

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

1 Identification

- **Product identifier**
- **Trade name:** Chromic acid
- **Article number:** 12555
- **CAS Number:**
7738-94-5
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS03 Flame over circle

Ox. Sol. 1 H271 May cause fire or explosion; strong oxidizer.



GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.

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.

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

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



GHS05 Corrosion

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

(Contd. on page 2)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: **Chromic acid**

(Contd. of page 1)



GHS07

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

· **Label elements**

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

· **Hazard pictograms**



GHS03

GHS05

GHS06

GHS08

· **Signal word** *Danger*

· **Hazard statements**

May cause fire or explosion; strong oxidizer.

Toxic if swallowed or in contact with skin.

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 organs 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.

Keep 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/flare resistant/retardant clothing.

[In case of inadequate ventilation] wear respiratory protection.

IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

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.

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

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor if you feel unwell.

Get medical advice/attention if you feel unwell.

Specific treatment is urgent (see on this label).

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

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

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: Chromic acid

(Contd. of page 2)

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

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

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)**



Health = 3

Fire = 0

Reactivity = 1

The substance possesses oxidizing properties.

· **HMIS-ratings (scale 0 - 4)**



Health = 3

Fire = 0

Reactivity = 1

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Description**

7738-94-5 Chromic acid

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:**

Do not induce vomiting; immediately call for medical help.

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.

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: Chromic acid

(Contd. of page 3)

- **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.
- **Methods and material for containment and cleaning up:**
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:** Substance is not listed.
- **PAC-2:** Substance is not listed.
- **PAC-3:** Substance is not listed.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **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.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: **Chromic acid**

(Contd. of page 4)

- **Control parameters**

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

7738-94-5 Chromic acid

PEL	Long-term value: 0.005* mg/m ³ Ceiling limit value: 0.1** mg/m ³ *as Cr(VI) **as CrO ₃ ; see 29 CFR 1910.1026
REL	Long-term value: 0.0002 mg/m ³ as Cr; See Pocket Guide Apps. A and C
TLV	Short-term value: NIC-0.0005* mg/m ³ Long-term value: (0.05) NIC-0.0002* mg/m ³ as Cr; *inhalable, BEI, NIC-Skin, DSEN, RSEN

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

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

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

- **Breathing equipment:**

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

- **Protection of hands:**



Protective gloves

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

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

- **Material of gloves**

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

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

US

(Contd. on page 6)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: *Chromic acid*

(Contd. of page 5)

9 Physical and chemical properties

· Information on basic physical and chemical properties	
· General Information	
· Appearance:	
· Form:	Crystalline
· Color:	Dark red
· Odor:	Odorless
· Odor threshold:	Not determined.
· pH-value:	Not applicable.
· Change in condition	
· Melting point/Melting range:	196 °C (385 °F)
· Boiling point/Boiling range:	Undetermined.
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Product is not flammable.
· Ignition temperature:	
· Decomposition temperature:	Not determined.
· Auto igniting:	Not determined.
· 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:	Not applicable.
· Density:	Not determined.
· Bulk density at 20 °C (68 °F):	2,700 kg/m ³
· Relative density	Not determined.
· Vapor density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with	
· Water:	Not determined.
· Partition coefficient (n-octanol/water): Not determined.	
· Viscosity:	
· Dynamic:	Not applicable.
· Kinematic:	Not applicable.
· 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.

(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: *Chromic acid*

(Contd. of page 6)

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

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:**

· **Primary irritant effect:**

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

· **on the eye:** *Strong caustic effect.*

· **Sensitization:**

Sensitization possible through inhalation.

Sensitization possible through skin contact.

· **Additional toxicological information:**

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

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer) 1**

· **NTP (National Toxicology Program) K**

· **OSHA-Ca (Occupational Safety Health Administration) Substance is not listed.**

12 Ecological information

· **Toxicity**

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

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

· **Behavior in environmental systems:**

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

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

· **Ecotoxicological effects:**

· **Remark:** *Very toxic for fish*

· **Additional ecological information:**

· **General notes:**

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

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

· **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.*

US

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS





Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: *Chromic acid*

(Contd. of page 7)

14 Transport information

· UN-Number	UN1463
· DOT, ADR, IMDG, IATA	
· UN proper shipping name	Chromium trioxide, anhydrous
· DOT	1463 Chromium trioxide, anhydrous, ENVIRONMENTALLY HAZARDOUS
· ADR	CHROMIUM TRIOXIDE, ANHYDROUS
· IMDG, IATA	
· Transport hazard class(es)	
· DOT	
	
· Class	5.1 Oxidizing substances
· Label	6.1, 5.1
· ADR	
	
· Class	5.1 Oxidizing substances
· Label	6.1+5.1
· IMDG	
	
· Class	5.1 Oxidizing substances
· Label	6.1/5.1
· IATA	
	
· Class	5.1 Oxidizing substances
· Label	6.1 (5.1)
· Packing group	II
· DOT, ADR, IMDG, IATA	
· Environmental hazards:	Environmentally hazardous substance, solid
· Marine pollutant:	Yes (DOT)
· Special marking (ADR):	Symbol (fish and tree)
· Special precautions for user	Warning: Oxidizing substances
· Danger code (Kemler):	665
· EMS Number:	F-A,S-Q

(Contd. on page 9)

US

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: *Chromic acid*

(Contd. of page 8)

· Stowage Category	A
· Segregation Code	SG6 Segregation as for class 5.1 SG16 Stow "separated from" class 4.1 SG19 Stow "separated from" class 7
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT	
· Quantity limitations	On passenger aircraft/rail: 1 L On cargo aircraft only: 5 L
· Hazardous substance:	10 lbs, 4.54 kg
· Remarks:	Special marking with the symbol (fish and tree).
· ADR	
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· IMDG	
· Limited quantities (LQ)	100 ml
· Excepted quantities (EQ)	Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
· UN "Model Regulation":	UN 1463 CHROMIUM TRIOXIDE, ANHYDROUS, 6.1 (5.1), II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**
- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (Specific toxic chemical listings):** Substance is listed.
- **TSCA (Toxic Substances Control Act):** Substance is listed.
- **Proposition 65**
- **Chemicals known to cause cancer:** Substance is listed.
- **Chemicals known to cause reproductive toxicity for females:** Substance is listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is listed.
- **Chemicals known to cause developmental toxicity:** Substance is listed.
- **Carcinogenic categories**
- **EPA (Environmental Protection Agency) A(inh), D(oral), K/L(inh), CBD(oral)**
- **TLV (Threshold Limit Value established by ACGIH) A1**
- **NIOSH-Ca (National Institute for Occupational Safety and Health) Substance is listed.**
- **GHS label elements** The substance is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS03 GHS05 GHS06 GHS08

- **Signal word** *Danger*

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: Chromic acid

(Contd. of page 9)

· **Hazard statements**

May cause fire or explosion; strong oxidizer.
 Toxic if swallowed or in contact with skin.
 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 organs 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.
 Keep 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: Immediately call a POISON CENTER/ doctor.
 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.
 If on clothing: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
 IF exposed or concerned: Get medical advice/attention.
 Call a POISON CENTER/doctor if you feel unwell.
 Get medical advice/attention if you feel unwell.
 Specific treatment is urgent (see on this label).
 If skin irritation or rash occurs: Get medical advice/attention.
 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
 Take off immediately all contaminated clothing and wash it before reuse.
 In case of fire: Use for extinction: CO₂, powder or water spray.
 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 this hazardous material. Exceptions can be made by the authorities in certain cases.

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

US

(Contd. on page 11)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: **Chromic acid**

(Contd. of page 10)

16 Other information

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

· **Date of preparation / last revision** 08/29/2017 / -

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety **Health**

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Ox. Sol. 1: Oxidizing solids – Category 1

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 2: Acute toxicity – Category 2

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

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

Safety Data Sheet

according to WHS Regulations

Printing date 29.08.2017

Revision: 29.08.2017

1 Identification

· **Product identifier**

· **Trade name:** Chromic acid

· **Article number:** 12555

· **CAS Number:**

7738-94-5

· **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: sgkceck@aol.com

www.emsdiasum.com

ProSciTech Pty Ltd

11 Carlton Street, Kirwan QLD 4817 Australia

Telephone Number: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)

Emergency Contact: (07) 4773 9444 - 8:30am - 5:00pm, Monday to Friday (excluding Public Holidays)

Emgrid Australia Pty. Ltd.

P.O. Box 118

The Patch VIC 3792

Australia

Tel: 03 9752 1785

Fax: 03 9752 1784

Website: www.emgrid.com.au

· **Further information obtainable from:** Product safety department

· **Emergency telephone number:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

2 Hazard(s) Identification

· **Classification of the substance or mixture**



GHS03 flame over circle

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



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 2 H330 Fatal if inhaled.



GHS08 health hazard

(Contd. on page 2)

Safety Data Sheet according to WHS Regulations

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: Chromic acid

(Contd. of page 1)

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 H361 Suspected of damaging fertility or the unborn child.

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



GHS05 corrosion

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



GHS07

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

· **Label elements**

· **GHS label elements**

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

· **Hazard pictograms**



GHS03



GHS05



GHS06



GHS08

· **Signal word Danger**

· **Hazard statements**

May cause fire or explosion; strong oxidiser.

Toxic if swallowed.

Toxic in contact with skin.

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 organs 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.

Keep 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/flare resistant/retardant clothing.

Wear respiratory protection.

(Contd. on page 3)

Safety Data Sheet according to WHS Regulations

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: Chromic acid

(Contd. of page 2)

*IF SWALLOWED: Immediately call a POISON CENTER/ doctor.**IF SWALLOWED: rinse mouth. Do NOT induce vomiting.**IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.**IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.**IF exposed or concerned: Get medical advice/attention.**Call a POISON CENTER/doctor if you feel unwell.**Get medical advice/attention if you feel unwell.**Specific treatment is urgent (see on this label).**If skin irritation or rash occurs: Get medical advice/attention.**If experiencing respiratory symptoms: Call a POISON CENTER/doctor.**Take off immediately all contaminated clothing and wash it before reuse.**In case of fire: Use for extinction: CO₂, powder or water spray.**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: Substances**· CAS No. Description**

7738-94-5 Chromic acid

· SVHC

7738-94-5 Chromic acid

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:***Do not induce vomiting; call for medical help immediately.**Drink plenty of water and provide fresh air. Call for a doctor immediately.***· Information for doctor:****· Most important symptoms and effects, both acute and delayed** *No further relevant information available.*

(Contd. on page 4)

Safety Data Sheet according to WHS Regulations

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: **Chromic acid**

(Contd. of page 3)

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

8 Exposure controls and personal protection

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

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

7738-94-5 Chromic acid

WES	Long-term value: 0.05 mg/m ³ Sen, as Cr
-----	---

(Contd. on page 5)

Safety Data Sheet according to WHS Regulations

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: Chromic acid

(Contd. of page 4)

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

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

· **Respiratory protection:**

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

· **Protection of hands:**



Protective gloves

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

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

9 Physical and Chemical Properties

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

· **General Information**

· **Appearance:**

Form: Crystalline

Colour: Dark red

· **Odour:** Odourless

· **Odour threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/freezing point: 196 °C

Initial boiling point and boiling range: Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gas):** Product is not flammable.

(Contd. on page 6)

Safety Data Sheet according to WHS Regulations

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: *Chromic acid*

(Contd. of page 5)

· Ignition temperature:	
· Decomposition temperature:	Not determined.
· Auto-ignition temperature: Not determined.	
· 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: Not applicable.	
· Density: Not determined.	
· Bulk density at 20 °C: 2,700 kg/m ³	
· Relative density Not determined.	
· Vapour density Not applicable.	
· Evaporation rate Not applicable.	
· Solubility in / Miscibility with water: Not determined.	
· Partition coefficient: n-octanol/water: Not determined.	
· Viscosity:	
· Dynamic:	Not applicable.
· Kinematic:	Not applicable.
· 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**
- **Primary irritant effect:**
- **Skin corrosion/irritation** Strong caustic effect on skin and mucous membranes.
- **Serious eye damage/irritation** Strong caustic effect.
- **Respiratory or skin sensitisation**
Sensitisation possible through inhalation.
Sensitisation possible through skin contact.
- **Additional toxicological information:**
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

(Contd. on page 7)

Safety Data Sheet

according to WHS Regulations

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: *Chromic acid*

(Contd. of page 6)

- **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:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

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

14 Transport information

- | | |
|---|---|
| · UN-Number | |
| · ADG, IMDG, IATA | UN1463 |
| · UN proper shipping name | |
| · ADG | 1463 CHROMIUM TRIOXIDE, ANHYDROUS,
ENVIRONMENTALLY HAZARDOUS |
| · IMDG, IATA | CHROMIUM TRIOXIDE, ANHYDROUS |
| · Transport hazard class(es) | |
| · ADG | |
|  | |
| · Class | 5.1 Oxidising substances. |

(Contd. on page 8)

Safety Data Sheet

according to WHS Regulations

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: *Chromic acid*

(Contd. of page 7)

· **Label** 6.1+5.1

· **IMDG**



· **Class** 5.1 Oxidising substances.
 · **Label** 6.1/5.1

· **IATA**



· **Class** 5.1 Oxidising substances.
 · **Label** 6.1 (5.1)

· **Packing group**

· **ADG, IMDG, IATA** II

· **Environmental hazards:** Environmentally hazardous substance, solid
 · **Marine pollutant:** Yes (DOT)
 · **Special marking (ADG):** Symbol (fish and tree)

· **Special precautions for user** Warning: Oxidising substances.
 · **Danger code (Kemler):** 665
 · **EMS Number:** F-A,S-Q
 · **Stowage Category** A
 · **Segregation Code** SG6 Segregation as for class 5.1
 SG16 Stow "separated from" class 4.1
 SG19 Stow "separated from" class 7

· **Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **ADG**
 · **Limited quantities (LQ)** 1 kg
 · **Excepted quantities (EQ)** Code: E2
 Maximum net quantity per inner packaging: 30 g
 Maximum net quantity per outer packaging: 500 g
 · **Transport category** 2
 · **Tunnel restriction code** E

· **IMDG**

· **Limited quantities (LQ)** 100 ml
 · **Excepted quantities (EQ)** Code: E4
 Maximum net quantity per inner packaging: 1 g
 Maximum net quantity per outer packaging: 500 g

· **UN "Model Regulation":** UN 1463 CHROMIUM TRIOXIDE, ANHYDROUS, 6.1 (5.1), II, ENVIRONMENTALLY HAZARDOUS

AU

(Contd. on page 9)

Safety Data Sheet

according to WHS Regulations

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: **Chromic acid**

(Contd. of page 8)

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Australian Inventory of Chemical Substances** Substance is listed.
- **Standard for the Uniform Scheduling of Medicines and Poisons** Substance is not listed.
- **GHS label elements**
The substance is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS03 GHS05 GHS06 GHS08

- **Signal word** *Danger*
- **Hazard statements**
May cause fire or explosion; strong oxidiser.
Toxic if swallowed.
Toxic in contact with skin.
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 organs 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.
Keep 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/flare resistant/retardant clothing.
Wear respiratory protection.
IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON CLOTHING: rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER/doctor if you feel unwell.
Get medical advice/attention if you feel unwell.
Specific treatment is urgent (see on this label).
If skin irritation or rash occurs: Get medical advice/attention.

