan kanker veroorzaken.
- **Giftigheid voor de voortplanting**
Wordt ervan verdacht de vruchtbaarheid te schaden.
- **STOT bij eenmalige blootstelling**
Kan irritatie van de luchtwegen veroorzaken.
- **STOT bij herhaalde blootstelling**
Kan schade aan het ademhalingsstelsel veroorzaken bij langdurige of herhaalde blootstelling.
- **Gevaar bij inademing** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

RUBRIEK 12: Ecologische informatie

- **12.1 Toxiciteit**
- **Aquatische toxiciteit:** Geen verdere relevante informatie verkrijgbaar.
- **12.2 Persistentie en afbreekbaarheid** Geen verdere relevante informatie verkrijgbaar.
- **12.3 Bioaccumulatie** Geen verdere relevante informatie verkrijgbaar.
- **12.4 Mobiliteit in de bodem** Geen verdere relevante informatie verkrijgbaar.
- **Ecotoxische effecten:**
- **Opmerking:** Giftig voor vissen.
- **Verdere ecologische informatie:**
- **Algemene informatie:**
Waterbezwaarlijkheid (NL): Z(1) niet afbreekbare stoffen met gevaarlijke eigenschappen voor mens en milieu (carcinogeniteit/mutageniteit/ reprotoxiciteit/bioaccumulerend vermogen/ toxiciteit of persistentie)
Gevaar voor water klasse 3 (D) (Zelfclassificatie): gevaar voor water groot
Niet lozen in grondwater, oppervlaktewater of riolering, ook niet in kleine hoeveelheden.
Mag niet onverdund of niet geneutraliseerd in oppervlaktewater of in afwateringskanaal geloosd worden.
Gevaar voor drinkwater zelfs bij het uitlopen van zeer geringe hoeveelheden in de ondergrond.
In oppervlaktewater ook giftig voor vissen en plankton.
giftig voor in het water levende organismen
Wegspoelen van grotere hoeveelheden in rioleringen of waterlopen kan tot een verlaging van de pH-waarde leiden. Een lage pH-waarde beschadigt in het water levende organismen. In de verdunning van de toepassingsconcentratie verhoogt de pH-waarde aanzienlijk, zodat na het gebruik van het product het afvalwater dat in de riolering geraakt maar een gering gevaar vormt voor het water.
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

-NL-

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RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terechtkomen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.
- **Aanbevolen reinigingsmiddel:** Water, eventueel met toevoeging van reinigingsmiddelen.

RUBRIEK 14: Informatie met betrekking tot het vervoer

- | | |
|---|---|
| · 14.1 VN-nummer
· ADR, IMDG, IATA | UNI755 |
| · 14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN
· ADR
· IMDG, IATA | 1755 CHROOMZUUR, OPLOSSING, MILIEUGEVAARLIJK
CHROMIC ACID SOLUTION |
| · 14.3 Transportgevarenklasse(n)
· ADR | |
|  | |
| · klasse
· Etiket | 8 Bijtende stoffen
8 |
| · IMDG, IATA | |
|  | |
| · Class
· Label | 8 Bijtende stoffen
8 |
| · 14.4 Verpakkingsgroep:
· ADR, IMDG, IATA | II |
| · 14.5 Milieugevaren:
· Bijzondere kenmerking (ADR): | Symbool (vis en boom) |
| · 14.6 Bijzondere voorzorgen voor de gebruiker | Waarschuwing: Bijtende stoffen |
| · 14.7 Vervoer in bulk overeenkomstig bijlage II bij Marpol en de IBC-code | Niet bruikbaar. |
| · VN "Model Regulation": | UN 1755 CHROOMZUUR, OPLOSSING, 8, II, MILIEUGEVAARLIJK |

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RUBRIEK 15: Regelgeving

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

· **SZW-lijst van kankerverwekkende stoffen**

1333-82-0	chromtrioxide
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· **SZW-lijst van mutagene stoffen**

1333-82-0	chromtrioxide
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· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid**

1333-82-0	chromtrioxide	2
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· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling**

1333-82-0	chromtrioxide	1B
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· **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding**

geen der bestanddelen staat op de lijst.

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

1333-82-0	chromtrioxide
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· **Lijst van Potentieel Zeer Zorgwekkende Stoffen**

geen der bestanddelen staat op de lijst.

· **Richtlijn 2012/18/EU**

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

· **Seveso-categorie**

H2 ACUUT TOXISCH

P8 OXIDERENDE VLOEISTOFFEN EN VASTE STOFFEN

E2 Gevaar voor het aquatisch milieu

· **Drempelwaarde (ton) voor toepassing van voorschriften voor lagedrempelinrichtingen 50 t**

· **Drempelwaarde (ton) voor toepassing van voorschriften voor hogedrempelinrichtingen 200 t**

· **LIJST VAN AUTORISATIEPLICHTIGE STOFFEN (BIJLAGE XIV)**

1333-82-0	chromtrioxide
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Sunset date: 2017-09-21

· **Verordening (EG) nr. 1907/2006 BIJLAGE XVII** Beperkingsvoorwaarden: 3, 28, 29, 47, 72

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

1333-82-0	chromtrioxide
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· **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:**

· **Aanwijzingen m.b.t. tewerkstellingsbeperking:**

Werknemers mogen aan de kankerverwekkende gevaarlijke stoffen van deze toebereiding niet blootgesteld worden. In uitzonderingsgevallen kan de overheid speciale vergunningen afgeven.

· **Gevaarklasse v. water:**

Waterbezwaarlijkheid (NL): Z(1) niet afbreekbare stoffen met gevaarlijke eigenschappen voor mens en milieu (carcinogeniteit/mutageniteit/ reprotoxiciteit/bioaccumulerend vermogen/ toxiciteit of persistentie)

· **Aanvullende voorschriften, beperkingen en verbodsverordeningen**

· **Zeer zorgwekkende stoffen (SVHC) volgens REACH, artikel 57**

1333-82-0	chromtrioxide
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· **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**

H271 Kan brand of ontploffingen veroorzaken; sterk oxiderend.

H301 Giftig bij inslikken.

H311 Giftig bij contact met de huid.

H314 Veroorzaakt ernstige brandwonden en oogletsel.

H317 Kan een allergische huidreactie veroorzaken.

H330 Dodelijk bij inademing.

H334 Kan bij inademing allergie- of astmasymptomen of ademhalingsmoeilijkheden veroorzaken.

H340 Kan genetische schade veroorzaken.

H350 Kan kanker veroorzaken.

H361f Wordt ervan verdacht de vruchtbaarheid te schaden.

H372 Veroorzaakt schade aan organen bij langdurige of herhaalde blootstelling.

H400 Zeer giftig voor in het water levende organismen.

H410 Zeer giftig voor in het water levende organismen, met langdurige gevolgen.

· **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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Ox. Liq. 1: Oxiderende vloeistoffen – Categorie 1

Ox. Sol. 1: Oxiderende vaste stoffen – Categorie 1

Acute Tox. 3: Acute toxiciteit – Categorie 3

Acute Tox. 4: Acute toxiciteit – Categorie 4

Acute Tox. 2: Acute toxiciteit – Categorie 2

Skin Corr. 1A: Huidcorrosie/-irritatie – Categorie 1A

Eye Dam. 1: Ernstig oogletsel/oogirritatie – Categorie 1

Resp. Sens. 1: Sensibilisatie van de luchtwegen – Categorie 1

Skin Sens. 1: Sensibilisatie van de huid – Categorie 1

Muta. 1B: Mutageniteit in geslachtscellen – Categorie 1B

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Carc. 1A: Kankerverwekkendheid – Categorie 1A
Repr. 2: Voortplantingstoxiciteit – Categorie 2
STOT SE 3: Specifieke doelorgaantoxiciteit bij eenmalige blootstelling – Categorie 3
STOT RE 1: Specifieke doelorgaantoxiciteit bij herhaalde blootstelling – Categorie 1
STOT RE 2: Specifieke doelorgaantoxiciteit bij herhaalde blootstelling – Categorie 2
Aquatic Acute 1: Gevaar voor het aquatisch milieu - acuut aquatisch gevaar – Categorie 1
Aquatic Chronic 1: Gevaar voor het aquatisch milieu - aquatisch gevaar op lange termijn – Categorie 1
Aquatic Chronic 2: Gevaar voor het aquatisch milieu - aquatisch gevaar op lange termijn – Categorie 2

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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:** CHROMIC ACID 4% AQUEOUS SOLUTION
- **Code du produit:** 12557, 26120-01
- **UFI:** D092-R0KC-A00U-VCHR
- **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**



GHS03 flamme au-dessus d'un cercle

Ox. Liq. 1 H271 Peut provoquer un incendie ou une explosion; comburant puissant.



GHS06 tête de mort sur deux tibias

Acute Tox. 2 H330 Mortel par inhalation.



GHS08 danger pour la santé

Resp. Sens. 1 H334 Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.

Muta. 1B H340 Peut induire des anomalies génétiques.

Carc. 1A H350 Peut provoquer le cancer.

Repr. 2 H361f Susceptible de nuire à la fertilité.

STOT RE 2 H373 Risque présumé d'effets graves pour le système respiratoire à la suite d'expositions répétées ou d'une exposition prolongée.



GHS05 corrosion

Skin Corr. 1A H314 Provoque de graves brûlures de la peau et de graves lésions des yeux.

Eye Dam. 1 H318 Provoque de graves lésions des yeux.

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GHS09 environnement

Aquatic Chronic 2 H411 Toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme.



GHS07

Acute Tox. 4 H302 Nocif en cas d'ingestion.
 Skin Sens. 1 H317 Peut provoquer une allergie cutanée.
 STOT SE 3 H335 Peut irriter les voies respiratoires.

· 2.2 Éléments d'étiquetage

- **Etiquetage selon le règlement (CE) n° 1272/2008** Le produit est classifié et étiqueté selon le règlement CLP.
- **Pictogrammes de danger**



GHS03



GHS05



GHS06



GHS08



GHS09

- **Mention d'avertissement** Danger

- **Composants dangereux déterminants pour l'étiquetage:**

trioxyde de chrome (VI)

- **Mentions de danger**

H271 Peut provoquer un incendie ou une explosion; comburant puissant.
 H302 Nocif en cas d'ingestion.
 H330 Mortel par inhalation.
 H314 Provoque de graves brûlures de la peau et de graves lésions des yeux.
 H334 Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.
 H317 Peut provoquer une allergie cutanée.
 H340 Peut induire des anomalies génétiques.
 H350 Peut provoquer le cancer.
 H361f Susceptible de nuire à la fertilité.
 H335 Peut irriter les voies respiratoires.
 H373 Risque présumé d'effets graves pour le système respiratoire à la suite d'expositions répétées ou d'une exposition prolongée.
 H411 Toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme.