(Contd. on page 10)

Safety Data Sheet

according to WHS Regulations

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: Chromic acid

(Contd. of page 9)

*If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
Take off immediately all contaminated clothing and wash it before reuse.
In case of fire: Use for extinction: CO2, powder or water spray.
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 Substance is not listed.**

- **Seveso category**

H2 ACUTE TOXIC

P8 OXIDISING LIQUIDS AND SOLIDS

E1 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 this hazardous material. 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**

7738-94-5	Chromic acid
-----------	--------------

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

16 Other information

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

- **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

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

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Ox. Sol. 1: Oxidizing solids – Category 1

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 2: Acute toxicity – Category 2

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

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

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

1 Identification

- **Product identifier**
- **Trade name:** Chromic acid
- **Article number:** 12555
- **CAS Number:**
7738-94-5
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Electron Microscopy Sciences
1560 Industry Road
USA-Hatfield, PA 19440
Tel: 215-412-8400 Fax: 215-412-8450
email: sgkcck@aol.com
www.emsdiasum.com
- **Information department:** Product safety department
- **Emergency telephone number:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS03 Flame over circle

Oxidizing Solids - Category 1

H271 May cause fire or explosion; strong oxidizer.



GHS06 Skull and crossbones

Acute Toxicity (Oral) - Category 3

H301 Toxic if swallowed.

Acute Toxicity (Dermal) - Category 3

H311 Toxic in contact with skin.

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 organs through prolonged or repeated exposure.



GHS05 Corrosion

Skin Corrosion - Category 1A

H314 Causes severe skin burns and eye damage.

(Contd. on page 2)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: **Chromic acid**

(Contd. of page 1)



GHS07

Skin Sensitizer - Category 1

H317 May cause an allergic skin reaction.

· **Label elements**

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

· **Hazard pictograms**



GHS03

GHS05

GHS06

GHS08

· **Signal word** *Danger*

· **Hazard statements**

May cause fire or explosion; strong oxidizer.

Toxic if swallowed or in contact with skin.

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 organs 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: Immediately call a POISON CENTER/ doctor.

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.

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

IF exposed or concerned: Get medical advice/attention.

Call a POISON CENTER/doctor if you feel unwell.

Get medical advice/attention if you feel unwell.

Specific treatment is urgent (see on this label).

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

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

(Contd. on page 3)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: Chromic acid

(Contd. of page 2)

Take off contaminated clothing and wash it before reuse.
 Wash contaminated clothing before reuse.
 In case of fire: Use for extinction: CO₂, powder or water spray.
 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.

- **Hazard description:**

- **WHMIS-symbols:**

C - Oxidizing materials

D1B - Toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects

E - Corrosive material



- **Classification system:**

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



Health = 3

Fire = 0

Reactivity = 1

The substance possesses oxidizing properties.

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



Health = 3

Fire = 0

Reactivity = 1

3 Composition/information on ingredients

- **Chemical characterization: Substances**

- **CAS No. Description**

7738-94-5 Chromic acid

4 First-aid measures

- **Description of first aid measures**

- **General information:**

Immediately remove any clothing soiled by the product.

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

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

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

- **After inhalation:**

Supply fresh air or oxygen; call for doctor.

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

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

(Contd. on page 4)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: Chromic acid

(Contd. of page 3)

- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
Do not induce vomiting; immediately call for medical help.
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.
- **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.
- **Methods and material for containment and cleaning up:**
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**
Thorough dedusting.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **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.

(Contd. on page 5)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: **Chromic acid**

(Contd. of page 4)

- **Control parameters**

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

7738-94-5 Chromic acid	
EL	Long-term value: 0.025 mg/m ³ Ceiling limit value: 0.1 mg/m ³ as Cr; ACGIH A1, IARC 1

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

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes and skin.

- **Breathing equipment:**

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

- **Protection of hands:**



Protective gloves

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

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

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

- **Material of gloves**

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

- **Penetration time of glove material**

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

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form: Crystalline

Color: Dark red

- **Odor:** Odorless

- **Odor threshold:** Not determined.

(Contd. on page 6)

CA

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: *Chromic acid*

(Contd. of page 5)

· pH-value:	<i>Not applicable.</i>
· Change in condition	
Melting point/Melting range:	<i>196 °C</i>
Boiling point/Boiling range:	<i>Undetermined.</i>
· Flash point:	<i>Not applicable.</i>
· Flammability (solid, gaseous):	<i>Product is not flammable.</i>
· Ignition temperature:	
Decomposition temperature:	<i>Not determined.</i>
· Auto igniting:	<i>Not determined.</i>
· Danger of explosion:	<i>Product does not present an explosion hazard. Explosive when mixed with combustible material.</i>
· Explosion limits:	
Lower:	<i>Not determined.</i>
Upper:	<i>Not determined.</i>
· Vapor pressure:	<i>Not applicable.</i>
· Density:	<i>Not determined.</i>
· Bulk density at 20 °C:	<i>2,700 kg/m³</i>
· Relative density	<i>Not determined.</i>
· Vapor density	<i>Not applicable.</i>
· Evaporation rate	<i>Not applicable.</i>
· Solubility in / Miscibility with	
Water:	<i>Not determined.</i>
· Partition coefficient (n-octanol/water):	<i>Not determined.</i>
· Viscosity:	
Dynamic:	<i>Not applicable.</i>
Kinematic:	<i>Not applicable.</i>
· Other information	<i>No further relevant information available.</i>

10 Stability and reactivity

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

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** *Strong caustic effect on skin and mucous membranes.*

(Contd. on page 7)

CA

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: **Chromic acid**

(Contd. of page 6)

- **on the eye:** Strong caustic effect.
- **Sensitization:**
Sensitization possible through inhalation.
Sensitization possible through skin contact.
- **Additional toxicological information:**
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer) 1**
- **NTP (National Toxicology Program) K**

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:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

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

14 Transport information

- | | |
|----------------------------------|--|
| · UN-Number | |
| · DOT, TDG, IMDG, IATA | UN1463 |
| · UN proper shipping name | |
| · DOT | Chromium trioxide, anhydrous |
| · TDG | 1463 Chromium trioxide, anhydrous, ENVIRONMENTALLY HAZARDOUS |
| · IMDG, IATA | CHROMIUM TRIOXIDE, ANHYDROUS |

(Contd. on page 8)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: *Chromic acid*

(Contd. of page 7)

· **Transport hazard class(es)**

· **DOT**



· **Class**

5.1 Oxidizing substances

· **Label**

6.1, 5.1

· **TDG (Transport dangerous goods):**



· **Class**

5.1 Oxidizing substances

· **Label**

6.1+5.1

· **IMDG**



· **Class**

5.1 Oxidizing substances

· **Label**

6.1/5.1

· **IATA**



· **Class**

5.1 Oxidizing substances

· **Label**

6.1 (5.1)

· **Packing group**

· **DOT, TDG, IMDG, IATA**

II

· **Environmental hazards:**

Environmentally hazardous substance, solid

· **Marine pollutant:**

Yes (DOT)

· **Special marking (TDG):**

Symbol (fish and tree)

· **Special precautions for user**

Warning: Oxidizing substances

· **Danger code (Kemler):**

665

· **EMS Number:**

F-A,S-Q

· **Stowage Category**

A

· **Segregation Code**

SG6 Segregation as for class 5.1

SG16 Stow "separated from" class 4.1

SG19 Stow "separated from" class 7

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

MARPOL73/78 and the IBC Code

Not applicable.

(Contd. on page 9)

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: **Chromic acid**

(Contd. of page 8)

· **Transport/Additional information:**

· **DOT**

· **Quantity limitations**

On passenger aircraft/rail: 1 L

On cargo aircraft only: 5 L

· **Hazardous substance:**

10 lbs, 4.54 kg

· **Remarks:**

Special marking with the symbol (fish and tree).

· **TDG**

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 g

Maximum net quantity per outer packaging: 500 g

· **IMDG**

· **Limited quantities (LQ)**

100 ml

· **Excepted quantities (EQ)**

Code: E4

Maximum net quantity per inner packaging: 1 g

Maximum net quantity per outer packaging: 500 g

· **UN "Model Regulation":**

UN 1463 CHROMIUM TRIOXIDE, ANHYDROUS, 6.1 (5.1), II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Sara**

· **Section 355 (extremely hazardous substances):** Substance is not listed.

· **Section 313 (Specific toxic chemical listings):** Substance is listed.

· **TSCA (Toxic Substances Control Act):** Substance is listed.

· **Canadian substance listings:**

· **Canadian Domestic Substances List (DSL)** Substance is listed.

· **Canadian Ingredient Disclosure list (limit 0.1%)** Substance is not listed.

· **Canadian Ingredient Disclosure list (limit 1%)** Substance is listed.

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

· **Hazard pictograms**



GHS03

GHS05

GHS06

GHS08

· **Signal word** *Danger*

· **Hazard statements**

May cause fire or explosion; strong oxidizer.

Toxic if swallowed or in contact with skin.

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 organs through prolonged or repeated exposure.

(Contd. on page 10)

CA

Safety Data Sheet

acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: **Chromic acid**

(Contd. of page 9)

· **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: Immediately call a POISON CENTER/ doctor.*
- 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.*
- IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.*
- IF exposed or concerned: Get medical advice/attention.*
- Call a POISON CENTER/doctor if you feel unwell.*
- Get medical advice/attention if you feel unwell.*
- Specific treatment is urgent (see on this label).*
- If skin irritation or rash occurs: Get medical advice/attention.*
- If experiencing respiratory symptoms: Call a POISON CENTER/doctor.*
- Take off contaminated clothing and wash it before reuse.*
- Wash contaminated clothing before reuse.*
- In case of fire: Use for extinction: CO₂, powder or water spray.*
- 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 this hazardous material. 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.

· **Date of preparation / last revision** 08/29/2017 / -

· **Abbreviations and acronyms:**

- IMDG: International Maritime Code for Dangerous Goods*
- DOT: US Department of Transportation*
- IATA: International Air Transport Association*
- CAS: Chemical Abstracts Service (division of the American Chemical Society)*
- NFPA: National Fire Protection Association (USA)*
- HMIS: Hazardous Materials Identification System (USA)*
- WHMIS: Workplace Hazardous Materials Information System (Canada)*

(Contd. on page 11)

Safety Data Sheet
acc. to OSHA HCS

Printing date 08/29/2017

Reviewed on 08/29/2017

Trade name: Chromic acid

PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative

(Contd. of page 10)

CA

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

Printing date 29.08.2017

Revision: 29.08.2017

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

· **1.1 Product identifier**

· **Trade name:** Chromic acid

· **Article number:** 12555

· **CAS Number:**

7738-94-5

· **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: sgkceck@aol.com

www.emsdiasum.com

· **Further information obtainable from:** Product safety department

· **1.4 Emergency telephone number:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

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



GHS03 flame over circle

Ox. Sol. 1

H271 May cause fire or explosion; strong oxidiser.



GHS06 skull and crossbones

Acute Tox. 3

H301 Toxic if swallowed.

Acute Tox. 3

H311 Toxic in contact with skin.

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.

Repr. 2

H361f Suspected of damaging fertility.

STOT RE 1

H372 Causes damage to organs through prolonged or repeated exposure.



GHS05 corrosion

Skin Corr. 1A

H314 Causes severe skin burns and eye damage.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: **Chromic acid**

(Contd. of page 1)



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



GHS07

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

· 2.2 Label elements

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

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

· Hazard pictograms



GHS03



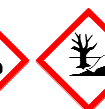
GHS05



GHS06



GHS08



GHS09

· Signal word *Danger*

· Hazard statements

H271 May cause fire or explosion; strong oxidiser.

H301+H311 Toxic if swallowed or in contact with skin.

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.

H372 Causes damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

· Precautionary statements

P221 Take any precaution to avoid mixing with combustibles.

P283 Wear fire/flame resistant/retardant clothing.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

P320 Specific treatment is urgent (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· 2.3 Other hazards

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

GB

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: **Chromic acid**

(Contd. of page 2)

SECTION 3: Composition/information on ingredients

- **3.1 Chemical characterisation: Substances**
- **CAS No. Description**
7738-94-5 Chromic acid

· SVHC	
7738-94-5	Chromic acid

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:**
Do not induce vomiting; call for medical help 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.

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

(Contd. on page 4)

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

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: **Chromic acid**

(Contd. of page 3)

See Section 13 for disposal information.

SECTION 7: Handling and storage

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

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.
- **Protection of hands:**



Protective gloves

- The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
 - **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 5)

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

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: *Chromic acid*

(Contd. of page 4)

· **Eye protection:**

Tightly sealed goggles

SECTION 9: Physical and chemical properties

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

· Form:	Crystalline
· Colour:	Dark red
· Odour:	Odourless
· Odour threshold:	Not determined.

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

· Melting point/freezing point:	196 °C
· Initial boiling point and boiling range:	Undetermined.

· **Flash point:** Not applicable.· **Flammability (solid, gas):** Product is not flammable.· **Ignition temperature:**· **Decomposition temperature:** Not determined.· **Auto-ignition temperature:** Not determined.

· **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:** Not applicable.· **Density:** Not determined.

· Bulk density at 20 °C:	2,700 kg/m ³
· Relative density	Not determined.
· Vapour density	Not applicable.
· Evaporation rate	Not applicable.

· **Solubility in / Miscibility with water:** Not determined.

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

· Dynamic:	Not applicable.
· Kinematic:	Not applicable.