- **Conseils de prudence**

P283 Porter des vêtements résistant au feu ou à retard de flamme.
 P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau [ou se doucher].
 P305+P351+P338 EN CAS DE CONTACT AVEC LES YEUX: Rincer avec précaution à l'eau pendant plusieurs minutes. Enlever les lentilles de contact si la victime en porte et si elles peuvent être facilement enlevées. Continuer à rincer.
 P310 Appeler immédiatement un CENTRE ANTIPOISON/un médecin.
 P320 Un traitement spécifique est urgent (voir sur cette étiquette).
 P362+P364 Enlever les vêtements contaminés et les laver avant réutilisation.
 P405 Garder sous clef.
 P501 Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

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- **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: 1333-82-0	trioxyde de chrome (VI)	>2,5-≤10%
EINECS: 215-607-8	⚠ Ox. Sol. 1, H271; ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 2, H330; ⚠ Resp. Sens. 1, H334; Muta. 1B, H340; Carc. 1A, H350; Repr. 2, H361f; STOT RE 1, H372; ⚠ Skin Corr. 1A, H314; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Sens. 1, H317	

· **SVHC**

1333-82-0	trioxyde de chrome (VI)	
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- **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:**
 Enlever immédiatement les vêtements contaminés par le produit.
 Les symptômes d'intoxication peuvent apparaître après de nombreuses heures seulement; une surveillance médicale est donc nécessaire au moins 48 heures après un accident.
 Ne retirer la protection respiratoire qu'après avoir retiré les vêtements contaminés.
 Respiration artificielle dans le cas d'une respiration irrégulière ou d'un arrêt respiratoire.
- **Après inhalation:**
 Donner de l'air frais ou de l'oxygène; demander d'urgence une assistance médicale.
 En cas d'inconscience, coucher et transporter la personne en position latérale stable.
- **Après contact avec la peau:** Laver immédiatement à l'eau et au savon et bien rincer.
- **Après contact avec les yeux:**
 Rincer les yeux, pendant plusieurs minutes, sous l'eau courante en écartant bien les paupières et consulter un médecin.
- **Après ingestion:**
 Consulter immédiatement un médecin.
 Boire de l'eau en abondance et donner de l'air frais. Consulter immédiatement un médecin.
- **4.2 Principaux symptômes et effets, aigus et différés** Pas d'autres informations importantes disponibles.
- **4.3 Indication des éventuels soins médicaux immédiats et traitements particuliers nécessaires**
 Pas d'autres informations importantes disponibles.

RUBRIQUE 5: Mesures de lutte contre l'incendie

- **5.1 Moyens d'extinction**
- **Moyens d'extinction:** Adapter les mesures d'extinction d'incendie à l'environnement.
- **5.2 Dangers particuliers résultant de la substance ou du mélange**
 Pas d'autres informations importantes disponibles.

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- **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:**
En cas de pénétration dans les eaux ou les égouts, avertir les autorités compétentes.
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).
Utiliser un neutralisant.
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.
Ouvrir et manipuler les récipients avec précaution.
Eviter la formation d'aérosols.
- **Préventions des incendies et des explosions:** Tenir des appareils de protection respiratoire prêts.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Aucune exigence particulière.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:** Tenir les emballages hermétiquement fermés.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

- **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:**

1333-82-0 trioxyde de chrome (VI)

VLEP	Valeur momentanée: 0,005 mg/m ³ Valeur à long terme: 0,001 mg/m ³ en Cr; C1, C2 ou C3
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- **Remarques supplémentaires:**
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.

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· 8.2 Contrôles de l'exposition

· Equipement de protection individuel:

· Mesures générales de protection et d'hygiène:

Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.

Retirer immédiatement les vêtements souillés ou humectés.

Se laver les mains avant les pauses et en fin de travail.

Conserver à part les vêtements de protection.

Eviter tout contact avec les yeux.

Eviter tout contact avec les yeux et avec la peau.

· Protection respiratoire:

En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.

· Protection des mains:



Gants de protection

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.

À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.

Choix du matériau des gants en fonction des temps de pénétration, du taux de perméabilité et de la dégradation.

· Matériau des gants

Le choix de gants appropriés dépend non seulement du matériau, mais aussi d'autres critères de qualité qui peuvent varier d'un fabricant à l'autre. Puisque le produit représente une préparation composée de plusieurs substances, la résistance des matériaux des gants ne peut pas être calculée à l'avance et doit, alors, être contrôlée avant l'utilisation.

· Temps de pénétration du matériau des gants

Le temps de pénétration exact est à déterminer par le fabricant des gants de protection et à respecter.

· Protection des yeux:



Lunettes de protection hermétiques

RUBRIQUE 9: Propriétés physiques et chimiques

· 9.1 Informations sur les propriétés physiques et chimiques essentielles

· Indications générales

· Aspect:

Forme: Liquide

Couleur: Ambré

· Odeur: Inodore

· Seuil olfactif: Non déterminé.

· valeur du pH à 20 °C: 0,4-0,6

· Changement d'état

Point de fusion/point de congélation: 0 °C

Point initial d'ébullition et intervalle d'ébullition: 100 °C

· Point d'éclair Non applicable.

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· Inflammabilité (solide, gaz):	Non applicable.
· Température de décomposition:	Non déterminé.
· Température d'auto-inflammabilité:	Le produit ne s'enflamme pas spontanément.
· Propriétés explosives:	Le produit n'est pas explosif. Peut exploser en mélange avec des matières combustibles.
· Limites d'explosion: Inférieure: Supérieure:	Non déterminé. Non déterminé.
· Pression de vapeur à 20 °C:	23 hPa
· Densité à 20 °C: · Densité relative · Densité de vapeur: · Taux d'évaporation:	1,072 g/cm ³ Non déterminé. Non déterminé. Non déterminé.
· Solubilité dans/miscibilité avec l'eau:	Entièrement miscible
· Coefficient de partage: n-octanol/eau:	Non déterminé.
· Viscosité: Dynamique: Cinématique:	Non déterminé. Non déterminé.
· Teneur en solvants: Eau: VOC (CE)	96,0 % 0,00 %
Teneur en substances solides:	4,0 %
· 9.2 Autres informations	Pas d'autres informations importantes disponibles.

RUBRIQUE 10: Stabilité et réactivité

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

RUBRIQUE 11: Informations toxicologiques

- **11.1 Informations sur les effets toxicologiques**
- **Toxicité aiguë**
Nocif en cas d'ingestion.
Mortel par inhalation.

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

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Oral	LD50	80 mg/kg (rat)
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- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**
Provoque de graves brûlures de la peau et de graves lésions des yeux.
- **Lésions oculaires graves/irritation oculaire**
Provoque de graves lésions des yeux.
- **Sensibilisation respiratoire ou cutanée**
Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.
Peut provoquer une allergie cutanée.
- **Indications toxicologiques complémentaires:**
- **Effets CMR (cancérogène, mutagène et toxique pour la reproduction)**
- **Mutagénicité sur les cellules germinales**
Peut induire des anomalies génétiques.
- **Cancérogénicité**
Peut provoquer le cancer.
- **Toxicité pour la reproduction**
Susceptible de nuire à la fertilité.
- **Toxicité spécifique pour certains organes cibles - exposition unique**
Peut irriter les voies respiratoires.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**
Risque présumé d'effets graves pour le système respiratoire à la suite d'expositions répétées ou d'une exposition prolongée.
- **Danger par aspiration** Compte tenu des données disponibles, les critères de classification ne sont pas remplis.

RUBRIQUE 12: Informations écologiques

- **12.1 Toxicité**
- **Toxicité aquatique:** Pas d'autres informations importantes disponibles.
- **12.2 Persistance et dégradabilité** Pas d'autres informations importantes disponibles.
- **12.3 Potentiel de bioaccumulation** Pas d'autres informations importantes disponibles.
- **12.4 Mobilité dans le sol** Pas d'autres informations importantes disponibles.
- **Effets écotoxiques:**
- **Remarque:** Toxique chez les poissons.
- **Autres indications écologiques:**
- **Indications générales:**
Catégorie de pollution des eaux 3 (D) (Classification propre): très polluant
Ne pas laisser pénétrer dans la nappe phréatique, les eaux ou les canalisations, même pas en petite quantité.
Ne doit pas pénétrer à l'état non dilué ou non neutralisé dans les eaux usées ou le collecteur.
Danger pour l'eau potable dès fuite d'une quantité minimale dans le sous-sol.
Dans les eaux, également toxique pour les poissons et le plancton.
Toxique pour les organismes aquatiques.
Jeter de plus grandes quantités dans la canalisation ou les eaux peut mener à une baisse de la valeur du pH. Une valeur du pH basse est nocive pour les organismes aquatiques. Dans la dilution de la concentration utilisée, la valeur du pH augmente considérablement: après l'utilisation du produit, les eaux résiduaires arrivant dans la canalisation ne sont que faiblement polluantes pour l'eau.
- **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.

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RUBRIQUE 13: Considérations relatives à l'élimination

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

RUBRIQUE 14: Informations relatives au transport

- | | |
|---|--|
| · 14.1 Numéro ONU
· ADR, IMDG, IATA | UN1755 |
| · 14.2 Désignation officielle de transport de l'ONU
· ADR

· IMDG, IATA | 1755 ACIDE CHROMIQUE EN SOLUTION,
DANGEREUX POUR L'ENVIRONNEMENT
CHROMIC ACID SOLUTION |
| · 14.3 Classe(s) de danger pour le transport

· ADR | |
|   | |
| · Classe
· Étiquette | 8 Matières corrosives.
8 |
| · IMDG, IATA | |
|  | |
| · Class
· Label | 8 Matières corrosives.
8 |
| · 14.4 Groupe d'emballage
· ADR, IMDG, IATA | II |
| · 14.5 Dangers pour l'environnement:
· Marquage spécial (ADR): | Signe conventionnel (poisson et arbre) |
| · 14.6 Précautions particulières à prendre par l'utilisateur | Attention: Matières corrosives. |
| · 14.7 Transport en vrac conformément à l'annexe II de la convention Marpol et au recueil IBC | Non applicable. |
| · "Règlement type" de l'ONU: | UN 1755 ACIDE CHROMIQUE EN SOLUTION, 8, II,
DANGEREUX POUR L'ENVIRONNEMENT |

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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**

H2 TOXICITÉ AIGUË

P8 LIQUIDES ET SOLIDES COMBURANTS

E2 Danger pour l'environnement aquatique

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

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

· **LISTE DES SUBSTANCES SOUMISES À AUTORISATION (ANNEXE XIV)**

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· **RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII** Conditions de limitation: 3, 28, 29, 47, 72

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

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· **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 SIGNALEMENT**

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.

· **Prescriptions nationales:**

· **Indications sur les restrictions de travail:**

Le personnel ne doit pas être exposé aux substances dangereuses cancérigènes contenues dans cette préparation.

Les autorités peuvent autoriser des exceptions dans des cas particuliers.

· **Autres prescriptions, restrictions et règlements d'interdiction**

· **Substances extrêmement préoccupantes (SVHC) selon REACH, article 57**

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· **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**

H271 Peut provoquer un incendie ou une explosion; comburant puissant.

H301 Toxique en cas d'ingestion.

H311 Toxique par contact cutané.

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H314 Provoque de graves brûlures de la peau et de graves lésions des yeux.

H317 Peut provoquer une allergie cutanée.

H330 Mortel par inhalation.

H334 Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.

H340 Peut induire des anomalies génétiques.

H350 Peut provoquer le cancer.

H361f Susceptible de nuire à la fertilité.

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

H400 Très toxique pour les organismes aquatiques.

H410 Très toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme.

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

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

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Ox. Liq. 1: Liquides comburants – Catégorie 1

Ox. Sol. 1: Matières solides comburantes – Catégorie 1

Acute Tox. 3: Toxicité aiguë – Catégorie 3

Acute Tox. 4: Toxicité aiguë – Catégorie 4

Acute Tox. 2: Toxicité aiguë – Catégorie 2

Skin Corr. 1A: Corrosion cutanée/irritation cutanée – Catégorie 1A

Eye Dam. 1: Lésions oculaires graves/irritation oculaire – Catégorie 1

Resp. Sens. 1: Sensibilisation respiratoire – Catégorie 1

Skin Sens. 1: Sensibilisation cutanée – Catégorie 1

Muta. 1B: Mutagénicité sur les cellules germinales – Catégorie 1B

Carc. 1A: Cancérogénicité – Catégorie 1A

Repr. 2: Toxicité pour la reproduction – Catégorie 2

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

STOT RE 1: Toxicité spécifique pour certains organes cibles (exposition répétée) – Catégorie 1

STOT RE 2: Toxicité spécifique pour certains organes cibles (exposition répétée) – Catégorie 2

Aquatic Acute 1: Dangers pour le milieu aquatique- toxicité aiguë pour le milieu aquatique – Catégorie 1

Aquatic Chronic 1: Dangers pour le milieu aquatique- toxicité à long terme pour le milieu aquatique – Catégorie 1

Aquatic Chronic 2: Dangers pour le milieu aquatique- toxicité à long terme pour le milieu aquatique – Catégorie 2

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

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

- **1.1 Produktidentifikator**
- **Handelsname:** CHROMIC ACID 4% AQUEOUS SOLUTION
- **Artikelnummer:** 12557, 26120-01
- **UFI:** D092-R0KC-A00U-VCHR
- **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**



GHS03 Flamme über einem Kreis

Ox. Liq. 1

H271 Kann Brand oder Explosion verursachen; starkes Oxidationsmittel.



GHS06 Totenkopf mit gekreuzten Knochen

Acute Tox. 2

H330 Lebensgefahr bei Einatmen.



GHS08 Gesundheitsgefahr

Resp. Sens. 1

H334 Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.

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Muta. 1B H340 Kann genetische Defekte verursachen.
 Carc. 1A H350 Kann Krebs erzeugen.
 Repr. 2 H361f Kann vermutlich die Fruchtbarkeit beeinträchtigen.
 STOT RE 2 H373 Kann das Respirationssystem schädigen bei längerer oder wiederholter Exposition.



GHS05 Ätzwirkung

Skin Corr. 1A H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
 Eye Dam. 1 H318 Verursacht schwere Augenschäden.



GHS09 Umwelt

Aquatic Chronic 2 H411 Giftig für Wasserorganismen, mit langfristiger Wirkung.



GHS07

Acute Tox. 4 H302 Gesundheitsschädlich bei Verschlucken.
 Skin Sens. 1 H317 Kann allergische Hautreaktionen verursachen.
 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.

· Gefahrenpiktogramme



GHS03



GHS05



GHS06



GHS08



GHS09

· Signalwort Gefahr

· Gefahrbestimmende Komponenten zur Etikettierung:

Chromtrioxid

· Gefahrenhinweise

H271 Kann Brand oder Explosion verursachen; starkes Oxidationsmittel.
 H302 Gesundheitsschädlich bei Verschlucken.
 H330 Lebensgefahr bei Einatmen.
 H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
 H334 Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.
 H317 Kann allergische Hautreaktionen verursachen.
 H340 Kann genetische Defekte verursachen.
 H350 Kann Krebs erzeugen.
 H361f Kann vermutlich die Fruchtbarkeit beeinträchtigen.
 H335 Kann die Atemwege reizen.
 H373 Kann das Respirationssystem schädigen bei längerer oder wiederholter Exposition.
 H411 Giftig für Wasserorganismen, mit langfristiger Wirkung.

· Sicherheitshinweise

P283 Schwer entflammbare oder flammhemmende Kleidung tragen.

(Fortsetzung auf Seite 3)

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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.

P310 **Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.**

P320 **Besondere Behandlung dringend erforderlich (siehe auf diesem Kennzeichnungsetikett).**

P362+P364 **Kontaminierte Kleidung ausziehen und vor erneutem Tragen waschen.**

P405 **Unter Verschluss aufbewahren.**

P501 **Entsorgung des Inhalts / des Behälters gemäß den örtlichen / regionalen / nationalen / internationalen Vorschriften.**

· **Zusätzliche Angaben:**

Nur für gewerbliche Anwender.

· **2.3 Sonstige Gefahren**

· **Ergebnisse der PBT- und vPvB-Beurteilung**

· **PBT:** Nicht anwendbar.

· **vPvB:** Nicht anwendbar.

ABSCHNITT 3: Zusammensetzung/Angaben zu Bestandteilen

· **3.2 Chemische Charakterisierung: Gemische**

· **Beschreibung:** Gemisch aus nachfolgend angeführten Stoffen mit ungefährlichen Beimengungen.

· **Gefährliche Inhaltsstoffe:**

CAS: 1333-82-0	Chromtrioxid	>2,5-≤10%
EINECS: 215-607-8	<p>☠ Ox. Sol. 1, H271; ☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 2, H330; ☠ Resp. Sens. 1, H334; Muta. 1B, H340; Carc. 1A, H350; Repr. 2, H361f; STOT RE 1, H372; ☠ Skin Corr. 1A, H314; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ☠ Skin Sens. 1, H317</p>	

· **SVHC**

1333-82-0	Chromtrioxid	
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· **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:**

Mit Produkt verunreinigte Kleidungsstücke unverzüglich entfernen.

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

Atemschutz erst nach Entfernen verunreinigter Kleidungsstücke abnehmen.

Bei unregelmäßiger Atmung oder Atemstillstand künstliche Beatmung.

· **Nach Einatmen:**

Frischluf- oder Sauerstoffzufuhr; ärztliche Hilfe in Anspruch nehmen.

Bei Bewusstlosigkeit Lagerung und Transport in stabiler Seitenlage.

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

· **Nach Augenkontakt:**

Augen bei geöffnetem Lidspalt mehrere Minuten unter fließendem Wasser abspülen und Arzt konsultieren.

· **Nach Verschlucken:**

Sofort Arzt aufsuchen.

Reichlich Wasser nachtrinken und Frischluftzufuhr. Unverzüglich Arzt hinzuziehen.

· **4.2 Wichtigste akute und verzögert auftretende Symptome und Wirkungen**

Keine weiteren relevanten Informationen verfügbar.

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- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**
Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 5: Maßnahmen zur Brandbekämpfung

- **5.1 Löschmittel**
- **Geeignete Löschmittel:** Feuerlöschmaßnahmen auf die Umgebung abstimmen.
- **5.2 Besondere vom Stoff oder Gemisch ausgehende Gefahren**
Keine weiteren relevanten Informationen verfügbar.
- **5.3 Hinweise für die Brandbekämpfung**
- **Besondere Schutzausrüstung:** Atemschutzgerät anlegen.

ABSCHNITT 6: Maßnahmen bei unbeabsichtigter Freisetzung

- **6.1 Personenbezogene Vorsichtsmaßnahmen, Schutzausrüstungen und in Notfällen anzuwendende Verfahren**
Schutzausrüstung tragen. Ungeschützte Personen fernhalten.
- **6.2 Umweltschutzmaßnahmen:**
Bei Eindringen in Gewässer oder Kanalisation zuständige Behörden benachrichtigen.
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.
Neutralisationsmittel anwenden.
Kontaminiertes Material als Abfall nach Abschnitt 13 entsorgen.
Für ausreichende Lüftung sorgen.
- **6.4 Verweis auf andere Abschnitte**
Informationen zur sicheren Handhabung siehe Abschnitt 7.
Informationen zur persönlichen Schutzausrüstung siehe Abschnitt 8.
Informationen zur Entsorgung siehe Abschnitt 13.

ABSCHNITT 7: Handhabung und Lagerung

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

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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:**

1333-82-0 Chromtrioxid

MAK	einatembare Fr.; vgl. Abschn. XII
TRGS 910	Toleranzkonzentration: 0,001 (E), Überschreitungsfaktor: 8, Konzentrationen beziehen sich auf Cr-Gehalt

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

- **8.2 Begrenzung und Überwachung der Exposition**

- **Persönliche Schutzausrüstung:**

- **Allgemeine Schutz- und Hygienemaßnahmen:**

Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.

Beschmutzte, getränkte Kleidung sofort ausziehen.

Vor den Pausen und bei Arbeitsende Hände waschen.

Getrennte Aufbewahrung der Schutzkleidung.

Berührung mit den Augen 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:**



Schutzhandschuhe

Das Handschuhmaterial muss undurchlässig und beständig gegen das Produkt / den Stoff / die Zubereitung sein. Aufgrund fehlender Tests kann keine Empfehlung zum Handschuhmaterial für das Produkt / die Zubereitung / das Chemikaliengemisch abgegeben werden.

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

- **Handschuhmaterial**

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

- **Durchdringungszeit des Handschuhmaterials**

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

- **Augenschutz:**



Dichtschließende Schutzbrille

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ABSCHNITT 9: Physikalische und chemische Eigenschaften

· 9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften

· Allgemeine Angaben

· Aussehen:

Form:	Flüssigkeit
Farbe:	Bernsteinfarben
Geruch:	Geruchlos
Geruchsschwelle:	Nicht bestimmt.

· pH-Wert bei 20 °C: 0,4-0,6

· Zustandsänderung

Schmelzpunkt/Gefrierpunkt:	0 °C
Siedebeginn und Siedebereich:	100 °C

· Flammpunkt: Nicht anwendbar.

· Entzündbarkeit (fest, gasförmig): Nicht anwendbar.

· Zersetzungstemperatur: Nicht bestimmt.

· Selbstentzündungstemperatur: Das Produkt ist nicht selbstentzündlich.

· Explosive Eigenschaften: Das Produkt ist nicht explosionsgefährlich.
Explosionsgefahr bei Mischung mit brennbaren Stoffen.

· Explosionsgrenzen:

Untere:	Nicht bestimmt.
Obere:	Nicht bestimmt.

· Dampfdruck bei 20 °C: 23 hPa

Dichte bei 20 °C:	1,072 g/cm ³
Relative Dichte	Nicht bestimmt.
Dampfdichte	Nicht bestimmt.
Verdampfungsgeschwindigkeit	Nicht bestimmt.

· Löslichkeit in / Mischbarkeit mit Wasser: Vollständig mischbar.

· Verteilungskoeffizient: n-Octanol/Wasser: Nicht bestimmt.

· Viskosität:

Dynamisch:	Nicht bestimmt.
Kinematisch:	Nicht bestimmt.

· Lösemittelgehalt:

Wasser:	96,0 %
VOC (EU)	0,00 %

Festkörpergehalt: 4,0 %

· 9.2 Sonstige Angaben Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 10: Stabilität und Reaktivität

· 10.1 Reaktivität Keine weiteren relevanten Informationen verfügbar.

· 10.2 Chemische Stabilität

· Thermische Zersetzung / zu vermeidende Bedingungen:
Keine Zersetzung bei bestimmungsgemäßer Verwendung.

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- **10.3 Möglichkeit gefährlicher Reaktionen** Keine gefährlichen Reaktionen bekannt.
- **10.4 Zu vermeidende Bedingungen** Keine weiteren relevanten Informationen verfügbar.
- **10.5 Unverträgliche Materialien:** Keine weiteren relevanten Informationen verfügbar.
- **10.6 Gefährliche Zersetzungsprodukte:** Keine gefährlichen Zersetzungsprodukte bekannt.

ABSCHNITT 11: Toxikologische Angaben

· 11.1 Angaben zu toxikologischen Wirkungen

· Akute Toxizität

Gesundheitsschädlich bei Verschlucken.

Lebensgefahr bei Einatmen.

· Einstufungsrelevante LD/LC50-Werte:

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Oral	LD50	80 mg/kg (rat)
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· Primäre Reizwirkung:

· Ätz-/Reizwirkung auf die Haut

Verursacht schwere Verätzungen der Haut und schwere Augenschäden.

· Schwere Augenschädigung/-reizung

Verursacht schwere Augenschäden.

· Sensibilisierung der Atemwege/Haut

Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.

Kann allergische Hautreaktionen verursachen.

· Zusätzliche toxikologische Hinweise:

· CMR-Wirkungen (krebserzeugende, erbgutverändernde und fortpflanzungsgefährdende Wirkung)

· Keimzell-Mutagenität

Kann genetische Defekte verursachen.

· Karzinogenität

Kann Krebs erzeugen.

· Reproduktionstoxizität

Kann vermutlich die Fruchtbarkeit beeinträchtigen.

· Spezifische Zielorgan-Toxizität bei einmaliger Exposition

Kann die Atemwege reizen.

· Spezifische Zielorgan-Toxizität bei wiederholter Exposition

Kann das Respirationssystem schädigen bei längerer oder wiederholter Exposition.