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

GB

(Contd. on page 6)

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

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: **Chromic acid**

(Contd. of page 5)

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**
Toxic if swallowed or in contact with skin.
Fatal if inhaled.
- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes severe skin burns and eye damage.
- **Respiratory or skin sensitisation**
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
- **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** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**
Causes damage to organs 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:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 7)

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

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: Chromic acid




(Contd. of page 6)

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

SECTION 13: Disposal considerations

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

SECTION 14: Transport information

- | | |
|---|---|
| · 14.1 UN-Number
· ADR, IMDG, IATA | UN1463 |
| · 14.2 UN proper shipping name
· ADR
· IMDG, IATA | 1463 CHROMIUM TRIOXIDE, ANHYDROUS,
ENVIRONMENTALLY HAZARDOUS
CHROMIUM TRIOXIDE, ANHYDROUS |
| · 14.3 Transport hazard class(es)
· ADR | |
|  | |
| · Class
· Label | 5.1 Oxidising substances.
6.1+5.1 |
| · IMDG | |
|  | |
| · Class
· Label | 5.1 Oxidising substances.
6.1/5.1 |
| · IATA | |
|  | |
| · Class
· Label | 5.1 Oxidising substances.
6.1 (5.1) |
| · 14.4 Packing group
· ADR, IMDG, IATA | II |
| · 14.5 Environmental hazards:
· Special marking (ADR): | Environmentally hazardous substance, solid
Symbol (fish and tree) |

(Contd. on page 8)

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

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: Chromic acid

(Contd. of page 7)

<ul style="list-style-type: none"> · 14.6 Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category · Segregation Code 	<p>Warning: Oxidising substances. 665 F-A,S-Q A SG6 Segregation as for class 5.1 SG16 Stow "separated from" class 4.1 SG19 Stow "separated from" class 7</p>
<ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code 	<p>Not applicable.</p>
<p>· Transport/Additional information:</p>	
<ul style="list-style-type: none"> · ADR · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g</p>
<ul style="list-style-type: none"> · Transport category · Tunnel restriction code 	<p>2 E</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>100 ml Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g</p>
<ul style="list-style-type: none"> · UN "Model Regulation": 	<p>UN 1463 CHROMIUM TRIOXIDE, ANHYDROUS, 6.1 (5.1), II, ENVIRONMENTALLY HAZARDOUS</p>

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** Substance is not listed.
- **Seveso category**
H2 ACUTE TOXIC
P8 OXIDISING LIQUIDS AND SOLIDS
E1 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

· **LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)**

7738-94-5	Chromic acid
-----------	--------------

- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 47

· **National regulations:**

· **Information about limitation of use:**

Workers are not allowed to be exposed to this hazardous material. 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**

7738-94-5	Chromic acid
-----------	--------------

(Contd. on page 9)

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

Printing date 29.08.2017

Revision: 29.08.2017

Trade name: **Chromic acid**

(Contd. of page 8)

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

SECTION 16: Other information

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

· **Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Ox. Sol. 1: Oxidizing solids – Category 1

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 2: Acute toxicity – Category 2

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

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

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

GB

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.08.2017

Herziening van: 29.08.2017

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

· 1.1 Productidentificatie

· **Handelsnaam:** Chroomzuur

· **Artikelnummer:** 12555

· **CAS-nummer:**

7738-94-5

· 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: sgkck@aol.com

www.emsdiasum.com

Aurion

Binnenhaven 5

6709 PD Wageningen

The Netherlands

Tel: 31 317 415094

Fax: 31 317 415955

email: info@aurion.nl

· **Inlichtinggevende 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. Sol. 1

H271 Kan brand of ontploffingen veroorzaken; sterk oxiderend.



GHS06 doodshoofd met gekruiste beenderen

Acute Tox. 3

H301 Giftig bij inslikken.

Acute Tox. 3

H311 Giftig bij contact met de huid.

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.

(Vervolg op blz. 2)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.08.2017

Herziening van: 29.08.2017

Handelsnaam: Chroomzuur

(Vervolg van blz. 1)

Carc. 1A H350 Kan kanker veroorzaken.
 Repr. 2 H361f Wordt ervan verdacht de vruchtbaarheid te schaden.
 STOT RE 1 H372 Veroorzaakt schade aan organen bij langdurige of herhaalde blootstelling.



GHS05 corrosie

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



GHS09 milieu

Aquatic Acute 1 H400 Zeer giftig voor in het water levende organismen.
 Aquatic Chronic 1 H410 Zeer giftig voor in het water levende organismen, met langdurige gevolgen.



GHS07

Skin Sens. 1 H317 Kan een allergische huidreactie veroorzaken.

2.2 Etiketteringselementen

Etikettering overeenkomstig Verordening (EG) nr. 1272/2008

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

Gevarenpictogrammen



GHS03



GHS05



GHS06



GHS08



GHS09

Signaalwoord Gevaar

Gevarenaanduidingen

H271 Kan brand of ontploffingen veroorzaken; sterk oxiderend.
 H301+H311 Giftig bij inslikken en bij contact met de huid.
 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.
 H372 Veroorzaakt schade aan organen bij langdurige of herhaalde blootstelling.
 H410 Zeer giftig voor in het water levende organismen, met langdurige gevolgen.

Veiligheidsaanbevelingen

P221 Vermenging met brandbare stoffen absoluut vermijden.
 P283 Vuur/vlambestendige/brandwerende kleding dragen.
 P301+P310 NA INSLIKKEN: onmiddellijk een ANTIGIFCENTRUM/arts raadplegen.
 P303+P361+P353 BIJ CONTACT MET DE HUID (of het haar): verontreinigde kleding onmiddellijk uittrekken. Huid met water afspoelen/afdouchen.
 P305+P351+P338 BIJ CONTACT MET DE OGEN: voorzichtig afspoelen met water gedurende een aantal minuten; contactlenzen verwijderen, indien mogelijk; blijven spoelen.
 P320 Specifieke behandeling dringend vereist (zie op dit etiket).

(Vervolg op blz. 3)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.08.2017

Herziening van: 29.08.2017

Handelsnaam: Chroomzuur

(Vervolg van blz. 2)

P405 Achter slot bewaren.
 P501 De inhoud en de verpakking verwerken volgens de plaatselijke/regionale/nationale/internationale voorschriften.

- 2.3 Andere gevaren
- Resultaten van PBT- en zPzB-beoordeling
- PBT: Niet bruikbaar.
- zPzB: Niet bruikbaar.

RUBRIEK 3: Samenstelling en informatie over de bestanddelen

- 3.1 Chemische karakterisering: Stoffen
- CAS-Nr. omschrijving
7738-94-5 Chroomzuur

- SVHC

7738-94-5	Chroomzuur
-----------	------------

RUBRIEK 4: Eerstehulpmaatregelen

- 4.1 Beschrijving van de eerstehulpmaatregelen
- Algemene informatie:
Verontreinigde kleding onmiddellijk uittrekken.
Het is mogelijk dat vergiftigingssymptomen pas na vele uren optreden. Om deze reden is medische controle gedurende minstens 48 uur na een ongeval noodzakelijk.
Ademhalingstoestel pas afnemen nadat de verontreinigde kleding verwijderd is.
Bij onregelmatige ademhaling of ademstilstand kunstmatige ademhaling toepassen.
- Na het inademen:
Verse lucht of zuurstof toedienen; deskundige medische hulp invoeren.
Bij bewusteloosheid ligging en vervoer in stabiele zijligging.
- Na huidcontact: Onmiddellijk met water en zeep afwassen en goed naspoelen.
- Na oogcontact: Ogen met open ooglid een aantal minuten onder stromend water afspoelen en dokter raadplegen.
- Na inslikken:
Geen braken teweegbrengen en onmiddellijk medische hulp 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.
- 5.2 Speciale gevaren die door de stof of het mengsel worden veroorzaakt
Geen verdere relevante informatie verkrijgbaar.
- 5.3 Advies voor brandweerlieden
- Speciale beschermende kleding: Ademhalingstoestel aantrekken.

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

- 6.1 Persoonlijke voorzorgsmaatregelen, beschermde uitrusting en noodprocedures
Beschermende kleding aantrekken. Niet beschermde personen op afstand houden.

(Vervolg op blz. 4)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.08.2017

Herziening van: 29.08.2017

Handelsnaam: Chroomzuur

(Vervolg van blz. 3)

- **6.2 Milieuvorzorgsmaatregelen:**
Bij indringen in afvalwater of riolering moet de bevoegde instantie gewaarschuwd worden.
- **6.3 Insluitings- en reinigingsmethoden en -materiaal:**
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**
Goed stofvrij maken.
Voor goede ventilatie/afzuiging op de werkplaatsen zorgen.
Tanks voorzichtig openen en behandelen.
- **Informatie m.b.t. brand- en ontploffingsgevaar:** Ademhalingstoestellen gereedhouden.
- **7.2 Voorwaarden voor een veilige opslag, met inbegrip van incompatibele producten**
- **Opslag:**
- **Eisen ten opzichte van opslagruimte en tanks:** Geen bijzondere eisen.
- **Informatie m.b.t. gezamenlijke opslag:** Niet noodzakelijk.
- **Verdere inlichtingen over eisen m.b.t. de opslag:** Tanks ondoordringbaar gesloten houden.
- **7.3 Specifiek eindgebruik** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 8: Maatregelen ter beheersing van blootstelling/persoonlijke bescherming

- **Aanvullende gegevens m.b.t. de inrichting van technische installaties:** Geen aanvullende gegevens. Zie 7.
- **8.1 Controleparameters**

· **Bestanddelen met grenswaarden die m.b.t. de werkruimte in acht genomen moeten worden:**

7738-94-5 Chroomzuur

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

- **Aanvullende gegevens:** Als basis dienden lijsten die bij opstelling geldig waren.
- **8.2 Maatregelen ter beheersing van blootstelling**
- **Persoonlijke beschermingsvoorzieningen:**
- **Algemene beschermings- en gezondheidsmaatregelen:**
Verwijderd houden van eet- en drinkwaren.
Verontreinigde kleding onmiddellijk uittrekken.
Vóór de pauze en aan het einde van werktijd handen wassen.
Beschermende kleding afzonderlijk bewaren.
Aanraking met de ogen en de huid vermijden.
- **Ademhalingsbescherming:**
Bij korte of geringe belasting ademfiltertoestel; bij intensieve resp. langdurige expositie een van de omringende lucht onafhankelijk ademhalingstoestel gebruiken.

(Vervolg op blz. 5)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.08.2017

Herziening van: 29.08.2017

Handelsnaam: Chroomzuur

(Vervolg van blz. 4)

- **Handbescherming:**



Veiligheidshandschoenen

Het handschoenmateriaal moet ondoorlatend en bestand zijn tegen het product / de stof / de bereiding.
Op grond van falende testen kan geen aanbeveling voor handschoenmateriaal voor het product / de bereiding / het chemicaliënmengsel afgegeven worden.

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

- **Handschoenmateriaal**

De keuze van een geschikte handschoen is niet alleen afhankelijk van het materiaal, maar ook van andere kwaliteitskenmerken en verschilt van fabrikant tot fabrikant.

- **Doordringingstijd van het handschoenmateriaal**

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

- **Oogbescherming:**



Nauw aansluitende veiligheidsbril

RUBRIEK 9: Fysische en chemische eigenschappen

- **9.1 Informatie over fysische en chemische basiseigenschappen**

- **Algemene gegevens**

- **Voorkomen:**

Vorm:	Kristallijn
Kleur:	Donkerrood
Geur:	Reukloos
Geurdrempelwaarde:	Niet bepaald.

- **pH-waarde:** Niet bruikbaar.

- **Toestandsverandering**

Smelt-/vriespunt:	196 °C
Beginkookpunt en kooktraject:	Niet bepaald.

- **Vlampunt:** Niet bruikbaar.

- **Ontvlambaarheid (vast, gas):** De stof is niet ontvlambaar.

- **Ontstekingstemperatuur:**

Ontledingstemperatuur: Niet bepaald.

- **Zelfontbrandingstemperatuur:** Niet bepaald.

- **Ontploffingseigenschappen:** Het produkt is niet ontploffingsgevaarlijk.
Ontploffingsgevaar bij menging met brandbare stoffen.

- **Ontploffingsgrenzen:**

Onderste:	Niet bepaald.
Bovenste:	Niet bepaald.

- **Dampspanning:** Niet bruikbaar.

Dichtheid: Niet bepaald.

(Vervolg op blz. 6)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.08.2017

Herziening van: 29.08.2017

Handelsnaam: Chroomzuur

(Vervolg van blz. 5)

- | | |
|---|---|
| · Stortgewicht bij 20 °C: | 2.700 kg/m ³ |
| · Relatieve dichtheid | Niet bepaald. |
| · Dampdichtheid | Niet bruikbaar. |
| · Verdampingsnelheid | Niet bruikbaar. |
| · Oplosbaarheid in/mengbaarheid met Water: | Niet bepaald. |
| · Verdelingscoëfficiënt: n-octanol/water: | Niet bepaald. |
| · Viscositeit | |
| Dynamisch: | Niet bruikbaar. |
| Kinematisch: | Niet bruikbaar. |
| · 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**
Giftig bij inslikken en bij contact met de huid.
Dodelijk bij inademing.
- **Primaire aandoening:**
- **Huidcorrosie/-irritatie**
Veroorzaakt ernstige brandwonden en oogletsel.
- **Ernstig oogletsel/oogirritatie**
Veroorzaakt ernstige brandwonden en oogletsel.
- **Sensibilisatie van de luchtwegen/de huid**
Kan bij inademing allergie- of astmasymptomen of ademhalingsmoeilijkheden veroorzaken.
Kan een allergische huidreactie veroorzaken.
- **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** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.
- **STOT bij herhaalde blootstelling**
Veroorzaakt schade aan organen bij langdurige of herhaalde blootstelling.
- **Gevaar bij inademing** Gebaseerd op beschikbare gegevens; aan de indelingscriteria is niet voldaan.

(Vervolg op blz. 7)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.08.2017

Herziening van: 29.08.2017

Handelsnaam: **Chroomzuur**

(Vervolg van blz. 6)


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:** Zeer 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)
Mag niet onverdund of niet geneutraliseerd in oppervlaktewater of in afwateringskanaal geloosd worden.
In oppervlaktewater ook giftig voor vissen en plankton.
zeer giftig voor in het water levende organismen
- **12.5 Resultaten van PBT- en zPzB-beoordeling**
- **PBT:** Niet bruikbaar.
- **zPzB:** Niet bruikbaar.
- **12.6 Andere schadelijke effecten** Geen verdere relevante informatie verkrijgbaar.

RUBRIEK 13: Instructies voor verwijdering

- **13.1 Afvalverwerkingsmethoden**
- **Aanbeveling:** Mag niet tesamen met huisvuil gestort worden of in de riolering terecht komen.
- **Niet gereinigde verpakkingen:**
- **Aanbeveling:** Afvalverwijdering volgens overheidsbepalingen.

RUBRIEK 14: Informatie met betrekking tot het vervoer

- **14.1 VN-nummer**
 - **ADR, IMDG, IATA** UN1463
 - **14.2 Juiste ladingnaam overeenkomstig de modelreglementen van de VN**
 - **ADR** 1463 CHROOMTRIOXIDE, WATERVRIJ,
MILIEUGEVAARLIJK
 - **IMDG, IATA** CHROMIUM TRIOXIDE, ANHYDROUS
 - **14.3 Transportgevarenklasse(n)**
 - **ADR**
- 
- **klasse** 5.1 Oxiderende stoffen

(Vervolg op blz. 8)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.08.2017

Herziening van: 29.08.2017

Handelsnaam: Chroomzuur

(Vervolg van blz. 7)

· **Etiket** 6.1+5.1

· **IMDG**



· **Class** 5.1 Oxiderende stoffen
 · **Label** 6.1/5.1

· **IATA**



· **Class** 5.1 Oxiderende stoffen
 · **Label** 6.1 (5.1)

· **14.4 Verpakkingsgroep:**

· **ADR, IMDG, IATA** II

· **14.5 Milieugevaren:**

· **Bijzondere kenmerking (ADR):** Milieugevaarlijke vaste stof

Symbool (vis en boom)

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

· **Kemler-getal:** 665

· **EMS-nummer:** F-A,S-Q

· **Stowage Category** A

· **Segregation Code** SG6 Segregation as for class 5.1

SG16 Stow "separated from" class 4.1

SG19 Stow "separated from" class 7

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

Niet bruikbaar.