· 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.

· Ökotoxische Wirkungen:

· **Bemerkung:** Giftig für Fische.

· Weitere ökologische Hinweise:

· Allgemeine Hinweise:

Wassergefährdungsklasse 3 (Selbsteinstufung): stark wassergefährdend

Nicht in das Grundwasser, in Gewässer oder in die Kanalisation gelangen lassen, auch nicht in kleinen Mengen.

Darf nicht unverdünnt bzw. unneutralisiert ins Abwasser bzw. in den Vorfluter gelangen.

Trinkwassergefährdung bereits beim Auslaufen geringster Mengen in den Untergrund.

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In Gewässern auch giftig für Fische und Plankton.
giftig für Wasserorganismen

Wegspülen größerer Mengen in Kanalisation oder Gewässer kann zur pH-Wert-Erniedrigung führen. Ein niedriger pH-Wert schädigt Wasserorganismen. In der Verdünnung der Anwendungskonzentration erhöht sich der pH-Wert erheblich, so dass nach dem Gebrauch des Produktes die in die Kanalisation gelangenden Abwässer nur schwach wassergefährdend wirken.

· **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

· **14.1 UN-Nummer**

· **ADR, IMDG, IATA**

UN1755

· **14.2 Ordnungsgemäße UN-Versandbezeichnung**

· **ADR**

1755 CHROMSÄURE, LÖSUNG, UMWELTGEFÄHRDEND

· **IMDG, IATA**

CHROMIC ACID SOLUTION

· **14.3 Transportgefahrenklassen**

· **ADR**



· **Klasse**

8 Ätzende Stoffe

· **Gefahrzettel**

8

· **IMDG, IATA**



· **Class**

8 Ätzende Stoffe

· **Label**

8

· **14.4 Verpackungsgruppe**

· **ADR, IMDG, IATA**

II

· **14.5 Umweltgefahren:**

· **Besondere Kennzeichnung (ADR):**

Symbol (Fisch und Baum)

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- **14.6 Besondere Vorsichtsmaßnahmen für den Verwender** Achtung: Ätzende Stoffe
- **14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code** Nicht anwendbar.
- **UN "Model Regulation":** UN 1755 CHROMSÄURE, LÖSUNG, 8, II, UMWELTGEFÄHRDEND

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**
H2 AKUT TOXISCH
P8 ENTZÜNDEND (OXIDIEREND) WIRKENDE FLÜSSIGKEITEN UND FESTSTOFFE
E2 Gewässergefährdend
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der unteren Klasse** 50 t
- **Mengenschwelle (in Tonnen) für die Anwendung in Betrieben der oberen Klasse** 200 t

- **VERZEICHNIS DER ZULASSUNGSPFLICHTIGEN STOFFE (ANHANG XIV)**

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- **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 3, 28, 29, 47, 72

- **Richtlinie 2011/65/EU zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten – Anhang II**

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- **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.

- **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:**

- **Hinweise zur Beschäftigungsbeschränkung:**

Arbeitnehmer dürfen den in dieser Zubereitung enthaltenen krebserzeugenden Gefahrstoffen nicht ausgesetzt sein. Im Einzelfall kann die Behörde Ausnahmen zulassen.

- **Technische Anleitung Luft:**

Klasse	Anteil in %
Wasser	96,0
I	4,0

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- **Wassergefährdungsklasse:** WGK 3 (Selbsteinstufung): stark wassergefährdend.
 - **Sonstige Vorschriften, Beschränkungen und Verbotsverordnungen**
Das Produkt unterliegt der Anlage 2 der Chemikalienverbotsverordnung (ChemVerbotsV) - Anforderungen in Bezug auf die Abgabe
 - **Besonders besorgniserregende Stoffe (SVHC) gemäß REACH, Artikel 57**
- | | |
|-----------|--------------|
| 1333-82-0 | Chromtrioxid |
|-----------|--------------|
- **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**
 - H271 Kann Brand oder Explosion verursachen; starkes Oxidationsmittel.
 - H301 Giftig bei Verschlucken.
 - H311 Giftig bei Hautkontakt.
 - H314 Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
 - H317 Kann allergische Hautreaktionen verursachen.
 - H330 Lebensgefahr bei Einatmen.
 - H334 Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.
 - H340 Kann genetische Defekte verursachen.
 - H350 Kann Krebs erzeugen.
 - H361f Kann vermutlich die Fruchtbarkeit beeinträchtigen.
 - H372 Schädigt die Organe bei längerer oder wiederholter Exposition.
 - H400 Sehr giftig für Wasserorganismen.
 - H410 Sehr giftig für Wasserorganismen mit langfristiger Wirkung.
- **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
 - SVHC: Substances of Very High Concern
 - vPvB: very Persistent and very Bioaccumulative
 - Ox. Liq. 1: Oxidierende Flüssigkeiten – Kategorie 1
 - Ox. Sol. 1: Oxidierende Feststoffe – Kategorie 1
 - Acute Tox. 3: Akute Toxizität – Kategorie 3
 - Acute Tox. 4: Akute Toxizität – Kategorie 4
 - Acute Tox. 2: Akute Toxizität – Kategorie 2
 - Skin Corr. 1A: Hautreizende/-ätzende Wirkung – Kategorie 1A
 - Eye Dam. 1: Schwere Augenschädigung/Augenreizung – Kategorie 1
 - Resp. Sens. 1: Sensibilisierung der Atemwege – Kategorie 1
 - Skin Sens. 1: Sensibilisierung der Haut – Kategorie 1
 - Muta. 1B: Keimzellmutagenität – Kategorie 1B
 - Carc. 1A: Karzinogenität – Kategorie 1A
 - Repr. 2: Reproduktionstoxizität – Kategorie 2
 - STOT SE 3: Spezifische Zielorgan-Toxizität (einmalige Exposition) – Kategorie 3
 - STOT RE 1: Spezifische Zielorgan-Toxizität (wiederholte Exposition) – Kategorie 1
 - STOT RE 2: Spezifische Zielorgan-Toxizität (wiederholte Exposition) – Kategorie 2
 - Aquatic Acute 1: Gewässergefährdend - akut gewässergefährdend – Kategorie 1
 - Aquatic Chronic 1: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 1
 - Aquatic Chronic 2: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 2

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

Stampato il: 05.05.2022

Revisione: 05.05.2022

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

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** CHROMIC ACID 4% AQUEOUS SOLUTION

· **Articolo numero:** 12557, 26120-01

· **UFI:** D092-R0KC-A00U-VCHR

· **1.2 Usi identificati pertinenti della sostanza o della miscela e usi sconsigliati**
Non sono disponibili altre informazioni.

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

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

· **Produttore/fornitore:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: info@emsdiasum.com

www.emsdiasum.com

Societa Italiana Chimici

Via Rio Nell Ellba 140

00138 Rome, Italy

Tel: 39 06 8800211

Fax: 39 30 06 8815313

Web: www.sichim.com

· **Informazioni fornite da:** Product safety department

· **1.4 Numero telefonico di emergenza:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

SEZIONE 2: Identificazione dei pericoli

· **2.1 Classificazione della sostanza o della miscela**

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



GHS03 fiamma su cerchio

Ox. Liq. 1

H271 Può provocare un incendio o un'esplosione; molto comburente.



GHS06 teschio e tibie incrociate

Acute Tox. 2

H330 Letale se inalato.



GHS08 pericolo per la salute

Resp. Sens. 1

H334 Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.

Muta. 1B

H340 Può provocare alterazioni genetiche.

Carc. 1A

H350 Può provocare il cancro.

Repr. 2

H361f Sospettato di nuocere alla fertilità

STOT RE 2

H373 Può provocare danni al sistema respiratorio in caso di esposizione prolungata e ripetuta.

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GHS05 corrosione

Skin Corr. 1A H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.

Eye Dam. 1 H318 Provoca gravi lesioni oculari.



GHS09 ambiente

Aquatic Chronic 2 H411 Tossico per gli organismi acquatici con effetti di lunga durata.



GHS07

Acute Tox. 4 H302 Nocivo se ingerito.

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

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**



GHS03



GHS05



GHS06



GHS08



GHS09

· **Avvertenza Pericolo**

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

triossido di cromo

· **Indicazioni di pericolo**

H271 Può provocare un incendio o un'esplosione; molto comburente.

H302 Nocivo se ingerito.

H330 Letale se inalato.

H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.

H334 Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.

H317 Può provocare una reazione allergica cutanea.

H340 Può provocare alterazioni genetiche.

H350 Può provocare il cancro.

H361f Sospettato di nuocere alla fertilità

H335 Può irritare le vie respiratorie.

H373 Può provocare danni al sistema respiratorio in caso di esposizione prolungata e ripetuta.

H411 Tossico per gli organismi acquatici con effetti di lunga durata.

· **Consigli di prudenza**

P283 Indossare indumenti completamente ignifughi o in tessuti ritardanti di fiamma.

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

P305+P351+P338 IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti.

Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.

P310 Contattare immediatamente un CENTRO ANTIVELENI/un medico.

P320 Trattamento specifico urgente (vedere su questa etichetta).

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P362+P364 Togliere tutti gli indumenti contaminati e lavarli prima di indossarli nuovamente.
 P405 Conservare sotto chiave.
 P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

- **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: 1333-82-0	triossido di cromo	>2,5-≤10%
EINECS: 215-607-8	<ul style="list-style-type: none"> ⚠ Ox. Sol. 1, H271; ⚠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 2, H330; ⚠ Resp. Sens. 1, H334; Muta. 1B, H340; Carc. 1A, H350; Repr. 2, H361f; STOT RE 1, H372; ⚠ Skin Corr. 1A, H314; ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ⚠ Skin Sens. 1, H317 	

· **SVHC**

1333-82-0	triossido di cromo
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- **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:**
 Allontanare immediatamente gli abiti contaminati dal prodotto.
 I sintomi di avvelenamento possono comparire dopo molte ore, per tale motivo è necessaria la sorveglianza di un medico nelle 48 ore successive all'incidente.
 Levarsi la maschera protettiva solamente dopo aver tolto gli abiti contaminati.
 In caso di respirazione irregolare o di blocco respiratorio praticare la respirazione artificiale.
- **Inalazione:**
 Portare il soggetto in zona ben areata o somministrare ossigeno; chiedere l'intervento di un medico.
 Se il soggetto è svenuto provvedere a tenerlo durante il trasporto in posizione stabile su un fianco.
- **Contatto con la pelle:** Lavare immediatamente con acqua e sapone sciacquando accuratamente.
- **Contatto con gli occhi:**
 Lavare con acqua corrente per diversi minuti tenendo le palpebre ben aperte e consultare il medico.
- **Ingestione:**
 Chiamare subito il medico.
 Bere abbondante acqua e sostare in zona ben areata. Richiedere immediatamente l'intervento del medico.
- **4.2 Principali sintomi ed effetti, sia acuti che ritardati** Non sono disponibili altre informazioni.
- **4.3 Indicazione dell'eventuale necessità di consultare immediatamente un medico e di trattamenti speciali**
 Non sono disponibili altre informazioni.

SEZIONE 5: Misure antincendio

- **5.1 Mezzi di estinzione**
- **Mezzi di estinzione idonei:** Adottare provvedimenti antiincendio nei dintorni della zona colpita.
- **5.2 Pericoli speciali derivanti dalla sostanza o dalla miscela** Non sono disponibili altre informazioni.

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- **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:**
*In caso di infiltrazione nei corpi d'acqua o nelle fognature avvertire le autorità competenti.
 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).
 Utilizzare mezzi di neutralizzazione.
 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.
 Aprire e manipolare i recipienti con cautela.
 Evitare la formazione di aerosol.*
- **Indicazioni in caso di incendio ed esplosione:** *Tener pronto il respiratore.*
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** *Non sono richiesti requisiti particolari.*
- **Indicazioni sullo stoccaggio misto:** *Non necessario.*
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:** *Mantenere i recipienti ermeticamente chiusi.*
- **7.3 Usi finali particolari** *Non sono disponibili altre informazioni.*

SEZIONE 8: Controllo dell'esposizione/protezione individuale

- **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:**
Il prodotto non contiene quantità rilevanti di sostanze i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro.

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· **Componenti con valori limite biologici:**

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IBE 25 µg/l

Campioni: urine

Momento del prelievo: a fine turno a fine settimana lavorativa

Indicatore biologico: cromo totale

10 µg/l

Campioni: urine

Momento del prelievo: aumento d.t.

Indicatore biologico: cromo totale

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

· **8.2 Controlli dell'esposizione**

· **Mezzi protettivi individuali:**

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

Tenere lontano da cibo, bevande e foraggi.

Togliere immediatamente gli abiti contaminati.

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

Custodire separatamente l'equipaggiamento protettivo.

Evitare il contatto con gli occhi.

Evitare il contatto con gli occhi e la pelle.

· **Maschera protettiva:**

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

· **Guanti protettivi:**



Guanti protettivi

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

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

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

· **Materiale dei guanti**

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

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

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

· **Occhiali protettivi:**



Occhiali protettivi a tenuta

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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: Ambra

· **Odore:** Inodore

· **Soglia olfattiva:** Non definito.

· **valori di pH a 20 °C:** 0,4-0,6

· **Cambiamento di stato**

Punto di fusione/punto di congelamento: 0 °C

Punto di ebollizione iniziale e intervallo di ebollizione: 100 °C

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

· **Infiammabilità (solidi, gas):** Non applicabile.

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

· **Temperatura di autoaccensione:** Prodotto non autoinfiammabile.

· **Proprietà esplosive:** Prodotto non esplosivo.
Esplosivo in miscela con materie combustibili.

· **Limiti di infiammabilità:**

Inferiore: Non definito.

Superiore: Non definito.

· **Tensione di vapore a 20 °C:** 23 hPa

· **Densità a 20 °C:** 1,072 g/cm³

· **Densità relativa:** Non definito.

· **Densità di vapore:** Non definito.

· **Velocità di evaporazione:** Non definito.

· **Solubilità in/Miscibilità con acqua:** Completamente miscibile.

· **Coefficiente di ripartizione: n-ottanolo/acqua:** Non definito.

· **Viscosità:**

Dinamica: Non definito.

Cinematica: Non definito.

· **Tenore del solvente:**

Acqua: 96,0 %

VOC (CE) 0,00 %

Contenuto solido: 4,0 %

· **9.2 Altre informazioni** Non sono disponibili altre informazioni.

SEZIONE 10: Stabilità e reattività

· **10.1 Reattività** Non sono disponibili altre informazioni.

· **10.2 Stabilità chimica**

· **Decomposizione termica/ condizioni da evitare:** Il prodotto non si decompone se utilizzato secondo le norme.

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- **10.3 Possibilità di reazioni pericolose** Non sono note reazioni pericolose.
- **10.4 Condizioni da evitare** Non sono disponibili altre informazioni.
- **10.5 Materiali incompatibili:** Non sono disponibili altre informazioni.
- **10.6 Prodotti di decomposizione pericolosi:** Non sono noti prodotti di decomposizione pericolosi.

SEZIONE 11: Informazioni tossicologiche

· **11.1 Informazioni sugli effetti tossicologici**

- **Tossicità acuta**
Nocivo se ingerito.
Letale se inalato.

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

1333-82-0 triossido di cromo

Orale	LD50	80 mg/kg (rat)
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- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea**
Provoca gravi ustioni cutanee e gravi lesioni oculari.
- **Lesioni oculari gravi/irritazioni oculari gravi**
Provoca gravi lesioni oculari.
- **Sensibilizzazione respiratoria o cutanea**
Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.
Può provocare una reazione allergica cutanea.
- **Ulteriori dati tossicologici:**
- **Effetti CMR (cancerogenicità, mutagenicità e tossicità per la riproduzione)**
- **Mutagenicità delle cellule germinali**
Può provocare alterazioni genetiche.
- **Cancerogenicità**
Può provocare il cancro.
- **Tossicità per la riproduzione**
Sospettato di nuocere alla fertilità
- **Tossicità specifica per organi bersaglio (STOT) - esposizione singola**
Può irritare le vie respiratorie.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**
Può provocare danni al sistema respiratorio in caso di esposizione prolungata e ripetuta.
- **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.
- **Effetti tossici per l'ambiente:**
- **Osservazioni:** Tossico per i pesci.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**
Pericolosità per le acque classe 3 (D) (Autoclassificazione): molto pericoloso
Non immettere nelle acque freatiche, nei corsi d'acqua o nelle fognature, anche in piccole dosi.
Non immettere il prodotto non diluito o non neutralizzato nelle acque di scarico e nei canali di raccolta.
Pericolo per le acque potabili anche in caso di perdite nel sottosuolo di quantità minime di prodotto.

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Tossico per pesci e plancton.

tossico per gli organismi acquatici

Dilavare grandi quantità nella fognatura o in corpi d'acqua può risultare in un abbassamento del valore pH. Un basso valore pH danneggia gli organismi acquatici. Nella diluizione della concentrazione d'uso si alza il valore pH notevolmente, cosicché dopo l'uso del prodotto le acque di scarico che raggiungono la fognatura sono soltanto poco pericolose per l'acqua.

· **12.5 Risultati della valutazione PBT e vPvB**

· **PBT:** Non applicabile.

· **vPvB:** Non applicabile.

· **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

SEZIONE 13: Considerazioni sullo smaltimento

· **13.1 Metodi di trattamento dei rifiuti**

· **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.

· **Imballaggi non puliti:**

· **Consigli:** Smaltimento in conformità con le disposizioni amministrative.

· **Detergente consigliato:** Acqua eventualmente con l'aggiunta di detersivi.

SEZIONE 14: Informazioni sul trasporto

· **14.1 Numero ONU**

· **ADR, IMDG, IATA**

UN1755

· **14.2 Nome di spedizione dell'ONU**

· **ADR**

1755 ACIDO CROMICO IN SOLUZIONE, PERICOLOSO
PER L'AMBIENTE

· **IMDG, IATA**

CHROMIC ACID SOLUTION

· **14.3 Classi di pericolo connesso al trasporto**

· **ADR**



· **Classe**

8 Materie corrosive

· **Etichetta**

8

· **IMDG, IATA**



· **Class**

8 Materie corrosive

· **Label**

8

· **14.4 Gruppo di imballaggio**

· **ADR, IMDG, IATA**

II

· **14.5 Pericoli per l'ambiente:**

· **Marcatura speciali (ADR):**

Simbolo (pesce e albero)

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- | | |
|---|--|
| · 14.6 Precauzioni speciali per gli utilizzatori | Attenzione: Materie corrosive |
| · 14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC | Non applicabile. |
| · UN "Model Regulation": | UN 1755 ACIDO CROMICO IN SOLUZIONE, 8, II, PERICOLOSO PER L'AMBIENTE |

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**
H2 TOSSICITÀ ACUTA
P8 LIQUIDI E SOLIDI COMBURENTI
E2 Pericoloso per l'ambiente acquatico
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia inferiore 50 t**
- **Quantità limite (tonnellate) ai fini dell'applicazione dei requisiti di soglia superiore 200 t**

- **ELENCO DELLE SOSTANZE SOGGETTE AD AUTORIZZAZIONE (ALLEGATO XIV)**

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- **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII** Restrizioni: 3, 28, 29, 47, 72

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

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- **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:**

- **Indicazioni relative alla limitazione delle attività lavorative:**

Il personale non deve essere esposto alle sostanze cancerogene contenute in questo preparato L'autorità può ammettere nei singoli casi delle eccezioni.

- **Ulteriori disposizioni, limitazioni e decreti proibitivi**

- **Sostanze estremamente preoccupanti (SVHC) ai sensi della regolamento REACH, articolo 57**

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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.

· **Frasi rilevanti**

- H271 Può provocare un incendio o un'esplosione; molto comburente.
- H301 Tossico se ingerito.
- H311 Tossico per contatto con la pelle.
- H314 Provoca gravi ustioni cutanee e gravi lesioni oculari.
- H317 Può provocare una reazione allergica cutanea.
- H330 Letale se inalato.
- H334 Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.
- H340 Può provocare alterazioni genetiche.
- H350 Può provocare il cancro.
- H361f Sospettato di nuocere alla fertilità
- H372 Provoca danni agli organi in caso di esposizione prolungata o ripetuta.
- H400 Molto tossico per gli organismi acquatici.
- H410 Molto tossico per gli organismi acquatici con effetti di lunga durata.

· **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
- SVHC: Substances of Very High Concern
- vPvB: very Persistent and very Bioaccumulative
- Ox. Liq. 1: Liquidi comburenti – Categoria 1
- Ox. Sol. 1: Solidi comburenti – Categoria 1
- Acute Tox. 3: Tossicità acuta – Categoria 3
- Acute Tox. 4: Tossicità acuta – Categoria 4
- Acute Tox. 2: Tossicità acuta – Categoria 2
- Skin Corr. 1A: Corrosione/irritazione della pelle – Categoria 1A
- Eye Dam. 1: Gravi lesioni oculari/irritazione oculare – Categoria 1
- Resp. Sens. 1: Sensibilizzazione delle vie respiratorie – Categoria 1
- Skin Sens. 1: Sensibilizzazione della pelle – Categoria 1
- Muta. 1B: Mutagenicità sulle cellule germinali – Categoria 1B
- Carc. 1A: Cancerogenicità – Categoria 1A
- Repr. 2: Tossicità per la riproduzione – Categoria 2
- STOT SE 3: Tossicità specifica per organi bersaglio (esposizione singola) – Categoria 3
- STOT RE 1: Tossicità specifica per organi bersaglio (esposizione ripetuta) – Categoria 1
- STOT RE 2: Tossicità specifica per organi bersaglio (esposizione ripetuta) – Categoria 2
- Aquatic Acute 1: Pericoloso per l'ambiente acquatico - pericolo acuto per l'ambiente acquatico – Categoria 1
- Aquatic Chronic 1: Pericoloso per l'ambiente acquatico - pericolo a lungo termine per l'ambiente acquatico – Categoria 1
- Aquatic Chronic 2: Pericoloso per l'ambiente acquatico - pericolo a lungo termine per l'ambiente acquatico – Categoria 2

물질안전보건자료 GHS에 따라

인쇄일자: 2022.05.05

개정: 2022.05.05

1 화학제품과 회사에 관한 정보

- 제품 식별자
- 제품명: **CHROMIC ACID 4% AQUEOUS SOLUTION**
- 상품번호: 12557, 26120-01
- 해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도
- 제품의 권고 용도와 사용상의 제한: CHROMIC ACID 4% AQUEOUS SOLUTION
- 제품의 권고 용도와 사용상의 제한: 실험실 화학품
- 안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보
- 제조자/수입자/유통업자 정보:
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2 유해성·위험성

- 순물질 또는 혼합물의 분류



회오리 화염

산화성 액체 – 구분1

H271 화재 또는 폭발을 일으킬 수 있음: 강산화제



두개골과 대퇴골

급성 독성 - 흡입 – 구분2

H330 흡입하면 치명적임



건강에 위험

호흡기 과민성 – 구분1

H334 흡입시 알레르기성 반응, 천식 또는 호흡 곤란 등을 일으킬 수 있음

(2 쪽에 계속)

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(1 쪽부터 계속)

생식세포 변이원성- 구분1B	H340 유전적인 결함을 일으킬 수 있음
발암성 - 구분1A	H350 암을 일으킬 수 있음
생식독성 - 구분2	H361 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨
특정표적장기 독성 - 반복 노출 - 구분2	H373 호흡체계를 장시간 또는 반복된 노출로 인하여 손상시킬 수 있다.