· **Transport/verdere gegevens:**

· **ADR**

· **Beperkte hoeveelheden (LQ)** 1 kg

· **Uitgezonderde hoeveelheden (EQ)** Code: E2

Grootste netto hoeveelheid per binnenverpakking: 30 g

Grootste netto hoeveelheid per buitenverpakking: 500 g

· **Vervoerscategorie** 2

· **Tunnelbeperkingscode** E

· **IMDG**

· **Limited quantities (LQ)** 100 ml

· **Excepted quantities (EQ)** Code: E4

Maximum net quantity per inner packaging: 1 g

Maximum net quantity per outer packaging: 500 g

· **VN "Model Regulation":**

UN 1463 CHROOMTRIOXIDE, WATERVRIJ, 6.1 (5.1), II, MILIEUGEVAARLIJK

(Vervolg op blz. 9)

Veiligheidsinformatieblad

volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.08.2017

Herziening van: 29.08.2017

Handelsnaam: **Chroomzuur**

(Vervolg van blz. 8)

RUBRIEK 15: Regelgeving

- **15.1 Specifieke veiligheids-, gezondheids- en milieureglementen en -wetgeving voor de stof of het mengsel**
- **SZW-lijst van kankerverwekkende stoffen** De stof is niet aanwezig.
- **SZW-lijst van mutagene stoffen** De stof is niet aanwezig.
- **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid 2**
- **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling 1B**
- **NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding** De stof is niet aanwezig.

- **Richtlijn 2012/18/EU**
- **Gevaarlijke stoffen die met naam genoemd worden - BIJLAGE I** De stof is niet aanwezig.
- **Seveso-categorie**
H2 ACUUT TOXISCH
P8 OXIDERENDE VLOEISTOFFEN EN VASTE STOFFEN
E1 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)

7738-94-5 | Chroomzuur

- **Verordening (EG) nr. 1907/2006 BIJLAGE XVII** Beperkingsvoorwaarden: 47

· **Nationale voorschriften:**

- **Aanwijzingen m.b.t. tewerkstellingsbeperking:**
Werknemers mogen aan deze gevaarlijke stof 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**

7738-94-5 | Chroomzuur

- **15.2 Chemischeveiligheidsbeoordeling:** Een chemische veiligheidsbeoordeling is niet uitgevoerd.

RUBRIEK 16: Overige informatie

Deze gegevens zijn gebaseerd op de huidige stand van onze kennis. Zij beschrijven echter geen garantie van produkteigenschappen en vestigen geen contractuele rechtsbetrekking.

· **Afkortingen en acroniemen:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 PBT: Persistent, Bioaccumulative and Toxic
 SVHC: Substances of Very High Concern
 vPvB: very Persistent and very Bioaccumulative
 Ox. Sol. 1: Oxiderende vaste stoffen – Categorie 1
 Acute Tox. 3: Acute toxiciteit – Categorie 3
 Acute Tox. 2: Acute toxiciteit – Categorie 2
 Skin Corr. 1A: Huidcorrosie/irritatie – Categorie 1A
 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

(Vervolg op blz. 10)

Veiligheidsinformatieblad
volgens 1907/2006/EG, Artikel 31

datum van de druk: 29.08.2017

Herziening van: 29.08.2017

Handelsnaam: Chroomzuur*Carc. 1A: Kankerverwekkendheid – Categorie 1A**Repr. 2: Voortplantingstoxiciteit – Categorie 2**STOT RE 1: Specifieke doelorgaantoxiciteit bij herhaalde blootstelling – Categorie 1**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*

(Vervolg van blz. 9)

NL

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.08.2017

Révision: 29.08.2017

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

- **1.1 Identificateur de produit**
- **Nom du produit:** Acide chromique
- **Code du produit:** 12555
- **No CAS:**
7738-94-5
- **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: sgkcek@aol.com
www.emsdiasum.com
- **Service chargé des renseignements:** Product safety department
- **1.4 Numéro d'appel d'urgence:**
ChemTrec 1-800-424-9300 Contract CCN7661
1-703-527-3887

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



GHS06 tête de mort sur deux tibias

Acute Tox. 3 H301 Toxique en cas d'ingestion.
Acute Tox. 3 H311 Toxique par contact cutané.
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 1 H372 Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

(suite page 2)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.08.2017

Révision: 29.08.2017

Nom du produit: Acide chromique

(suite de la page 1)



GHS05 corrosion

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



GHS09 environnement

Aquatic Acute 1 H400 Très toxique pour les organismes aquatiques.

Aquatic Chronic 1 H410 Très toxique pour les organismes aquatiques, entraîne des effets néfastes à long terme.



GHS07

Skin Sens. 1 H317 Peut provoquer une allergie cutanée.

· 2.2 Éléments d'étiquetage

· **Étiquetage selon le règlement (CE) n° 1272/2008** La substance est classifiée et étiquetée selon le règlement CLP.

· **Pictogrammes de danger**



GHS03



GHS05



GHS06



GHS08



GHS09

· **Mention d'avertissement** Danger

· **Mentions de danger**

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

H301+H311 Toxique par ingestion ou par contact cutané.

H330 Mortel par inhalation.

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

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.

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

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

· **Conseils de prudence**

P221 Prendre toutes précautions pour éviter de mélanger avec des matières combustibles.

P283 Porter des vêtements résistant au feu/aux flammes/ignifuges.

P301+P310 EN CAS D'INGESTION: Appeler immédiatement un CENTRE ANTIPOISON/un médecin.

P303+P361+P353 EN CAS DE CONTACT AVEC LA PEAU (ou les cheveux): Enlever immédiatement tous les vêtements contaminés. Rincer la peau à l'eau/Se doucher.

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

P320 Un traitement spécifique est urgent (voir sur cette étiquette).

P405 Garder sous clef.

(suite page 3)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.08.2017

Révision: 29.08.2017

Nom du produit: Acide chromique

P501 (suite de la page 2)
Éliminer le contenu/récipient conformément à la réglementation locale/régionale/nationale/internationale.

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

RUBRIQUE 3: Composition/informations sur les composants

- **3.1 Caractérisation chimique: Substances**
- **No CAS Désignation**
7738-94-5 Acide chromique

- **SVHC**

7738-94-5	Acide chromique
-----------	-----------------

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:**
Ne pas faire vomir, demander d'urgence une assistance médicale.
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.
- **5.3 Conseils aux pompiers**
- **Équipement spécial de sécurité:** Porter un appareil de protection respiratoire.

FR

(suite page 4)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.08.2017

Révision: 29.08.2017

Nom du produit: Acide chromique

(suite de la page 3)

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.
- **6.3 Méthodes et matériel de confinement et de nettoyage:**
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**
Bien dépoussiérer.
Veiller à une bonne ventilation/aspiration du poste de travail.
Ouvrir et manipuler les récipients avec précaution.
- **Préventions des incendies et des explosions:** Tenir des appareils de protection respiratoire prêts.
- **7.2 Conditions d'un stockage sûr, y compris d'éventuelles incompatibilités**
- **Stockage:**
- **Exigences concernant les lieux et conteneurs de stockage:** Aucune exigence particulière.
- **Indications concernant le stockage commun:** Pas nécessaire.
- **Autres indications sur les conditions de stockage:** Tenir les emballages hermétiquement fermés.
- **7.3 Utilisation(s) finale(s) particulière(s)** Pas d'autres informations importantes disponibles.

RUBRIQUE 8: Contrôles de l'exposition/protection individuelle

- **Indications complémentaires pour l'agencement des installations techniques:**
Sans autre indication, voir point 7.
- **8.1 Paramètres de contrôle**
- **Composants présentant des valeurs-seuil à surveiller par poste de travail:** Néant
- **Remarques supplémentaires:**
Le présent document s'appuie sur les listes en vigueur au moment de son élaboration.
- **8.2 Contrôles de l'exposition**
- **Equipement de protection individuel:**
- **Mesures générales de protection et d'hygiène:**
Tenir à l'écart des produits alimentaires, des boissons et de la nourriture pour animaux.
Retirer immédiatement les vêtements souillés ou humectés.
Se laver les mains avant les pauses et en fin de travail.
Conserver à part les vêtements de protection.
Eviter tout contact avec les yeux et avec la peau.
- **Protection respiratoire:**
En cas d'exposition faible ou de courte durée, utiliser un filtre respiratoire; en cas d'exposition intense ou durable, utiliser un appareil de respiration indépendant de l'air ambiant.

(suite page 5)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.08.2017

Révision: 29.08.2017

Nom du produit: Acide chromique

(suite de la page 4)

· **Protection des mains:**

Gants de protection

Le matériau des gants doit être imperméable et résistant au produit / à la substance / à la préparation.
À cause du manque de tests, aucune recommandation pour un matériau de gants pour le produit / la préparation / le mélange de produits chimiques ne peut être donnée.

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

· **Matériau des gants**

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

· **Temps de pénétration du matériau des gants**

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

· **Protection des yeux:**

Lunettes de protection hermétiques

RUBRIQUE 9: Propriétés physiques et chimiques

· **9.1 Informations sur les propriétés physiques et chimiques essentielles**· **Indications générales**· **Aspect:**

Forme:	Cristalline
Couleur:	Rouge foncé
Odeur:	Inodore
Seuil olfactif:	Non déterminé.

· **valeur du pH:** Non applicable.· **Changement d'état**

Point de fusion/point de congélation:	196 °C
Point initial d'ébullition et intervalle d'ébullition:	Non déterminé.

· **Point d'éclair** Non applicable.· **Inflammabilité (solide, gaz):** La substance n'est pas inflammable.· **Température d'inflammation:**

Température de décomposition:	Non déterminé.
--------------------------------------	----------------

· **Température d'auto-inflammabilité:** Non déterminé.

· **Propriétés explosives:** Le produit n'est pas explosif.
Peut exploser en mélange avec des matières combustibles.

· **Limites d'explosion:**

Inférieure:	Non déterminé.
Supérieure:	Non déterminé.

· **Pression de vapeur:** Non applicable.· **Densité:** Non déterminée.

(suite page 6)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.08.2017

Révision: 29.08.2017

Nom du produit: Acide chromique

(suite de la page 5)

· Masse volumique à 20 °C:	2.700 kg/m ³
· Densité relative	Non déterminé.
· Densité de vapeur:	Non applicable.
· Taux d'évaporation:	Non applicable.
· Solubilité dans/miscibilité avec l'eau:	Non déterminé.
· Coefficient de partage: n-octanol/eau:	Non déterminé.
· Viscosité:	
· Dynamique:	Non applicable.
· Cinématique:	Non applicable.
· 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**
Toxique par ingestion ou par contact cutané.
Mortel par inhalation.
- **Effet primaire d'irritation:**
- **Corrosion cutanée/irritation cutanée**
Provoque des brûlures de la peau et des lésions oculaires graves.
- **Lésions oculaires graves/irritation oculaire**
Provoque des brûlures de la peau et des lésions oculaires graves.
- **Sensibilisation respiratoire ou cutanée**
Peut provoquer des symptômes allergiques ou d'asthme ou des difficultés respiratoires par inhalation.
Peut provoquer une allergie cutanée.
- **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**
Compte tenu des données disponibles, les critères de classification ne sont pas remplis.
- **Toxicité spécifique pour certains organes cibles - exposition répétée**
Risque avéré d'effets graves pour les organes à la suite d'expositions répétées ou d'une exposition prolongée.

(suite page 7)

FR

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.08.2017

Révision: 29.08.2017

Nom du produit: Acide chromique

(suite de la page 6)

· **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:** Très toxique chez les poissons.
- **Autres indications écologiques:**
- **Indications générales:**
*Ne doit pas pénétrer à l'état non dilué ou non neutralisé dans les eaux usées ou le collecteur.
 Dans les eaux, également toxique pour les poissons et le plancton.
 Très toxique pour organismes aquatiques.*
- **12.5 Résultats des évaluations PBT et VPVB**
- **PBT:** Non applicable.
- **vPvB:** Non applicable.
- **12.6 Autres effets néfastes** Pas d'autres informations importantes disponibles.

RUBRIQUE 13: Considérations relatives à l'élimination

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

RUBRIQUE 14: Informations relatives au transport

- **14.1 Numéro ONU**
 - **ADR, IMDG, IATA** UN1463
 - **14.2 Désignation officielle de transport de l'ONU**
 - **ADR** 1463 TRIOXYDE DE CHROME ANHYDRE,
DANGEREUX POUR L'ENVIRONNEMENT
 - **IMDG, IATA** CHROMIUM TRIOXIDE, ANHYDROUS
 - **14.3 Classe(s) de danger pour le transport**
 - **ADR**
- 

- **Classe** 5.1 Matières comburantes.

(suite page 8)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.08.2017

Révision: 29.08.2017

Nom du produit: Acide chromique

(suite de la page 7)

· **Étiquette** 6.1+5.1· **IMDG**

· **Class** 5.1 Matières comburantes.
 · **Label** 6.1/5.1

· **IATA**

· **Class** 5.1 Matières comburantes.
 · **Label** 6.1 (5.1)

· **14.4 Groupe d'emballage**· **ADR, IMDG, IATA** II

· **14.5 Dangers pour l'environnement:** Matière dangereuse du point de vue de l'environnement, solide

· **Marquage spécial (ADR):** Signe conventionnel (poisson et arbre)

· **14.6 Précautions particulières à prendre par l'utilisateur**

Attention: Matières comburantes.

· **Indice Kemler:** 665· **No EMS:** F-A,S-Q· **Stowage Category** A· **Segregation Code** SG6 Segregation as for class 5.1

SG16 Stow "separated from" class 4.1

SG19 Stow "separated from" class 7

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

Non applicable.

· **Indications complémentaires de transport:**· **ADR**· **Quantités limitées (LQ)** 1 kg· **Quantités exceptées (EQ)** Code: E2

Quantité maximale nette par emballage intérieur: 30 g

Quantité maximale nette par emballage extérieur: 500 g

· **Catégorie de transport** 2· **Code de restriction en tunnels** E· **IMDG**· **Limited quantities (LQ)** 100 ml· **Excepted quantities (EQ)** Code: E4

Maximum net quantity per inner packaging: 1 g

Maximum net quantity per outer packaging: 500 g

· **"Règlement type" de l'ONU:**

UN 1463 TRIOXYDE DE CHROME ANHYDRE, 6.1 (5.1), II, DANGEREUX POUR L'ENVIRONNEMENT

FR

(suite page 9)

Fiche de données de sécurité

selon 1907/2006/CE, Article 31

Date d'impression : 29.08.2017

Révision: 29.08.2017

Nom du produit: Acide chromique

(suite de la page 8)

RUBRIQUE 15: Informations relatives à la réglementation

- **15.1 Réglementations/législation particulières à la substance ou au mélange en matière de sécurité, de santé et d'environnement**
- **Directive 2012/18/UE**
- **Substances dangereuses désignées - ANNEXE I** la substance n'est pas comprise
- **Catégorie SEVESO**
- H2 TOXICITÉ AIGUË
- P8 LIQUIDES ET SOLIDES COMBURANTS
- E1 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)	
--	--

7738-94-5	Acide chromique
-----------	-----------------

- **RÈGLEMENT (CE) N° 1907/2006 ANNEXE XVII** Conditions de limitation: 47

- **Prescriptions nationales:**

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

Le personnel ne doit pas être exposé à cette substance dangereuse. 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	
--	--

7738-94-5	Acide chromique
-----------	-----------------

- **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.