피부 부식성/피부 자극성 - 구분 1	H314 피부에 심한 화상과 눈에 손상을 일으킴
심한 눈 손상성/눈 자극성 - 구분1	H318 눈에 심한 손상을 일으킴



수생환경 유해성 - 만성 - 구분2	H411 장기적인 영향에 의해 수생생물에게 유독함
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급성 독성 - 경구 - 구분4	H302 삼키면 유해함
피부 과민성은 - 구분1	H317 알레르기성 피부 반응을 일으킬 수 있음

- 라벨표기 요소
- GHS 라벨 요소 본 제품은 화학물질의 분류 및 표기에 관한 국제조화시스템(GHS)에 따라 분류 및 표기되었습니다.
- GHS 그림문자



- 신호어 위험
- 상표상에 명확히 위험성이 표시된 성분:
 - 무수 크롬산
- 유해·위험문구
 - 화재 또는 폭발을 일으킬 수 있음: 강산화제
 - 삼키면 유해함
 - 흡입하면 치명적임
 - 피부에 심한 화상과 눈에 손상을 일으킴
 - 흡입시 알레르기성 반응, 천식 또는 호흡 곤란 등을 일으킬 수 있음
 - 알레르기성 피부 반응을 일으킬 수 있음
 - 유전적인 결함을 일으킬 수 있음
 - 암을 일으킬 수 있음
 - 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨
 - 호흡체계를 장시간 또는 반복된 노출로 인하여 손상시킬 수 있다.
 - 장기적인 영향에 의해 수생생물에게 유독함
- 예방조치문구
 - 가연성 물질과 혼합되지 않도록 조치하십시오.
 - 방화복·방염복을 입으십시오.
 - 피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으십시오/샤워하십시오.
 - 눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으십시오.
 - 즉시 독성물질센터/병원 연락 필요.

(3 쪽에 계속)

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(2 쪽부터 계속)

긴급히(라벨 참조) 처치를 하시오.
오염된 의복은 벗고 다시 사용 전 세척하십시오.
밀봉하여 저장하십시오.
(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

- 기타 유해성
- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.

3 구성성분의 명칭 및 함유량

- 화학적 특성: 혼합물
- 설명: 무해한 첨가물이 함유된 아래에 열거된 물질로 만들어진 혼합물.

· 위험 요소:

1333-82-0	무수 크롬산 ☠ 산화성 고체 - 구분1, H271; ☠ 급성 독성 - 경구 - 구분3, H301; 급성 독성 - 경피 - 구분3, H311; 급성 독성 - 흡입 - 구분2, H330; ☠ 호흡기 과민성 - 구분1, H334; 생식세포 변이원성 - 구분1B, H340; 발암성 - 구분1A, H350; 생식독성 - 구분2, H361; 특정표적장기 독성 - 반복 노출 - 구분1, H372; ☠ 피부 부식성/피부 자극성 - 구분 1, H314; ☠ 수생환경 유해성 - 급성 - 구분1, H400; 수생환경 유해성 - 만성 - 구분1, H410; ⚠ 피부 과민성은 - 구분1, H317	>2.5-≤10%
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4 응급조치 요령

- 응급조치요령 내용
- 일반적 정보:
이 제품에 의해 오염된 의상은 즉시 제거한다.
중독 증상은 몇 시간이 지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48 시간동안은 의료진의 관찰을 받아야 한다.
반드시 오염된 의상을 완전히 제거한 후에 호흡보호기를 떼어낸다.
불규칙적인 호흡이나 호흡정지 상태에서는 인공호흡을 실시한다.
- 흡입했을 때:
신선한 공기나 산소를 공급받고, 의료진의 도움을 구한다.
환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.
- 피부에 접촉했을 때: 즉시 물과 비누로 씻고 잘 행군다.
- 눈에 들어갔을 때: 흐르는 물에 눈을 몇분동안 씻어내고 나서, 의사와 상담한다
- 먹었을 때:
즉시 의사의 도움을 구한다.
물을 충분히 마시고 신선한 공기를 쐬다. 즉시 의사의 도움을 구한다.
- 기타 의사의 주의사항:
· 가장 중요한 급·만성 증상 및 영향 추가적인 정보가 존재하지 않습니다.
· 즉각적인 의료처치 및 특별치료가 필요함을 시사하는 징후 추가적인 정보가 존재하지 않습니다.

5 폭발·화재시 대처방법

- 소화제
- 적절한 소화제: 주변 환경에 맞는 화재진화방법을 사용한다.
- 본 화학물질이나 혼합물에서 발생하는 특별 유해성 추가적인 정보가 존재하지 않습니다.

(4 쪽에 계속)

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(3 쪽부터계속)

- 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:
 - 하천이나하수로유입되었을경우해당관청에보고한다.
 - 많은 물로 희석시킨다.
 - 하수도망/해수면위의물/지하수로도달하지않게한다.
- 밀폐 및 정화 방법과 소재:
 - 액체가 혼합된 물질 (모래, 규조토, 산성 결합물, 일반 결합물, 톱밥)에 흡입되도록 한다.
 - 중성제를사용한다.
 - 항목 13에 따라 오염된 물질을 쓰레기로 처분한다.
 - 충분한 환기가 되도록 한다.
- 타 섹션 참조
 - 안전 관리에 대한 정보는 제7 장을 참고하시오.
 - 개인 보호 장비에 대한 정보는 제8 장을 참고하시오.
 - 쓰레기 처리에 대한 정보는 제13 장을 참고하시오.

7 취급 및 저장방법

- 취급:
 - 안전 취급을 위한 예방조치
 - 작업장에서는통풍이잘되고/습기제거가잘되게주의한다.
 - 조심스럽게용기를개봉하거나취급한다.
 - 연무질이형성되는것을피한다.
 - 화재 및 폭발 사고 예방대책에 관한 정보: 호흡보호장비를항상비치한다.
- 혼합위험성 등 안전 저장 조건
- 보관:
 - 안전한 저장 방법: 특 별 한 요구사항이 없음.
 - 하나의 공동 보관 시설에 대한 보관 관련 정보: 필 요없음
 - 보관 조 건 에 관 한 추가적인 정보: 용기를새지않게밀폐한채보관한다.
 - 구체적 최종 사용자 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

- 첨단시설 디자인에 대한 추가정보: 더 이 상 의 자료는 없음. 항 목 7 을 참고하시 오.
- 통제 변수

· 화학물질의 노출기준, 생물학적 노출기준 등:

1333-82-0 무수 크롬산

OELV (KR)	장기간의값: 0.05 mg/m ³ as Cr
BOELV (EU)	장기간의값: 0.005; 0.01*; 0.025** mg/m ³ as Cr; *until 01/17/2025**processes generating fume
PEL (US)	장기간의값: 0.005* mg/m ³ 최고노출기준: 0.1** mg/m ³ *as Cr(VI) **as CrO ₃ ; see 29 CFR 1910.1026

(5 쪽에계속)

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REL (US)	장기간의값: 0.0002 mg/m ³ as Cr; See Pocket Guide Apps. A and C
TLV (US)	단기간의값: 0.0005 mg/m ³ 장기간의값: 0.0002 mg/m ³ as Cr(VI); inhalable, Skin; BEI, DSEN, RSEN

· 생물학적 허용값을 갖는 원료:

1333-82-0 무수 크롬산

BEI (US)	25 µg/L Medium: urine Time: end of shift at end of workweek Parameter: Total chromium (fume)
	10 µg/L Medium: urine Time: increase during shift Parameter: Total chromium (fume)

· 추가 정보: 제조할 당시에 유효한 목록을 기초로 사용했다.

· 노출 통제

· 개인 보호구

· 일반적보호조치및위생조치:

· 식료품, 음료수와 사료로부터 멀리 떨어져 놓는다.

· 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.

· 휴식 전이나 작업이 끝날때마다 손을 씻는다.

· 방호복은 따로 보관한다.

· 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:



보호용 장갑

· 장갑재질은제품 / 원료 / 조제를투과시키지않아야하고, 내구성이있어야한다.

· 테스트를하지 않았기 때문에 제품 / 조제 / 화학 혼합물에 적합한 장갑재질에 대한 추천이 없다.

· 투과 시간, 침투율과 저하를 고려해서 장갑 재료를 선택한다.

· 장갑의재료

· 적합한장갑의선택은재질차이뿐아니라품질기준의차이도고려하여야이루어져야하고제조업종에따라서도다르게선정되어야한다 .
· 제품은다양한재료로부터의조제로이루어지는것이기때문에 , 장갑재질의안정성은사전에예측되어질수있는것이아니고 ,
· 반드시사용전에 (그안전성이) 체크되어야한다.

· 장갑재료의 투과시간 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

· 눈 보호:



꼭조이는보안경

KR

(6 쪽에계속)

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9 물리화학적 특성

· 기본 물리 및 화학적 특성에 대한 정보	
· 일반정보	
· 외형	
· 물리적 상태:	액체
· 색:	호박색
· 냄새:	무취의
· 후각역치	알맞지않다.
· pH 의경우 20 °C:	0.4-0.6
· 상태변화	
· 녹는점/어는점:	0 °C
· 초기 끓는점과 끓는점 범위:	100 °C
· 인화점:	해당사항 없음.
· 인화성(고체, 기체):	해당사항 없음.
· 분해 온도:	알맞지않다.
· 자기점화:	이제품은자연발화성이없다.
· 폭발위험:	이제품은폭발위험성이없다 가연성물질과혼합할경우의폭발위험
· 인화 또는 폭발 범위의 상한/하한	
· 아래로:	알맞지않다.
· 위로:	알맞지않다.
· 증기압 의경우 20 °C:	23 hPa
· 밀도 의경우 20 °C:	1.072 g/cm ³
· 비중:	알맞지않다.
· 증기밀도:	알맞지않다.
· 증발 속도:	알맞지않다.
· 용해도:	
· 물:	완전히혼합할수있는
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도:	
· 역학적:	알맞지않다.
· 동점성:	알맞지않다.
· 용매내용물	
· 물:	96.0 %
· VOC (EU)	0.00 %
· 고체의 함량:	4.0 %
· 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: 규정에따라사용할경우해체는없다
- 유해반응 가능성 위험한반응으로는알려지지않았다.

(7 쪽에계속)

물질안전보건자료 GHS에 따라

인쇄일자: 2022.05.05

개정: 2022.05.05

제품명: CHROMIC ACID 4% AQUEOUS SOLUTION

(6 쪽부터계속)

- **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:**

1333-82-0 무수 크롬산

구강의	LD50	80 mg/kg (rat)
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- **일차적 자극 효과:**
- **피부 부식성 또는 자극성:** 피부와점막에강한부식작용.
- **심한 눈 손상 또는 자극성:**
강한부식작용
심각한안구상처의위험이있는강한자극
- **감각화:**
호흡을통한감각화가가능성이있다.
피부접촉을통하여감각화가가능성이있다.
- **추 가 적 인 독성 에 관 한 정 보:**
이제품은유럽공동체의공동분류원칙의합법적인절차에근거하여최근에발효된원고에서아래위험들의사전준비에대하여제시하고있다.
건강에해로운
부식작용의
자극적인
맹독성의
삼킬경우식도나위등의내장기관벽에상처를주는위험과마찬가지로입주변이나구강에강한부식작용을한다
암을유발하는
이제품은유전적인장애를유발할수있다.
- **다음 종류의 잠재적인 효과에 대한 정보**
- **CMR-효과 (암 유발, 돌연변이성 그리고 생식 독성)**
생식세포 변이원성- 구분1B, 발암성 - 구분1A, 생식독성 - 구분2

12 환경에 미치는 영향

- **독성**
- **수생독성:** 추가적인 정보가 존재하지 않습니다.
- **지속성 및 분해성** 추가적인 정보가 존재하지 않습니다.
- **환 경 시스 템 에 서 의 행 동:**
- **생물농축 잠재성** 추가적인 정보가 존재하지 않습니다.
- **토양내 이동성** 추가적인 정보가 존재하지 않습니다.
- **생태독성:**
- **의견:** 어류에독이됨
- **추가적인 생태학 정보:**
- **일반 특징:**
수질오염등급 3 (자체등급분류): 심하게수질오염이된
지하수나, 하천으로또는하수도망에도달하지않게한다. 역시극소수의양이라도안된다.
희석시키지않은채또는중화시키지않은채하수도나배수로에도달하지않게해야한다.
지하수로아주미세한양이유입되었을경우엔이미식수오염상태이다
하천에서는역시물고기나플랑크톤계는독성이있다.