- **Acronymes et abréviations:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

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

Acute Tox. 3: Toxicité aiguë – Catégorie 3

Acute Tox. 2: Toxicité aiguë – Catégorie 2

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

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

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

Sicherheitsdatenblatt gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.08.2017

überarbeitet am: 29.08.2017

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

· 1.1 Produktidentifikator

· **Handelsname:** Chromsäure

· **Artikelnummer:** 12555

· **CAS-Nummer:**

7738-94-5

· **1.2 Relevante identifizierte Verwendungen des Stoffs oder Gemischs und Verwendungen, von denen abgeraten wird**

Keine weiteren relevanten Informationen verfügbar.

· **Verwendung des Stoffs / des Gemisches** Laborchemikalien

· **1.3 Einzelheiten zum Lieferanten, der das Sicherheitsdatenblatt bereitstellt**

· **Hersteller/Lieferant:**

Electron Microscopy Sciences

1560 Industry Road

USA-Hatfield, PA 19440

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

email: sgkcck@aol.com

www.emsdiasum.com

Science Services GmbH

Unterhachinger Str. 75

81737 München Germany

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

safety@scienceservices.de

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. Sol. 1

H271 Kann Brand oder Explosion verursachen; starkes Oxidationsmittel.



GHS06 Totenkopf mit gekreuzten Knochen

Acute Tox. 3

H301 Giftig bei Verschlucken.

Acute Tox. 3

H311 Giftig bei Hautkontakt.

Acute Tox. 2

H330 Lebensgefahr bei Einatmen.

(Fortsetzung auf Seite 2)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.08.2017

überarbeitet am: 29.08.2017

Handelsname: Chromsäure

(Fortsetzung von Seite 1)

**GHS08 Gesundheitsgefahr**

Resp. Sens. 1 *H334* *Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.*

Muta. 1B *H340* *Kann genetische Defekte verursachen.*

Carc. 1A *H350* *Kann Krebs erzeugen.*

Repr. 2 *H361f* *Kann vermutlich die Fruchtbarkeit beeinträchtigen.*

STOT RE 1 *H372* *Schädigt die Organe bei längerer oder wiederholter Exposition.*

**GHS05 Ätzwirkung**

Skin Corr. 1A *H314* *Verursacht schwere Verätzungen der Haut und schwere Augenschäden.*

**GHS09 Umwelt**

Aquatic Acute 1 *H400* *Sehr giftig für Wasserorganismen.*

Aquatic Chronic 1 *H410* *Sehr giftig für Wasserorganismen mit langfristiger Wirkung.*

**GHS07**

Skin Sens. 1 *H317* *Kann allergische Hautreaktionen verursachen.*

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

**GHS03****GHS05****GHS06****GHS08****GHS09**

- **Signalwort Gefahr**
- **Gefahrenhinweise**
 - H271* *Kann Brand oder Explosion verursachen; starkes Oxidationsmittel.*
 - H301+H311* *Giftig bei Verschlucken oder Hautkontakt.*
 - 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.*
 - H372* *Schädigt die Organe bei längerer oder wiederholter Exposition.*
 - H410* *Sehr giftig für Wasserorganismen mit langfristiger Wirkung.*
- **Sicherheitshinweise**
 - P221* *Mischen mit brennbaren Stoffen unbedingt verhindern.*

(Fortsetzung auf Seite 3)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.08.2017

überarbeitet am: 29.08.2017

Handelsname: Chromsäure

(Fortsetzung von Seite 2)

- P283 *Schwer entflammbare/flammhemmende Kleidung tragen.*
- P301+P310 *BEI VERSCHLUCKEN: Sofort GIFTINFORMATIONSZENTRUM/Arzt anrufen.*
- P303+P361+P353 *BEI BERÜHRUNG MIT DER HAUT (oder dem Haar): Alle kontaminierten Kleidungsstücke sofort ausziehen. Haut mit Wasser abwaschen/duschen.*
- P305+P351+P338 *BEI KONTAKT MIT DEN AUGEN: Einige Minuten lang behutsam mit Wasser spülen. Eventuell vorhandene Kontaktlinsen nach Möglichkeit entfernen. Weiter spülen.*
- P320 *Besondere Behandlung dringend erforderlich (siehe auf diesem Kennzeichnungsetikett).*
- 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

- **3.1 Chemische Charakterisierung: Stoffe**

- **CAS-Nr. Bezeichnung**

7738-94-5 Chromsäure

- **SVHC**

7738-94-5 | Chromsäure

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:**

Kein Erbrechen herbeiführen, sofort Arzthilfe zuziehen.

Reichlich Wasser nachtrinken und Frischluftzufuhr. Unverzüglich Arzt hinzuziehen.

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

Keine weiteren relevanten Informationen verfügbar.

- **4.3 Hinweise auf ärztliche Soforthilfe oder Spezialbehandlung**

Keine weiteren relevanten Informationen verfügbar.

DE

(Fortsetzung auf Seite 4)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.08.2017

überarbeitet am: 29.08.2017

Handelsname: *Chromsäure*

(Fortsetzung von Seite 3)

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.
- **6.3 Methoden und Material für Rückhaltung und Reinigung:**
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**
Gute Entstaubung.
Für gute Belüftung/Absaugung am Arbeitsplatz sorgen.
Behälter mit Vorsicht öffnen und handhaben.
- **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):** -
- **7.3 Spezifische Endanwendungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 8: Begrenzung und Überwachung der Exposition/Persönliche Schutzausrüstungen

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

· 8.1 Zu überwachende Parameter

- **Bestandteile mit arbeitsplatzbezogenen, zu überwachenden Grenzwerten:**

7738-94-5 Chromsäure

MAK | einatembare Fraktion; vgl. Abschn. XII

(Fortsetzung auf Seite 5)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.08.2017

überarbeitet am: 29.08.2017

Handelsname: Chromsäure

(Fortsetzung von Seite 4)

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

· **8.2 Begrenzung und Überwachung der Exposition**

· **Persönliche Schutzausrüstung:**

· **Allgemeine Schutz- und Hygienemaßnahmen:**

Von Nahrungsmitteln, Getränken und Futtermitteln fernhalten.

Beschmutzte, getränkte Kleidung sofort ausziehen.

Vor den Pausen und bei Arbeitsende Hände waschen.

Getrennte Aufbewahrung der Schutzkleidung.

Berührung mit den Augen und der Haut vermeiden.

· **Atemschutz:**

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

· **Durchdringungszeit des Handschuhmaterials**

Die genaue Durchbruchzeit ist beim Schutzhandschuhhersteller zu erfahren und einzuhalten.

· **Augenschutz:**



Dichtschließende Schutzbrille

ABSCHNITT 9: Physikalische und chemische Eigenschaften

· **9.1 Angaben zu den grundlegenden physikalischen und chemischen Eigenschaften**

· **Allgemeine Angaben**

· **Aussehen:**

Form: Kristallin

Farbe: Dunkelrot

· **Geruch:** Geruchlos

· **Geruchsschwelle:** Nicht bestimmt.

· **pH-Wert:** Nicht anwendbar.

· **Zustandsänderung**

Schmelzpunkt/Gefrierpunkt: 196 °C

Siedebeginn und Siedebereich: Nicht bestimmt.

· **Flammpunkt:** Nicht anwendbar.

· **Entzündbarkeit (fest, gasförmig):** Der Stoff ist nicht entzündlich.

(Fortsetzung auf Seite 6)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.08.2017

überarbeitet am: 29.08.2017

Handelsname: Chromsäure

(Fortsetzung von Seite 5)

· Zündtemperatur:	
· Zersetzungstemperatur:	Nicht bestimmt.
· Selbstentzündungstemperatur: Nicht bestimmt.	
· Explosive Eigenschaften: Das Produkt ist nicht explosionsgefährlich. Explosionsgefahr bei Mischung mit brennbaren Stoffen.	
· Explosionsgrenzen:	
Untere:	Nicht bestimmt.
Obere:	Nicht bestimmt.
· Dampfdruck: Nicht anwendbar.	
· Dichte: Nicht bestimmt.	
· Schüttdichte bei 20 °C: 2.700 kg/m ³	
· Relative Dichte: Nicht bestimmt.	
· Dampfdichte: Nicht anwendbar.	
· Verdampfungsgeschwindigkeit: Nicht anwendbar.	
· Löslichkeit in / Mischbarkeit mit Wasser: Nicht bestimmt.	
· Verteilungskoeffizient: n-Octanol/Wasser: Nicht bestimmt.	
· Viskosität:	
Dynamisch:	Nicht anwendbar.
Kinematisch:	Nicht anwendbar.
· 9.2 Sonstige Angaben: Keine weiteren relevanten Informationen verfügbar.	

ABSCHNITT 10: Stabilität und Reaktivität

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

ABSCHNITT 11: Toxikologische Angaben

- **11.1 Angaben zu toxikologischen Wirkungen:**
- **Akute Toxizität:**
Giftig bei Verschlucken oder Hautkontakt.
Lebensgefahr bei Einatmen.
- **Primäre Reizwirkung:**
- **Ätz-/Reizwirkung auf die Haut:**
Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
- **Schwere Augenschädigung/-reizung:**
Verursacht schwere Verätzungen der Haut und schwere Augenschäden.
- **Sensibilisierung der Atemwege/Haut:**
Kann bei Einatmen Allergie, asthmaartige Symptome oder Atembeschwerden verursachen.

(Fortsetzung auf Seite 7)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.08.2017

überarbeitet am: 29.08.2017

Handelsname: Chromsäure

(Fortsetzung von Seite 6)

- Kann allergische Hautreaktionen verursachen.
- **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**
Aufgrund der verfügbaren Daten sind die Einstufungskriterien nicht erfüllt.
- **Spezifische Zielorgan-Toxizität bei wiederholter Exposition**
Schädigt die Organe 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:** Sehr giftig für Fische.
- **Weitere ökologische Hinweise:**
- **Allgemeine Hinweise:**
Darf nicht unverdünnt bzw. unneutralisiert ins Abwasser bzw. in den Vorfluter gelangen.
In Gewässern auch giftig für Fische und Plankton.
sehr giftig für Wasserorganismen
- **12.5 Ergebnisse der PBT- und vPvB-Beurteilung**
- **PBT:** Nicht anwendbar.
- **vPvB:** Nicht anwendbar.
- **12.6 Andere schädliche Wirkungen** Keine weiteren relevanten Informationen verfügbar.

ABSCHNITT 13: Hinweise zur Entsorgung

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

ABSCHNITT 14: Angaben zum Transport

- | | |
|--|--|
| · 14.1 UN-Nummer | |
| · ADR, IMDG, IATA | UN1463 |
| · 14.2 Ordnungsgemäße UN-Versandbezeichnung | |
| · ADR | 1463 CHROMTRIOXID, WASSERFREI,
UMWELTGEFÄHRDEND |
| · IMDG, IATA | CHROMIUM TRIOXIDE, ANHYDROUS |

(Fortsetzung auf Seite 8)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.08.2017

überarbeitet am: 29.08.2017

Handelsname: Chromsäure

(Fortsetzung von Seite 7)

· 14.3 Transportgefahrenklassen**· ADR**

- **Klasse** 5.1 Entzündend (oxidierend) wirkende Stoffe
- **Gefahrzettel** 6.1+5.1

· IMDG

- **Class** 5.1 Entzündend (oxidierend) wirkende Stoffe
- **Label** 6.1/5.1

· IATA

- **Class** 5.1 Entzündend (oxidierend) wirkende Stoffe
- **Label** 6.1 (5.1)

· 14.4 Verpackungsgruppe

- **ADR, IMDG, IATA** II

- **14.5 Umweltgefahren:** Umweltgefährdender Stoff, fest
- **Besondere Kennzeichnung (ADR):** Symbol (Fisch und Baum)

· 14.6 Besondere Vorsichtsmaßnahmen für den

- **Verwender** Achtung: Entzündend (oxidierend) wirkende Stoffe
- **Kemler-Zahl:** 665
- **EMS-Nummer:** F-A,S-Q
- **Stowage Category** A
- **Segregation Code** SG6 Segregation as for class 5.1
SG16 Stow "separated from" class 4.1
SG19 Stow "separated from" class 7

- **14.7 Massengutbeförderung gemäß Anhang II des MARPOL-Übereinkommens und gemäß IBC-Code** Nicht anwendbar.

· Transport/weitere Angaben:**· ADR**

- **Begrenzte Menge (LQ)** 1 kg
- **Freigestellte Mengen (EQ)** Code: E2
Höchste Nettomenge je Innenverpackung: 30 g
Höchste Nettomenge je Außenverpackung: 500 g
- **Beförderungskategorie** 2
- **Tunnelbeschränkungscode** E

(Fortsetzung auf Seite 9)

Sicherheitsdatenblatt

gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.08.2017

überarbeitet am: 29.08.2017

Handelsname: Chromsäure

(Fortsetzung von Seite 8)

· IMDG	
· Limited quantities (LQ)	100 ml
· Excepted quantities (EQ)	Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
· UN "Model Regulation":	UN 1463 CHROMTRIOXID, WASSERFREI, 6.1 (5.1), 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** Der Stoff ist nicht enthalten.
- **Seveso-Kategorie**
H2 AKUT TOXISCH
P8 ENTZÜNDEND (OXIDIEREND) WIRKENDE FLÜSSIGKEITEN UND FESTSTOFFE
E1 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)

7738-94-5	Chromsäure
-----------	------------

- **VERORDNUNG (EG) Nr. 1907/2006 ANHANG XVII** Beschränkungsbedingungen: 47

· **Nationale Vorschriften:**

- **Hinweise zur Beschäftigungsbeschränkung:**
Arbeitnehmer dürfen diesem Gefahrstoff nicht ausgesetzt sein. Im Einzelfall kann die Behörde Ausnahmen zulassen.
- **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**

7738-94-5	Chromsäure
-----------	------------

- **15.2 Stoffsicherheitsbeurteilung:** Eine Stoffsicherheitsbeurteilung wurde nicht durchgeführt.