(8 쪽에계속)

물질안전보건자료 GHS에 따라

인쇄일자: 2022.05.05

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제품명: CHROMIC ACID 4% AQUEOUS SOLUTION

(7 쪽부터계속)

물속의유기체에독이되는것
 많은양을하수도관이나하천으로방류하게되면, p H-수치는낮아집니다. 낮은 p H-수치는물속의유기체를손상시킵니다.
 사용농축액을희석시키면 p H - 수치는현저하게높아지게됩니다.
 그래서제품을사용한후에하수도관에도달되는폐수는물에끼치는위험성이약해지게됩니다.

- PBT(잔류성, 생물농축성, 독성 물질) 및 vPvB(고 잔류성, 고 생물농축성 물질) 평가 결과
- PBT(잔류성, 생물농축성, 독성 물질): 해당사항 없음.
- vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.
- 기타 부작용 추가적인 정보가 존재하지 않습니다.

13 폐기시 주의사항

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

14 운송에 필요한 정보

· 유엔 번호	UN1755
· ADR, IMDG, IATA	
· UN 적정 선정명	1755 CHROMIC ACID SOLUTION, ENVIRONMENTALLY HAZARDOUS
· ADR	CHROMIC ACID SOLUTION
· IMDG, IATA	
· 교통 위험 클래스	
· ADR	
· 등급	8 부식작용하는물질
· 위험물 라벨	8
· IMDG, IATA	
· Class	8 부식작용하는물질
· Label	8
· 용기등급	
· ADR, IMDG, IATA	II
· 환경적 유해물질:	
· 특수 마킹 (ADR):	심벌 (물고기와 나무)

(9 쪽에계속)

물질안전보건자료
GHS에 따라

인쇄일자: 2022.05.05

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(8 쪽부터계속)

· 이용자 특별 예방조치	경고: 부식작용하는물질
· MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송	해당사항 없음.
· UN "모범 규제":	UN 1755 CHROMIC ACID SOLUTION, 8, II, ENVIRONMENTALLY HAZARDOUS

15 법적 규제현황

· 산업안전보건법에 의한 규제:		
· 제조 등 금지물질:		
어떠한내용물도 목록화되어있지않다		
· 허가대상물질:		
어떠한내용물도 목록화되어있지않다		
· 관리대상유해물질:		
1333-82-0	무수 크롬산	
· 관리대상 유해물질의 종류 금속류: 25		
· 작업환경측정 대상 유해인자		
1333-82-0	무수 크롬산	1B21
· 특수건강진단 대상 유해인자		
1333-82-0	무수 크롬산	1B18
· 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률		
· Korean Existing Chemical Inventory		
7732-18-5	물	KE-35400
1333-82-0	무수 크롬산	KE-06020
· 화학물질관리법		
· 사고대비물질		
어떠한내용물도 목록화되어있지않다		
· 금지물질		
어떠한내용물도 목록화되어있지않다		
· 제한물질		
1333-82-0	무수 크롬산	
· 유독물질		
1333-82-0	무수 크롬산	
· 허가물질		
1333-82-0	무수 크롬산	
· 위험물안전관리법 (위험물 및 지정수량) 제 1: 300 킬로그램		
· 등록 또는 신고 면제대상 화학물질		
7732-18-5	물	
· '21년까지 등록하여야 할 암, 돌연변이, 생식능력 이상을 일으키거나 일으킬 우려가 있는 기존화학물질		
어떠한내용물도 목록화되어있지않다		

(10 쪽에계속)

물질안전보건자료 GHS에 따라

인쇄일자: 2022.05.05

개정: 2022.05.05

제품명: CHROMIC ACID 4% AQUEOUS SOLUTION

(9 쪽부터 계속)

· **중점관리물질의 지정**

· **표1 중점관리물질(제2조 관련)**

1333-82-0 | 무수 크롬산

· **표2 중점관리물질(제2조 관련)**

어떠한내용물도목록화되어있지않다

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

· **GHS 그림문자**



· **신호어 위험**

· **상표상에 명확히 위험성이 표시된 성분:**

무수 크롬산

· **유해·위험문구**

화재 또는 폭발을 일으킬 수 있음: 강산화제

삼키면 유해함

흡입하면 치명적임

피부에 심한 화상과 눈에 손상을 일으킴

흡입시 알레르기성 반응, 천식 또는 호흡 곤란 등을 일으킬 수 있음

알레르기성 피부 반응을 일으킬 수 있음

유전적인 결함을 일으킬 수 있음

암을 일으킬 수 있음

태아 또는 생식능력에 손상을 일으킬 것으로 의심됨

호흡체계를 장시간 또는 반복된 노출로 인하여 손상시킬 수 있다.

장기적인 영향에 의해 수생생물에게 유독함

· **예방조치문구**

가연성 물질과 혼합되지 않도록 조치하십시오.

방화복·방염복을 입으십시오.

피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗거나 제거하십시오. 피부를 물로 씻으십시오/샤워하십시오.

눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능한면 콘택트렌즈를 제거하십시오. 계속 씻으십시오.

즉시 독성물질센터/병원 연락 필요.

긴급히(라벨 참조) 처치를 하십시오.

오염된 의복은 벗고 다시 사용 전 세척하십시오.

밀봉하여 저장하십시오.

(지방/지역/국가/국제 규정에 따라) 에 내용물/용기를 폐기하십시오.

· **국내규정:**

· **사용제한에 대한 정보:**

노동자들은이러한예방준비하에암을유발시키는성분을함유한위험물을버리지말아야한다

개별적인경우에관청은예외를허가할수있다.

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

16 그 밖의 참고사항

이보고는우리지식에대한오늘날의상태에대하여평가하고있다

하지만이보고서는생산특성에관한보증은기술하지않았으며계약적인법률관계에기반을두고있지도않다

· **담당자:**

· **최초 작성일자:** 2022.05.05

(11 쪽에 계속)

물질안전보건자료
GHS에 따라

인쇄일자: 2022.05.05

개정: 2022.05.05

제품명: CHROMIC ACID 4% AQUEOUS SOLUTION

(10 쪽부터계속)

· 개정 횟수 및 최종 개정일자: 1 / 2022.05.05

· 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

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

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 05.05.2022

Revisión: 05.05.2022

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

- **1.1 Identificador del producto**
- **Nombre comercial:** CHROMIC ACID 4% AQUEOUS SOLUTION
- **Número del artículo:** 12557, 26120-01
- **UFI:** D092-R0KC-A00U-VCHR
- **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**



GHS03 llama sobre un círculo

Ox. Liq. 1 H271 Puede provocar un incendio o una explosión; muy comburente.



GHS06 calavera y tibias cruzadas

Acute Tox. 2 H330 Mortal en caso de inhalación.



GHS08 peligro para la salud

Resp. Sens. 1 H334 Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.

Muta. 1B H340 Puede provocar defectos genéticos.

Carc. 1A H350 Puede provocar cáncer.

Repr. 2 H361f Se sospecha que perjudica a la fertilidad.

STOT RE 2 H373 Puede provocar daños en el sistema respiratorio tras exposiciones prolongadas o repetidas

(se continua en página 2)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 05.05.2022

Revisión: 05.05.2022

Nombre comercial: CHROMIC ACID 4% AQUEOUS SOLUTION

(se continua en página 1)



GHS05 corrosión

Skin Corr. 1A H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

Eye Dam. 1 H318 Provoca lesiones oculares graves.



GHS09 medio ambiente

Aquatic Chronic 2 H411 Tóxico para los organismos acuáticos, con efectos nocivos duraderos.



GHS07

Acute Tox. 4 H302 Nocivo en caso de ingestión.

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

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.

· Pictogramas de peligro



GHS03



GHS05



GHS06



GHS08



GHS09

· Palabra de advertencia Peligro

· Componentes peligrosos a indicar en el etiquetaje:

trióxido de cromo

· Indicaciones de peligro

H271 Puede provocar un incendio o una explosión; muy comburente.

H302 Nocivo en caso de ingestión.

H330 Mortal en caso de inhalación.

H314 Provoca quemaduras graves en la piel y lesiones oculares graves.

H334 Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.

H317 Puede provocar una reacción alérgica en la piel.

H340 Puede provocar defectos genéticos.

H350 Puede provocar cáncer.

H361f Se sospecha que perjudica a la fertilidad.

H335 Puede irritar las vías respiratorias.

H373 Puede provocar daños en el sistema respiratorio tras exposiciones prolongadas o repetidas

H411 Tóxico para los organismos acuáticos, con efectos nocivos duraderos.

· Consejos de prudencia

P283 Llevar ropa resistente al fuego o retardante de las llamas.

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

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

P310 Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.

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P320	Se necesita urgentemente un tratamiento específico (ver en esta etiqueta).
P362+P364	Quitar las prendas contaminadas y lavarlas antes de volver a usarlas.
P405	Guardar bajo llave.
P501	Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.

- **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: 1333-82-0 EINECS: 215-607-8	trióxido de cromo ☠ Ox. Sol. 1, H271; ☠ Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 2, H330; ☠ Resp. Sens. 1, H334; Muta. 1B, H340; Carc. 1A, H350; Repr. 2, H361f; STOT RE 1, H372; ☠ Skin Corr. 1A, H314; ☠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410; ☠ Skin Sens. 1, H317	>2,5-≤10%
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· **SVHC**

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- **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:**
Quitarse de inmediato toda prenda contaminada con el producto.
Los síntomas de intoxicación pueden presentarse después de muchas horas, por lo que se requiere una supervisión médica durante un mínimo de 48 horas después del accidente.
Antes de quitarse la protección respiratoria, quítese la ropa contaminada.
En caso de respiración irregular o apnea (paro respiratorio), hágase la respiración artificial.
- **En caso de inhalación del producto:**
Suministrar aire fresco u oxígeno; solicitar ayuda médica.
Las personas desmayadas deben tenderse y transportarse de lado con la suficiente estabilidad.
- **En caso de contacto con la piel:** Lavar inmediatamente con agua y jabón y enjuagar bien.
- **En caso de con los ojos:**
Limpiar los ojos abiertos durante varios minutos con agua corriente y consultar un médico.
- **En caso de ingestión:**
Consultar inmediatamente un médico.
Beber mucha agua a respirar aire fresco. Solicitar asistencia médica inmediatamente.
- **4.2 Principales síntomas y efectos, agudos y retardados** No existen más datos relevantes disponibles.
- **4.3 Indicación de toda atención médica y de los tratamientos especiales que deban dispensarse inmediatamente**
No existen más datos relevantes disponibles.

SECCIÓN 5: Medidas de lucha contra incendios

- **5.1 Medios de extinción**
- **Sustancias extintoras apropiadas:** Combatir los incendios con medidas adaptados al ambiente circundante.

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- **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:**
Al penetrar en las aguas o en el alcantarillado, avisar a las autoridades pertinentes.
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).
Utilizar un neutralizador.
Desechar el material contaminado como vertido según item 13.
Asegurar suficiente ventilación.
- **6.4 Referencia a otras secciones**
Ver capítulo 7 para mayor información sobre una manipulación segura.
Ver capítulo 8 para mayor información sobre el equipo personal de protección.
Para mayor información sobre cómo desechar el producto, ver capítulo 13.