ABSCHNITT 16: Sonstige Angaben

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

· **Abkürzungen und Akronyme:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 PBT: Persistent, Bioaccumulative and Toxic
 SVHC: Substances of Very High Concern
 vPvB: very Persistent and very Bioaccumulative
 Ox. Sol. 1: Oxidierende Feststoffe – Kategorie 1

(Fortsetzung auf Seite 10)

Sicherheitsdatenblatt
gemäß 1907/2006/EG, Artikel 31

Druckdatum: 29.08.2017

überarbeitet am: 29.08.2017

Handelsname: Chromsäure

(Fortsetzung von Seite 9)

*Acute Tox. 3: Akute Toxizität – Kategorie 3**Acute Tox. 2: Akute Toxizität – Kategorie 2**Skin Corr. 1A: Hautreizende/-ätzende Wirkung – Kategorie 1A**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 RE 1: Spezifische Zielorgan-Toxizität (wiederholte Exposition) – Kategorie 1**Aquatic Acute 1: Gewässergefährdend - akut gewässergefährdend – Kategorie 1**Aquatic Chronic 1: Gewässergefährdend - langfristig gewässergefährdend – Kategorie 1*

DE

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

Stampato il: 29.08.2017

Revisione: 29.08.2017

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

· **1.1 Identificatore del prodotto**

· **Denominazione commerciale:** Acido cromico

· **Articolo numero:** 12555

· **Numero CAS:**

7738-94-5

· **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: sgkceck@aol.com

www.emsdiasum.com

Societa Italiana Chimici

Via Rio Nell Ellba 140

00138 Rome, Italy

Tel: 39 06 8800211

Fax: 39 30 06 8815313

Web: www.sichim.com

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

· **1.4 Numero telefonico di emergenza:**

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

SEZIONE 2: Identificazione dei pericoli

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

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



GHS03 fiamma su cerchio

Ox. Sol. 1

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



GHS06 teschio e tibie incrociate

Acute Tox. 3

H301 Tossico se ingerito.

Acute Tox. 3

H311 Tossico per contatto con la pelle.

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.

(continua a pagina 2)

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

Stampato il: 29.08.2017

Revisione: 29.08.2017

Denominazione commerciale: Acido cromico

(Segue da pagina 1)

Repr. 2 H361f Sospettato di nuocere alla fertilità
STOT RE 1 H372 Provoca danni agli organi in caso di esposizione prolungata o ripetuta.



GHS05 corrosione

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



GHS09 ambiente

Aquatic Acute 1 H400 Molto tossico per gli organismi acquatici.
Aquatic Chronic 1 H410 Molto tossico per gli organismi acquatici con effetti di lunga durata.



GHS07

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

· **2.2 Elementi dell'etichetta**

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

La sostanza è classificata ed etichettata conformemente al regolamento CLP.

· **Pittogrammi di pericolo**



GHS03



GHS05



GHS06



GHS08



GHS09

· **Avvertenza Pericolo**

· **Indicazioni di pericolo**

H271 Può provocare un incendio o un'esplosione; molto comburente.
H301+H311 Tossico se ingerito o a contatto con la pelle.
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
H372 Provoca danni agli organi in caso di esposizione prolungata o ripetuta.
H410 Molto tossico per gli organismi acquatici con effetti di lunga durata.

· **Consigli di prudenza**

P221 Prendere ogni precauzione per evitare di miscelare con sostanze combustibili.
P283 Indossare indumenti completamente ignifughi o in tessuti ritardanti di fiamma.
P301+P310 IN CASO DI INGESTIONE: contattare immediatamente un CENTRO ANTIVELENI/un medico.
P303+P361+P353 IN CASO DI CONTATTO CON LA PELLE (o con i capelli): togliere immediatamente tutti gli indumenti contaminati. Sciacquare la pelle/fare una doccia.
P305+P351+P338 IN CASO DI CONTATTO CON GLI OCCHI: sciacquare accuratamente per parecchi minuti. Togliere le eventuali lenti a contatto se è agevole farlo. Continuare a sciacquare.
P320 Trattamento specifico urgente (vedere su questa etichetta).

(continua a pagina 3)

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

Stampato il: 29.08.2017

Revisione: 29.08.2017

Denominazione commerciale: Acido cromico

(Segue da pagina 2)

P405 Conservare sotto chiave.
P501 Smaltire il prodotto/recipiente in conformità con le disposizioni locali / regionali / nazionali / internazionali.

- **2.3 Altri pericoli**
- **Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.

SEZIONE 3: Composizione/informazioni sugli ingredienti

- **3.1 Caratteristiche chimiche: Sostanze**
- **Numero CAS**
7738-94-5 Acido cromico

- **SVHC**

7738-94-5	Acido cromico
-----------	---------------

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.
Levare 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:**
Non provocare il vomito, 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.
- **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.

(continua a pagina 4)

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

Stampato il: 29.08.2017

Revisione: 29.08.2017

Denominazione commerciale: Acido cromico

(Segue da pagina 3)

- **6.2 Precauzioni ambientali:**
In caso di infiltrazione nei corpi d'acqua o nelle fognature avvertire le autorità competenti.
- **6.3 Metodi e materiali per il contenimento e per la bonifica:**
*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 captazione delle polveri.
Accurata ventilazione/aspirazione nei luoghi di lavoro.
Aprire e manipolare i recipienti con cautela.*
- **Indicazioni in caso di incendio ed esplosione:** *Tener pronto il respiratore.*
- **7.2 Condizioni per lo stoccaggio sicuro, comprese eventuali incompatibilità**
- **Stoccaggio:**
- **Requisiti dei magazzini e dei recipienti:** *Non sono richiesti requisiti particolari.*
- **Indicazioni sullo stoccaggio misto:** *Non necessario.*
- **Ulteriori indicazioni relative alle condizioni di immagazzinamento:** *Mantenere i recipienti ermeticamente chiusi.*
- **7.3 Usi finali particolari** *Non sono disponibili altre informazioni.*

SEZIONE 8: Controllo dell'esposizione/protezione individuale

- **Ulteriori indicazioni sulla struttura di impianti tecnici:** *Nessun dato ulteriore, vedere punto 7.*
- **8.1 Parametri di controllo**
- **Componenti i cui valori limite devono essere tenuti sotto controllo negli ambienti di lavoro:** *Non Necessario.*
- **Ulteriori indicazioni:** *Le liste valide alla data di compilazione sono state usate come base.*
- **8.2 Controlli dell'esposizione**
- **Mezzi protettivi individuali:**
- **Norme generali protettive e di igiene del lavoro:**
*Tenere lontano da cibo, bevande e foraggi.
Togliere immediatamente gli abiti contaminati.
Lavarsi le mani prima dell'intervallo o a lavoro terminato.
Custodire separatamente l'equipaggiamento protettivo.
Evitare il contatto con gli occhi e la pelle.*
- **Maschera protettiva:**
Nelle esposizioni brevi e minime utilizzare la maschera; nelle esposizioni più intense e durature indossare l'autorespiratore.
- **Guanti protettivi:**



Guanti protettivi

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

(continua a pagina 5)

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

Stampato il: 29.08.2017

Revisione: 29.08.2017

Denominazione commerciale: Acido cromico

(Segue da pagina 4)

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

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

· **Materiale dei guanti**

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

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

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

· **Occhiali protettivi:**



Occhiali protettivi a tenuta

SEZIONE 9: Proprietà fisiche e chimiche

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

· **Indicazioni generali**

· **Aspetto:**

Forma: Cristallino
 Colore: Rosso scuro

· **Odore:** Inodore

· **Soglia olfattiva:** Non definito.

· **valori di pH:** Non applicabile.

· **Cambiamento di stato**

Punto di fusione/punto di congelamento: 196 °C

Punto di ebollizione iniziale e intervallo di ebollizione: Non definito.

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

· **Infiammabilità (solidi, gas):** Sostanza non infiammabile.

· **Temperatura di accensione:**

Temperatura di decomposizione: Non definito.

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

· **Proprietà esplosive:**

Prodotto non esplosivo.
Esplosivo in miscela con materie combustibili.

· **Limiti di infiammabilità:**

Inferiore: Non definito.

Superiore: Non definito.

· **Tensione di vapore:** Non applicabile.

· **Densità:** Non definito.

· **Densità apparente a 20 °C:** 2.700 kg/m³

· **Densità relativa** Non definito.

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

· **Velocità di evaporazione** Non applicabile.

(continua a pagina 6)

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

Stampato il: 29.08.2017

Revisione: 29.08.2017

Denominazione commerciale: Acido cromico

(Segue da pagina 5)

- | | |
|--|--|
| · Solubilità in/Miscibilità con acqua: | Non definito. |
| · Coefficiente di ripartizione: n-ottanolo/acqua: | Non definito. |
| · Viscosità: | |
| Dinamica: | Non applicabile. |
| Cinematica: | Non applicabile. |
| · 9.2 Altre informazioni | Non sono disponibili altre informazioni. |

SEZIONE 10: Stabilità e reattività

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

SEZIONE 11: Informazioni tossicologiche

- **11.1 Informazioni sugli effetti tossicologici**
- **Tossicità acuta**
Tossico se ingerito o a contatto con la pelle.
Letale se inalato.
- **Irritabilità primaria:**
- **Corrosione/irritazione cutanea**
Provoca gravi ustioni cutanee e gravi lesioni oculari.
- **Lesioni oculari gravi/irritazioni oculari gravi**
Provoca gravi ustioni cutanee e gravi lesioni oculari.
- **Sensibilizzazione respiratoria o cutanea**
Può provocare sintomi allergici o asmatici o difficoltà respiratorie se inalato.
Può provocare una reazione allergica cutanea.
- **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**
Basandosi sui dati disponibili i criteri di classificazione non sono soddisfatti.
- **Tossicità specifica per organi bersaglio (STOT) - esposizione ripetuta**
Provoca danni agli organi in caso di esposizione prolungata o 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.

(continua a pagina 7)

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

Stampato il: 29.08.2017

Revisione: 29.08.2017

Denominazione commerciale: Acido cromico






(Segue da pagina 6)

- **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:** Molto tossico per i pesci.
- **Ulteriori indicazioni in materia ambientale:**
- **Ulteriori indicazioni:**
Non immettere il prodotto non diluito o non neutralizzato nelle acque di scarico e nei canali di raccolta.
Tossico per pesci e plancton.
Molto tossico per gli organismi acquatici
- **12.5 Risultati della valutazione PBT e vPvB**
- **PBT:** Non applicabile.
- **vPvB:** Non applicabile.
- **12.6 Altri effetti avversi** Non sono disponibili altre informazioni.

SEZIONE 13: Considerazioni sullo smaltimento

- **13.1 Metodi di trattamento dei rifiuti**
- **Consigli:** Non smaltire il prodotto insieme ai rifiuti domestici Non immettere nelle fognature.
- **Imballaggi non puliti:**
- **Consigli:** Smaltimento in conformità con le disposizioni amministrative.

SEZIONE 14: Informazioni sul trasporto

- | | |
|--|--|
| <ul style="list-style-type: none"> · 14.1 Numero ONU · ADR, IMDG, IATA | <p align="center">UN1463</p> |
| <ul style="list-style-type: none"> · 14.2 Nome di spedizione dell'ONU · ADR · IMDG, IATA | <p align="center">1463 TRIOSSIDO DI CROMO ANIDRO, PERICOLOSO PER L'AMBIENTE
CHROMIUM TRIOXIDE, ANHYDROUS</p> |
| <ul style="list-style-type: none"> · 14.3 Classi di pericolo connesso al trasporto · ADR <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <ul style="list-style-type: none"> · Classe · Etichetta | <p align="center">5.1 Materie comburenti
6.1+5.1</p> |
| <ul style="list-style-type: none"> · IMDG <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <ul style="list-style-type: none"> · Class | <p align="center">5.1 Materie comburenti</p> |

(continua a pagina 8)



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

Stampato il: 29.08.2017

Revisione: 29.08.2017

Denominazione commerciale: Acido cromico

(Segue da pagina 7)

· Label	6.1/5.1
· IATA	
 	
· Class	5.1 Materie comburenti
· Label	6.1 (5.1)
· 14.4 Gruppo di imballaggio	
· ADR, IMDG, IATA	II
· 14.5 Pericoli per l'ambiente:	Materia pericolosa dal punto di vista dell'ambiente, solida
· Marcatura speciali (ADR):	Simbolo (pesce e albero)
· 14.6 Precauzioni speciali per gli utilizzatori	Attenzione: Materie comburenti
· Numero Kemler:	665
· Numero EMS:	F-A,S-Q
· Stowage Category	A
· Segregation Code	SG6 Segregation as for class 5.1 SG16 Stow "separated from" class 4.1 SG19 Stow "separated from" class 7
· 14.7 Trasporto di rinfuse secondo l'allegato II di MARPOL ed il codice IBC	Non applicabile.
· Trasporto/ulteriori indicazioni:	
· ADR	
· Quantità limitate (LQ)	1 kg
· Quantità esenti (EQ)	Codice: E2 Quantità massima netta per imballaggio interno: 30 g Quantità massima netta per imballaggio esterno: 500 g
· Categoria di trasporto	2
· Codice di restrizione in galleria	E
· IMDG	
· Limited quantities (LQ)	100 ml
· Excepted quantities (EQ)	Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
· UN "Model Regulation":	UN 1463 TRIOSSIDO DI CROMO ANIDRO, 6.1 (5.1), 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** La sostanza non è contenuta
- **Categoria Seveso**
H2 TOSSICITÀ ACUTA
P8 LIQUIDI E SOLIDI COMBURENTI
E1 Pericoloso per l'ambiente acquatico

(continua a pagina 9)

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

Stampato il: 29.08.2017

Revisione: 29.08.2017

Denominazione commerciale: Acido cromico

(Segue da pagina 8)

- **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)**

7738-94-5	Acido cromico
-----------	---------------

- **REGOLAMENTO (CE) n. 1907/2006 ALLEGATO XVII Restrizioni: 47**

· **Disposizioni nazionali:**

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

Il personale non deve essere esposto a questa sostanza pericolosa 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**

7738-94-5	Acido cromico
-----------	---------------

- **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.

· **Abbreviazioni e acronimi:**

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Ox. Sol. 1: Solidi comburenti – Categoria 1

Acute Tox. 3: Tossicità acuta – Categoria 3

Acute Tox. 2: Tossicità acuta – Categoria 2

Skin Corr. 1A: Corrosione/irritazione della pelle – Categoria 1A

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

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

물질안전보건자료 GHS에 따라

기압점: 2017.08.29

개정: 2017.08.29

1 화학제품과 회사에 관한 정보

- **제품 식별자**
- **제품명: Chromic acid**
- **상품번호: 12555**
- **CAS-번호: 7738-94-5**
- **해당 순물질이나 혼합물의 관련 하위용도 및 사용금지용도 추가적인 정보가 존재하지 않습니다.**
- **제품의 권고 용도와 사용상의 제한: 실험실 화학품**
- **안전데이터표(Safety Data Sheet)내 공급업체 관련 상세 정보**
- **제조사/수입자/유통업자 정보:**
 Electron Microscopy Sciences
 1560 Industry Road
 USA-Hatfield, PA 19440
 Tel: 215-412-8400 Fax: 215-412-8450
 email: sgkceck@aol.com
 www.emsdiasum.com
- **Samchang Commercial Co., Ltd.**
 Yeo Eui Do
 PO Box 1110
 Seoul, Korea
 Tel: 82 2 703 3040
 Fax: 82 2 717 3298
- **추가적인 정보 획득 가능: Product safety department**
- **비상연락 전화번호:**
 ChemTrec 1-800-424-9300 Contract CCN7661
 1-703-527-3887

2 유해성·위험성

· **순물질 또는 혼합물의 분류**



회오리 화염

산화성 고체 - 구분 1

H271 화재 또는 폭발을 일으킬 수 있음: 강산화제



두개골과 대퇴골

급성 독성 - 경구 - 구분 3

H301 삼키면 유독함

급성 독성 - 경피 - 구분 3

H311 피부와 접촉하면 유독함

급성 독성 - 흡입 - 구분 2

H330 흡입하면 치명적임



건강에 위험

호흡기 과민성 - 구분 1

H334 흡입시 알레르기성 반응, 천식 또는 호흡 곤란을 일으킬 수 있음

생식세포 변이원성 - 구분 1B

H340 유전적인 결함을 일으킬 수 있음

발암성 - 구분 1A

H350 암을 일으킬 수 있음

생식독성 - 구분 2

H361 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨

특정표적장기 독성 - 반복 노출 - 구분 1

H372 장기간 또는 반복노출 되면 신체 중에 손상을 일으킴

(2 쪽에 계속)

물질안전보건자료

GHS에 따라

기압점: 2017.08.29

개정: 2017.08.29

제품명: Chromic acid

(1 쪽부터계속)



피부 부식성/피부 자극성 - 구분 1 H314 피부에 심한 화상과 눈 손상을 일으킴



수생환경 유해성 - 급성 1 H400 수생생물에 매우 유독함
 수생환경 유해성 - 만성1 H410 장기적인 영향에 의해 수생생물에게 매우 유독함



피부 과민성 - 구분 1 H317 알레르기성 피부 반응을 일으킬 수 있음

- 라벨표기 요소
- GHS 라벨 요소
- 그림문자

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



- 신호어 위험
- 유해.위험 문구

화재 또는 폭발을 일으킬 수 있음: 강산화제
 삼키거나 피부에 접촉하면 유독함.
 흡입하면 치명적임
 피부에 심한 화상과 눈 손상을 일으킴
 흡입시 알레르기성 반응, 천식 또는 호흡 곤란을 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
 장기간 또는 반복노출 되면 신체 중에 손상을 일으킴
 장기적인 영향에 의해 수생생물에게 매우 유독함

- 예방조치 문구

가연성 물질: 과혼합되지 않도록 조치하십시오.
 방화복, 방염복을 입으시오.
 삼켰을 시: 즉시 독성물질센터/병원 연락 필요.
 피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗으시오. 피부를 물로 씻으시오/샤워하십시오.
 눈에 묻으면 몇 분간 물로 조심해서 씻으시오. 가능하면콘택트렌즈를 제거하십시오. 계속 씻으시오.
 긴급히(라벨 참조) 처치를 하시오.
 잠금장치가 있는 저장장소에 저장 하시오.
 현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

- 기타 유해성

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

(3 쪽에계속)

물질안전보건자료

GHS에 따라

기압점: 2017.08.29

개정: 2017.08.29

제품명: Chromic acid

(2 쪽부터계속)

· vPvB(고 잔류성, 고 생물농축성 물질): 해당사항 없음.

3 구성성분의 명칭 및 함유량

- **화 학 적 특 성:** 화학물질
- CAS-번호표시
7738-94-5 Chromic acid

4 응급조치 요령

- **응급조치요령 내용**
- **일 반 적 정 보:**
이제품에 의해 오염된 의상은 즉시 제거한다.
중독 증상은 몇 시간이 지난 뒤에 발생할 수 있다. 따라서 사고가 발생한 후에 적어도 48 시간동안은 의료진의 관찰을 받아야 한다.
반드시 오염된 의상을 완전히 제거한 후에 호흡보호기를 떼어낸다.
불규칙적인 호흡이나 호흡정지상태에서는 인공호흡을 실시한다.
- **흡입했을 때:**
신선한 공기나 산소를 공급받고, 의료진의 도움을 구한다.
환자가 의식을 잃었을 경우에는 안전한 자세에서 환자를 운반한다.
- **피부에 접촉했을 때:** 즉시물과비누로씻고잘행군다.
- **눈에 들어갔을 때:** 흐르는 물에 눈을 몇분동안 씻어내고나서, 의사와 상담한다
- **먹었을 때:**
구토를 유발시키지 않는다. 즉시 의료진의 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.
- **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.
- **밀폐 및 정화 방법과 소재:**
중성제를사용한다.
항목 13에 따라 오염된 물질을 쓰레기로 처분한다.
충분한 환기가 되도록 한다.
- **타 섹션 참조**
안전관리에 대한 정보는 제7장을 참고하시오.
개인보호장비에 대한 정보는 제8장을 참고하시오.

(4 쪽에계속)

물질안전보건자료

GHS에 따라

기압점: 2017.08.29

개정: 2017.08.29

제품명: Chromic acid

쓰레기 처리에 대한 정보는 제13 장을 참고하십시오.

(3 쪽부터 계속)

7 취급 및 저장방법

- 취급:
 - 안전 취급을 위한 예방조치
철저한 먼지 제거.
작업장에서는 통풍이 잘 되고/습기 제거가 잘 되게 주의한다.
조심스럽게 용기를 개봉하거나 취급한다.
 - 화재 및 폭발 사고 예방대책에 관한 정보: 호흡보호장비를 항상 비치한다.
- 혼합위험성 등 안전 저장 조건
- 보관:
 - 안전한 저장 방법: 특별한 요구사항이 없음.
 - 하나의 공동 보관 시설에 대한 보관 관련 정보: 필요없음
 - 보관 조건에 관한 추가적인 정보: 용기를 새지 않게 밀폐한 채 보관한다.
 - 구체적인 최종 사용자 추가적인 정보가 존재하지 않습니다.

8 노출방지 및 개인보호구

- 첨단시설 디자인에 대한 추가정보: 더 이상 의 자료는 없음. 항목 7 을 참고하십시오.

· 통제 변수

· 화학물질의 노출기준, 생물학적 노출기준 등:

7738-94-5 Chromic acid

TLV (KR)	장기간의 값: 0.05 mg/m ³ as Cr
PEL (US)	장기간의 값: 0.005* mg/m ³ 최고노출기준: 0.1** mg/m ³ *as Cr(VI) **as CrO ₃ ; see 29 CFR 1910.1026
REL (US)	장기간의 값: 0.0002 mg/m ³ as Cr; See Pocket Guide Apps. A and C
TLV (US)	단기간의 값: NIC-0.0005* mg/m ³ 장기간의 값: (0.05) NIC-0.0002* mg/m ³ as Cr; *inhalable, BEI, NIC-Skin, DSEN, RSEN

- 추가정보: 제조할 당시에 유효한 목록을 기초로 사용했다.

· 노출 통제

· 개인 보호구

· 일반적 보호조치 및 위생조치:

- 식료품, 음료수와 사료로부터 멀리 떨어져 두는 다.
- 더러워지거나 음료수가 묻은 옷은 즉시 탈의한다.
- 휴식 전 이나 작업이 끝날 때 마다 손을 씻는다.
- 방호복은 따로 보관한다.
- 눈과 피부와의 접촉은 피한다.

· 호흡기 보호:

- 단시간 또는 경미한 오염의 경우에는 호흡여과기를 사용한다. 심각한 또는 장기간 노출시에는 호흡보호장비를 사용한다.

(5 쪽에 계속)

물질안전보건자료

GHS에 따라

기압점: 2017.08.29

개정: 2017.08.29

제품명: Chromic acid

(4 쪽부터계속)

· 손 보호:



보호용 장갑

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

· 장갑 의 재료

적합한장갑의선정은재질차이뿐아니라품질기준의차이도고려하여이루어져야하고제조업자에따라서도다르게선정되어야한다.

· 장갑 재료 의 투과시 간 정확한관통시간은보호장갑제조자에의하여인지되고, 준수되어야한다.

· 눈 보호:



확조이는보안경

9 물리화학적 특성

· 기본 물리 및 화학적 특성에 대한 정보

· 일반정보

· 외형

· 물리적 상태:	수정
· 색:	짙은빨강
· 냄새:	무취의
· 후각역치	알맞지않다.

· pH: 해당사항 없음.

· 상태변화

· 녹는점/어는점:	196 °C
· 초기 끓는점과 끓는점 범위:	맞지않는

· 인화점: 해당사항 없음.

· 인화성(고체, 기체): 이 제품은 가연 성 이 없다.

· 점화 온도:

· 분해 온도: 알맞지않다.

· 자기점화: 알맞지않다.

· 폭발 위험: 이 제품은 폭발 위험성이 없다
가연성물질과 혼합할 경우의 폭발 위험

· 인화 또는 폭발 범위의 상한/하한

· 아래로:	알맞지않다.
· 위로:	알맞지않다.

· 증기압: 해당사항 없음.

· 밀도: 맞지않는다.

· 용 적 밀도 의 경우 20 °C: 2,700 kg/m³

· 비중: 알맞지않다.

(6 쪽에계속)

물질안전보건자료

GHS에 따라

기압점: 2017.08.29

개정: 2017.08.29

제품명: Chromic acid

(5 쪽부터계속)

· 증기밀도:	해당사항 없음.
· 증발 속도:	해당사항 없음.
· 용해도:	
· 물:	알맞지않다.
· n 옥탄올/물 분배계수:	알맞지않다.
· 점도:	
· 역확성:	해당사항 없음.
· 동점성:	해당사항 없음.
· 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.
- 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:
- 일차적 자극 효과:
- 피부 부식성 또는 자극성: 피부와점막에강한부식작용.
- 심한 눈 손상 또는 자극성: 강한부식작용
- 감각화:
- 호흡을통한감각화가능성이있다.
- 피부접촉을통하여감각화가능성이있다.
- 추가적인 독성에 관한 정보:
- 삼킬경우식도나위등의내장기관벽에상처를주는위험과마찬가지로입주변이나구강에강한부식작용을한다
- 다음 종류의 잠재적인 효과에 대한 정보
- CMR-효과 (암 유발, 돌연변이성 그리고 생식 독성)
- 생식세포 변이원성 - 구분 1B, 발암성 - 구분 1A, 생식독성 - 구분 2

12 환경에 미치는 영향

- 독성
- 수생독성: 추가적인 정보가 존재하지 않습니다.
- 지속성 및 분해성 추가적인 정보가 존재하지 않습니다.
- 환경 시스템에서의 행동:
- 생물농축 잠재성 추가적인 정보가 존재하지 않습니다.
- 토양내 이동성 추가적인 정보가 존재하지 않습니다.
- 생태독성:
- 의견: 어류 에 매우 독성임
- 추가적인 생태학 정보:
- 일반 특징:
- 희석시키지않은채또는중화시키지않은채하수도나배수로에도달하지않게해야한다.

(7 쪽에계속)

물질안전보건자료

GHS에 따라

기압점: 2017.08.29

개정: 2017.08.29

제품명: Chromic acid

(6 쪽부터계속)

하천에서는역시물고기나플랑크톤게는독성이있다.
물속의유기체에아주독이되는것

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

13 폐기시 주의사항

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

14 운송에 필요한 정보

<ul style="list-style-type: none"> · 유엔 번호 · ADR, IMDG, IATA 	UN1463
<ul style="list-style-type: none"> · UN 적정 선적명 · ADR · IMDG, IATA 	1463 CHROMIUM TRIOXIDE, ANHYDROUS, ENVIRONMENTALLY HAZARDOUS CHROMIUM TRIOXIDE, ANHYDROUS
<ul style="list-style-type: none"> · 교통 위험 클래스 · ADR 	<div style="display: flex; align-items: center; gap: 10px;"> </div>
<ul style="list-style-type: none"> · 등급 · 위험물 라벨 	5.1 인화성이 (산화하는) 있는것에영향을주는물질 6.1+5.1
<ul style="list-style-type: none"> · IMDG 	<div style="display: flex; align-items: center; gap: 10px;"> </div>
<ul style="list-style-type: none"> · Class · Label 	5.1 인화성이 (산화하는) 있는것에영향을주는물질 6.1/5.1
<ul style="list-style-type: none"> · IATA 	<div style="display: flex; align-items: center; gap: 10px;"> </div>
<ul style="list-style-type: none"> · Class · Label 	5.1 인화성이 (산화하는) 있는것에영향을주는물질 6.1 (5.1)
<ul style="list-style-type: none"> · 용기등급 · ADR, IMDG, IATA 	II

(8 쪽에계속)

물질안전보건자료

GHS에 따라

기압점: 2017.08.29

개정: 2017.08.29

제품명: Chromic acid

(7 쪽부터계속)

<ul style="list-style-type: none"> · 환경적 유해물질: · 특수 마킹 (ADR): 	<p>이물질은환경을오염시킨다 심벌 (물고기와 나무)</p>
<ul style="list-style-type: none"> · 이용자 특별 예방조치 · 위험 코드: · EMS-번호: · Stowage Category · Segregation Code 	<p>경고: 인화성이 (산화하는) 있는것에영향을주는물질 665 F-A,S-Q A SG6 Segregation as for class 5.1 SG16 Stow "separated from" class 4.1 SG19 Stow "separated from" class 7</p>
<ul style="list-style-type: none"> · MARPOL73/78(선박으로부터의 해양오염방지협약) 부속서2 및 IBC Code(국제선적화물코드)에 따른 벌크(bulk) 운송 	<p>해당사항 없음.</p>
<ul style="list-style-type: none"> · 운 송/추가 정보: 	
<ul style="list-style-type: none"> · ADR · 한정 수량 (LQ) · Excepted quantities (EQ) 	<p>1 kg Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g</p>
<ul style="list-style-type: none"> · 운송 구분 · 터널 제한 코드 	<p>2 E</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>100 ml Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g</p>
<ul style="list-style-type: none"> · UN "모범 규제": 	<p>UN 1463 CHROMIUM TRIOXIDE, ANHYDROUS, 6.1 (5.1), II, ENVIRONMENTALLY HAZARDOUS</p>

15 법적 규제현황

- 산업안전보건법에 의한 규제:
- 제조 등 금지물질: 성분이포함 되어있지않다
- 허가대상물질: 성분이포함 되어있지않다
- 관리대상유해물질: 성분이포함 되어있다
- 해당 순물질 또는 혼합물에 대한 안전, 보건 및 환경 규제/법률
- Korean Existing Chemical Inventory KE-05963
- 화학물질관리법
- 사고대비물질 성분이포함 되어있지않다
- 금지물질 성분이포함 되어있지않다
- 제한물질 성분이포함 되어있지않다
- 유독물질 성분이포함 되어있지않다
- 허가물질 성분이포함 되어있다
- GHS 라벨 요소

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

(9 쪽에계속)

물질안전보건자료 GHS에 따라

기압점: 2017.08.29

개정: 2017.08.29

제품명: Chromic acid

(8 쪽부터계속)

· 그림문자



· 신호어 위험

· 유해.위험 문구

화재 또는 폭발을 일으킬 수 있음: 강산화제
 삼키거나 피부에 접촉하면 유독함.
 흡입하면 치명적임
 피부에 심한 화상과 눈 손상을 일으킴
 흡입시 알레르기성 반응, 천식 또는 호흡 곤란을 일으킬 수 있음
 알레르기성 피부 반응을 일으킬 수 있음
 유전적인 결함을 일으킬 수 있음
 압을 일으킬 수 있음
 태아 또는 생식능력에 손상을 일으킬 것으로 의심됨
 장기간 또는 반복노출 되면 신체 중에 손상을 일으킴
 장기적인 영향에 의해 수생생물에게 매우 유독함

· 예방조치 문구

가연성 물질. 과혼합 되지 않도록 조치하십시오.
 방화복. 방염복을 입으십시오.
 삼켰을 시: 즉시 독성물질센터/병원 연락 필요.
 피부(또는 머리카락)에 묻으면 오염된 모든 의복은 벗으십시오. 피부를 물로 씻으십시오/샤워하십시오.
 눈에 묻으면 몇 분간 물로 조심해서 씻으십시오. 가능하면 콘택트렌즈를 제거하십시오. 계속 씻으십시오.
 긴급히(라벨 참조) 처치를 하십시오.
 잠금장치가 있는 저장장소에 저장하십시오.
 현지/지역/국가/국제 규정에 따라서 내용물/용기 노출

· 국내규정:

· 사용제한에 대한 정보:

노동자들은 이러한 위험물질을 내버리지 말아야 한다. 개별적인 경우에 관청은 예외를 허가할 수 있다.