SECCIÓN 7: Manipulación y almacenamiento

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

SECCIÓN 8: Controles de exposición/protección individual

- **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:**

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LEP	Valor de larga duración: 0,05 mg/m ³ CIA, MIB, VLB, Sen, r
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· **Componentes con valores límite biológicos:****1333-82-0 trióxido de cromo**

VLB 10 µg/l

Muestra: en orina

Momento de Muestero: Principio y final de la jornada laboral

Indicador Biológico: Cromo total

25 µg/l

Muestra: en orina

Momento de Muestero: Final de la semana laboral

Indicador Biológico: Cromo total

· **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.· **8.2 Controles de la exposición**· **Equipo de protección individual:**· **Medidas generales de protección e higiene:**

Mantener alejado de alimentos, bebidas y alimentos para animales.

Quitarse de inmediato la ropa ensuciada o impregnada.

Lavarse las manos antes de las pausas y al final del trabajo.

Guardar la ropa protectora por separado.

Evitar el contacto con los ojos.

Evitar el contacto con los ojos y la piel.

· **Protección respiratoria:**

Si la exposición va a ser breve o de poca intensidad, colocarse una máscara respiratoria. Para una exposición más intensa o de mayor duración, usar un aparato de respiración autónomo.

· **Protección de manos:**

Guantes de protección

El material del guante deberá ser impermeable y resistente al producto / sustancia / preparado.

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

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

· **Material de los guantes**

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro. Teniendo en cuenta que el producto está fabricado a partir de diferentes materiales, su calidad no puede ser evaluada de antemano, de modo que los guantes deberán ser controlados antes de su utilización.

· **Tiempo de penetración del material de los guantes**

El tiempo de resistencia a la penetración exacto deberá ser pedido al fabricante de los guantes. Este tiempo debe ser respetado.

· **Protección de ojos:**

Gafas de protección herméticas

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SECCIÓN 9: Propiedades físicas y químicas

· 9.1 Información sobre propiedades físicas y químicas básicas

· Datos generales

· Aspecto:

Forma:

Líquido

Color:

Ámbar coloreado

· Olor:

Inodoro

· Umbral olfativo:

No determinado.

· valor pH a 20 °C:

0,4-0,6

· Cambio de estado

Punto de fusión/punto de congelación:

0 °C

Punto inicial de ebullición e intervalo de ebullición:

100 °C

· Punto de inflamación:

No aplicable.

· Inflamabilidad (sólido, gas):

No aplicable.

· Temperatura de descomposición:

No determinado.

· Temperatura de auto-inflamación:

El producto no es autoinflamable.

· Propiedades explosivas:

El producto no es explosivo.

Peligro de explosión al mezclar con materias combustibles.

· Límites de explosión:

Inferior:

No determinado.

Superior:

No determinado.

· Presión de vapor a 20 °C:

23 hPa

· Densidad a 20 °C:

1,072 g/cm³

· Densidad relativa

No determinado.

· Densidad de vapor

No determinado.

· Tasa de evaporación:

No determinado.

· Solubilidad en / miscibilidad con agua:

Completamente mezclable.

· Coeficiente de reparto: n-octanol/agua:

No determinado.

· Viscosidad:

Dinámica:

No determinado.

Cinemática:

No determinado.

· Concentración del disolvente:

Agua:

96,0 %

VOC (CE)

0,00 %

· Contenido de cuerpos sólidos:

4,0 %

· 9.2 Otros datos

No existen más datos relevantes disponibles.

SECCIÓN 10: Estabilidad y reactividad

· 10.1 Reactividad No existen más datos relevantes disponibles.

· 10.2 Estabilidad química

· Descomposición térmica / condiciones que deben evitarse: No se descompone al emplearse adecuadamente.

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- **10.3 Posibilidad de reacciones peligrosas** No se conocen reacciones peligrosas.
- **10.4 Condiciones que deben evitarse** No existen más datos relevantes disponibles.
- **10.5 Materiales incompatibles:** No existen más datos relevantes disponibles.
- **10.6 Productos de descomposición peligrosos:** No se conocen productos de descomposición peligrosos.

SECCIÓN 11: Información toxicológica

· 11.1 Información sobre los efectos toxicológicos

· Toxicidad aguda

Nocivo en caso de ingestión.

Mortal en caso de inhalación.

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

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Oral	LD50	80 mg/kg (rat)
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· Efecto estimulante primario:

· Corrosión o irritación cutáneas

Provoca quemaduras graves en la piel y lesiones oculares graves.

· Lesiones o irritación ocular graves

Provoca lesiones oculares graves.

· Sensibilización respiratoria o cutánea

Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.

Puede provocar una reacción alérgica en la piel.

· Indicaciones toxicológicas adicionales:

· Efectos CMR (carcinogenicidad, mutagenicidad y toxicidad para la reproducción)

· Mutagenicidad en células germinales

Puede provocar defectos genéticos.

· Carcinogenicidad

Puede provocar cáncer.

· Toxicidad para la reproducción

Se sospecha que perjudica a la fertilidad.

· Toxicidad específica en determinados órganos (STOT) – exposición única

Puede irritar las vías respiratorias.

· Toxicidad específica en determinados órganos (STOT) – exposición repetida

Puede provocar daños en el sistema respiratorio tras exposiciones prolongadas o repetidas

· Peligro de aspiración A la vista de los datos disponibles, no se cumplen los criterios de clasificación.

SECCIÓN 12: Información ecológica

· 12.1 Toxicidad

· **Toxicidad acuática:** No existen más datos relevantes disponibles.

· **12.2 Persistencia y degradabilidad** No existen más datos relevantes disponibles.

· **12.3 Potencial de bioacumulación** No existen más datos relevantes disponibles.

· **12.4 Movilidad en el suelo** No existen más datos relevantes disponibles.

· Efectos ecotóxicos:

· **Observación:** Tóxico para peces.

· Indicaciones medioambientales adicionales:

· Indicaciones generales:

Nivel de riesgo para el agua 3 (autoclasiificación): muy peligroso para el agua

No dejar que se infiltre en aguas subterráneas, aguas superficiales o en alcantarillados, ni siquiera en pequeñas cantidades.

En estado no diluido o no neutralizado, no verter en el alcantarillado o en otros sistemas de desagüe.

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Una cantidad infima vertida en el subsuelo ya representa un peligro para el agua potable.

Vertido en aguas superficiales, también es tóxico para los peces y el plancton.

tóxico para organismos acuáticos

El vertido de grandes cantidades en la canalización o en las aguas puede causar un aumento del valor pH. Un valor de pH alto es nocivo para los organismos acuáticos. En la dilución de la concentración de la aplicación, el valor pH se reduce considerablemente, de modo que después de utilizar el producto, las aguas residuales vertidas en la canalización son mínimamente dañinas para el agua.

· **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**

UN1755

· **14.2 Designación oficial de transporte de las Naciones Unidas**

· **ADR**

1755 ÁCIDO CRÓMICO EN SOLUCIÓN, PELIGROSO
PARA EL MEDIO AMBIENTE
CHROMIC ACID SOLUTION

· **IMDG, IATA**

· **14.3 Clase(s) de peligro para el transporte**

· **ADR**



· **Clase**

8 Materias corrosivas

· **Etiqueta**

8

· **IMDG, IATA**



· **Class**

8 Materias corrosivas

· **Label**

8

· **14.4 Grupo de embalaje**

· **ADR, IMDG, IATA**

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- | | |
|---|---|
| <ul style="list-style-type: none"> · 14.5 Peligros para el medio ambiente: · Marcado especial (ADR): | <p style="text-align: center;">Símbolo (pez y árbol)</p> |
| <ul style="list-style-type: none"> · 14.6 Precauciones particulares para los usuarios | <p style="text-align: center;">Atención: Materias corrosivas</p> |
| <ul style="list-style-type: none"> · 14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC | <p style="text-align: center;">No aplicable.</p> |
| <ul style="list-style-type: none"> · "Reglamentación Modelo" de la UNECE: | <p style="text-align: center;">UN 1755 ÁCIDO CRÓMICO EN SOLUCIÓN, 8, II, PELIGROSO PARA EL MEDIO AMBIENTE</p> |

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**
 H2 TOXICIDAD AGUDA
 P8 LÍQUIDOS Y SÓLIDOS COMBURENTES
 E2 Peligroso para el medio ambiente acuático
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel inferior 50 t**
- **Cantidad umbral (toneladas) a efectos de aplicación de los requisitos de nivel superior 200 t**

· **LISTA DE SUSTANCIAS SUJETAS A AUTORIZACIÓN (ANEXO XIV)**

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- **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII** Restricciones: 3, 28, 29, 47, 72

· **Directiva 2011/65/UE sobre restricciones a la utilización de determinadas sustancias peligrosas en aparatos eléctricos y electrónicos - Anexo II**

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- **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

· **Disposiciones nacionales:**

· **Indicaciones sobre las limitaciones de trabajo:**

Los empleados no deben exponerse a las sustancias cancerígenas contenidas en el producto. En casos aislados las autoridades pueden hacer excepciones.

· **Demás disposiciones, limitaciones y decretos prohibitivos**

· **Sustancias altamente preocupantes (SVHC) según REACH, artículo 57**

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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**

- H271 Puede provocar un incendio o una explosión; muy comburente.
- H301 Tóxico en caso de ingestión.
- H311 Tóxico en contacto con la piel.
- H314 Provoca quemaduras graves en la piel y lesiones oculares graves.
- H317 Puede provocar una reacción alérgica en la piel.
- H330 Mortal en caso de inhalación.
- H334 Puede provocar síntomas de alergia o asma o dificultades respiratorias en caso de inhalación.
- H340 Puede provocar defectos genéticos.
- H350 Puede provocar cáncer.
- H361f Se sospecha que perjudica a la fertilidad.
- H372 Provoca daños en los órganos tras exposiciones prolongadas o repetidas.
- H400 Muy tóxico para los organismos acuáticos.
- H410 Muy tóxico para los organismos acuáticos, con efectos nocivos duraderos.

· **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
- SVHC: Substances of Very High Concern
- vPvB: very Persistent and very Bioaccumulative
- Ox. Liq. 1: Líquidos comburentes – Categoría 1
- Ox. Sol. 1: Sólidos comburentes – Categoría 1
- Acute Tox. 3: Toxicidad aguda – Categoría 3
- Acute Tox. 4: Toxicidad aguda – Categoría 4
- Acute Tox. 2: Toxicidad aguda – Categoría 2
- Skin Corr. 1A: Corrosión o irritación cutáneas – Categoría 1A
- Eye Dam. 1: Lesiones oculares graves o irritación ocular – Categoría 1
- Resp. Sens. 1: Sensibilización respiratoria – Categoría 1
- Skin Sens. 1: Sensibilización cutánea – Categoría 1
- Muta. 1B: Mutagenicidad en células germinales – Categoría 1B
- Carc. 1A: Carcinogenicidad – Categoría 1A
- Repr. 2: Toxicidad para la reproducción – Categoría 2
- STOT SE 3: Toxicidad específica en determinados órganos (exposición única) – Categoría 3
- STOT RE 1: Toxicidad específica en determinados órganos (exposiciones repetidas) – Categoría 1
- STOT RE 2: Toxicidad específica en determinados órganos (exposiciones repetidas) – Categoría 2
- Aquatic Acute 1: Peligroso para el medio ambiente acuático - peligro acuático agudo – Categoría 1
- Aquatic Chronic 1: Peligroso para el medio ambiente acuático - peligro acuático a largo plazo – Categoría 1
- Aquatic Chronic 2: Peligroso para el medio ambiente acuático - peligro acuático a largo plazo – Categoría 2