· 화학물질 안전성 평가: 화학물질 안전성 평가가 수행되지 않음

16 그 밖의 참고사항

이 보고는 우리 지식에 대한 오늘날의 상태에 대하여 평가하고 있다, 하지만 이 보고서는 생산 특성에 관한 보증은 기술하지 않았으며 계약적인 법률 관계에 기반을 두고 있지 않다

· 최초 작성일자: 2017.08.29

· 개정 횟수 및 최종 개정일자: 1 / 2017.08.29

· 약어와 두문자어:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.08.2017

Revisión: 29.08.2017

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

· 1.1 Identificador del producto

· **Nombre comercial:** Ácido crómico

· **Número del artículo:** 12555

· **Número CAS:**

7738-94-5

· **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: sgkceck@aol.com

www.emsdiasum.com

Aname

C/ Perez Galdos no. 2

28693 Quijorna

Madrid, Spain

Tel: +34.91.816.89.50

Fax: +34.91.816.85.94

email: ventas@aname.es

· **Área de información:** Product safety department

· 1.4 Teléfono de emergencia:

ChemTrec 1-800-424-9300 Contract CCN7661

1-703-527-3887

SECCIÓN 2: Identificación de los peligros

· 2.1 Clasificación de la sustancia o de la mezcla

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



GHS03 llama sobre un círculo

Ox. Sol. 1

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



GHS06 calavera y tibias cruzadas

Acute Tox. 3

H301 Tóxico en caso de ingestión.

Acute Tox. 3

H311 Tóxico en contacto con la piel.

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.

(se continua en página 2)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.08.2017

Revisión: 29.08.2017

Nombre comercial: **Ácido crómico**

(se continua en página 1)

Carc. 1A H350 Puede provocar cáncer.
 Repr. 2 H361f Se sospecha que perjudica a la fertilidad.
 STOT RE 1 H372 Provoca daños en los órganos tras exposiciones prolongadas o repetidas.



GHS05 corrosión

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



GHS09 medio ambiente

Aquatic Acute 1 H400 Muy tóxico para los organismos acuáticos.
 Aquatic Chronic 1 H410 Muy tóxico para los organismos acuáticos, con efectos nocivos duraderos.



GHS07

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

· 2.2 Elementos de la etiqueta

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

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

· Pictogramas de peligro



GHS03



GHS05



GHS06



GHS08



GHS09

· Palabra de advertencia Peligro

· Indicaciones de peligro

H271 Puede provocar un incendio o una explosión; muy comburente.
 H301+H311 Tóxico en caso de ingestión o en contacto con la piel.
 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.
 H372 Provoca daños en los órganos tras exposiciones prolongadas o repetidas.
 H410 Muy tóxico para los organismos acuáticos, con efectos nocivos duraderos.

· Consejos de prudencia

P221 Tomar todas las precauciones necesarias para no mezclar con materias combustibles.
 P283 Llevar prendas ignífugas/resistentes al fuego/resistentes a las llamas.
 P301+P310 EN CASO DE INGESTIÓN: Llamar inmediatamente a un CENTRO DE TOXICOLOGÍA/médico.
 P303+P361+P353 EN CASO DE CONTACTO CON LA PIEL (o el pelo): Quitar inmediatamente todas las prendas contaminadas. Aclararse la piel con agua/ducharse.
 P305+P351+P338 EN CASO DE CONTACTO CON LOS OJOS: Aclarar cuidadosamente con agua durante varios minutos. Quitar las lentes de contacto, si lleva y resulta fácil. Seguir aclarando.
 P320 Se necesita urgentemente un tratamiento específico (ver en esta etiqueta).

(se continua en página 3)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.08.2017

Revisión: 29.08.2017

Nombre comercial: *Ácido crómico*

(se continua en página 2)

P405 *Guardar bajo llave.*
 P501 *Eliminar el contenido o el recipiente conforme a la reglamentación local/regional/nacional/internacional.*

- **2.3 Otros peligros**
- **Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.

SECCIÓN 3: Composición/información sobre los componentes

- **3.1 Caracterización química: Sustancias**
- **Denominación N° CAS**
7738-94-5 *Ácido crómico*

- **SVHC**

7738-94-5	<i>Ácido crómico</i>
-----------	----------------------

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:**
No provocar el vómito y solicitar asistencia médica inmediata.
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.*
- **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.

(se continua en página 4)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.08.2017

Revisión: 29.08.2017

Nombre comercial: Ácido crómico

(se continua en página 3)

- **6.2 Precauciones relativas al medio ambiente:**
Al penetrar en las aguas o en el alcantarillado, avisar a las autoridades pertinentes.
- **6.3 Métodos y material de contención y de limpieza:**
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**
Desempolvar cuidadosamente.
Asegurar suficiente ventilación /aspiración en el puesto de trabajo.
Abrir y manejar el recipiente con cuidado.
- **Prevención de incendios y explosiones:** Tener preparados los aparatos respiratorios.
- **7.2 Condiciones de almacenamiento seguro, incluidas posibles incompatibilidades**
- **Almacenamiento:**
- **Exigencias con respecto al almacén y los recipientes:** No se requieren medidas especiales.
- **Normas en caso de un almacenamiento conjunto:** No es necesario.
- **Indicaciones adicionales sobre las condiciones de almacenamiento:**
Mantener el recipiente cerrado herméticamente.
- **7.3 Usos específicos finales** No existen más datos relevantes disponibles.

SECCIÓN 8: Controles de exposición/protección individual

- **Instrucciones adicionales para el acondicionamiento de instalaciones técnicas:**
Sin datos adicionales, ver punto 7.

· 8.1 Parámetros de control

- **Componentes con valores límite admisibles que deben controlarse en el puesto de trabajo:**

7738-94-5 Ácido crómico

LEP	Valor de larga duración: 0,05 mg/m ³ C1B, VLB, c, Sen, r, como Cr
-----	---

- **Indicaciones adicionales:** Como base se han utilizado las listas vigentes en el momento de la elaboración.

· 8.2 Controles de la exposición

· Equipo de protección individual:

· Medidas generales de protección e higiene:

Mantener alejado de alimentos, bebidas y alimentos para animales.
Quitarse de inmediato la ropa ensuciada o impregnada.
Lavarse las manos antes de las pausas y al final del trabajo.
Guardar la ropa protectora por separado.
Evitar el contacto con los ojos y la piel.

· Protección respiratoria:

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

(se continua en página 5)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.08.2017

Revisión: 29.08.2017

Nombre comercial: **Ácido crómico**

(se continua en página 4)

· **Protección de manos:**

Guantes de protección

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

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

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

· **Material de los guantes**

La elección del guante adecuado no depende únicamente del material, sino también de otras características de calidad, que pueden variar de un fabricante a otro.

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

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

· **Protección de ojos:**

Gafas de protección herméticas

SECCIÓN 9: Propiedades físicas y químicas

· **9.1 Información sobre propiedades físicas y químicas básicas**· **Datos generales**· **Aspecto:**

· Forma:	Cristalino
· Color:	Rojo oscuro
· Olor:	Inodoro
· Umbral olfativo:	No determinado.

· **valor pH:** No aplicable.

· **Cambio de estado**

· Punto de fusión/punto de congelación:	196 °C
· Punto inicial de ebullición e intervalo de ebullición:	Indeterminado.

· **Punto de inflamación:** No aplicable.

· **Inflamabilidad (sólido, gas):** La sustancia no es inflamable.

· **Temperatura de ignición:**

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

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

· **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:** No aplicable.

(se continua en página 6)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.08.2017

Revisión: 29.08.2017

Nombre comercial: **Ácido crómico**

(se continua en página 5)

· Densidad:	Indeterminado.
· Densidad a granel a 20 °C:	2.700 kg/m ³
· Densidad relativa	No determinado.
· Densidad de vapor	No aplicable.
· Tasa de evaporación:	No aplicable.
· Solubilidad en / miscibilidad con agua:	No determinado.
· Coefficiente de reparto: n-octanol/agua:	No determinado.
· Viscosidad:	
· Dinámica:	No aplicable.
· Cinemática:	No aplicable.
· 9.2 Otros datos	No existen más datos relevantes disponibles.

SECCIÓN 10: Estabilidad y reactividad

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

SECCIÓN 11: Información toxicológica

- **11.1 Información sobre los efectos toxicológicos**
- **Toxicidad aguda**
Tóxico en caso de ingestión o en contacto con la piel.
Mortal en caso de inhalación.
- **Efecto estimulante primario:**
- **Corrosión o irritación cutáneas**
Provoca quemaduras graves en la piel y lesiones oculares graves.
- **Lesiones o irritación ocular graves**
Provoca quemaduras graves en la piel y 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.
- **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**
A la vista de los datos disponibles, no se cumplen los criterios de clasificación.
- **Toxicidad específica en determinados órganos (STOT) – exposición repetida**
Provoca daños en los órganos tras exposiciones prolongadas o repetidas.

(se continua en página 7)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.08.2017

Revisión: 29.08.2017

Nombre comercial: **Ácido crómico**

(se continua en página 6)

· **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:** Muy tóxico para peces.
- **Indicaciones medioambientales adicionales:**
- **Indicaciones generales:**
En estado no diluido o no neutralizado, no verter en el alcantarillado o en otros sistemas de desagüe.
Vertido en aguas superficiales, también es tóxico para los peces y el plancton.
muy tóxico para organismos acuáticos
- **12.5 Resultados de la valoración PBT y mPmB**
- **PBT:** No aplicable.
- **mPmB:** No aplicable.
- **12.6 Otros efectos adversos** No existen más datos relevantes disponibles.

SECCIÓN 13: Consideraciones relativas a la eliminación

- **13.1 Métodos para el tratamiento de residuos**
- **Recomendación:** No debe desecharse con la basura doméstica. No debe llegar al alcantarillado.
- **Embalajes sin limpiar:**
- **Recomendación:** Eliminar conforme a las disposiciones oficiales.

SECCIÓN 14: Información relativa al transporte

- **14.1 Número ONU**
 - **ADR, IMDG, IATA** UN1463
 - **14.2 Designación oficial de transporte de las Naciones Unidas**
 - **ADR** 1463 TRIÓXIDO DE CROMO ANHIDRO, PELIGROSO
PARA EL MEDIO AMBIENTE
 - **IMDG, IATA** CHROMIUM TRIOXIDE, ANHYDROUS
 - **14.3 Clase(s) de peligro para el transporte**
 - **ADR**
- 


- **Clase** 5.1 Materias comburentes

(se continua en página 8)

Ficha de datos de seguridad



según 1907/2006/CE, Artículo 31

fecha de impresión 29.08.2017

Revisión: 29.08.2017

Nombre comercial: **Ácido crómico**

(se continua en página 7)

· Etiqueta	6.1+5.1
· IMDG	
	
· Class	5.1 Materias comburentes
· Label	6.1/5.1
· IATA	
	
· Class	5.1 Materias comburentes
· Label	6.1 (5.1)
· 14.4 Grupo de embalaje	II
· ADR, IMDG, IATA	
· 14.5 Peligros para el medio ambiente:	Sustancia sólida potencialmente peligrosas para el medio ambiente
· Marcado especial (ADR):	Símbolo (pez y árbol)
· 14.6 Precauciones particulares para los usuarios	Atención: Materias comburentes
· Número Kemler:	665
· Número EMS:	F-A,S-Q
· Stowage Category	A
· Segregation Code	SG6 Segregation as for class 5.1 SG16 Stow "separated from" class 4.1 SG19 Stow "separated from" class 7
· 14.7 Transporte a granel con arreglo al anexo II del Convenio MARPOL y el Código IBC	No aplicable.
· Transporte/datos adicionales:	
· ADR	
· Cantidades limitadas (LQ)	1 kg
· Cantidades exceptuadas (EQ)	Código: E2 Cantidad neta máxima por envase interior: 30 g Cantidad neta máxima por embalaje exterior: 500 g
· Categoría de transporte	2
· Código de restricción del túnel	E
· IMDG	
· Limited quantities (LQ)	100 ml
· Excepted quantities (EQ)	Code: E4 Maximum net quantity per inner packaging: 1 g Maximum net quantity per outer packaging: 500 g
· "Reglamentación Modelo" de la UNECE:	UN 1463 TRIÓXIDO DE CROMO ANHIDRO, 6.1 (5.1), II, PELIGROSO PARA EL MEDIO AMBIENTE

ES

(se continua en página 9)

Ficha de datos de seguridad

según 1907/2006/CE, Artículo 31

fecha de impresión 29.08.2017

Revisión: 29.08.2017

Nombre comercial: **Ácido crómico**

(se continua en página 8)

SECCIÓN 15: Información reglamentaria

- **15.1 Reglamentación y legislación en materia de seguridad, salud y medio ambiente específicas para la sustancia o la mezcla**
- **Directiva 2012/18/UE**
- **Sustancias peligrosas nominadas - ANEXO I** No contiene la sustancia.
- **Categoría Seveso**
H2 TOXICIDAD AGUDA
P8 LÍQUIDOS Y SÓLIDOS COMBURENTES
E1 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 XI)

7738-94-5 Ácido crómico

- **REGLAMENTO (CE) n° 1907/2006 ANEXO XVII Restricciones: 47**

· Disposiciones nacionales:

· Indicaciones sobre las limitaciones de trabajo:

Los empleados no deben exponerse a esta sustancia peligrosa. En casos aislados las autoridades pueden hacer excepciones.

· Demás disposiciones, limitaciones y decretos prohibitivos

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

7738-94-5 Ácido crómico

- **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.

· Abreviaturas y acrónimos:

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

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Ox. Sol. 1: Sólidos comburentes – Categoría 1

Acute Tox. 3: Toxicidad aguda – Categoría 3

Acute Tox. 2: Toxicidad aguda – Categoría 2

Skin Corr. 1A: Corrosión o irritación cutáneas – Categoría 1A

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

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