

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/08/2019

Reviewed on 03/08/2019

1 Identification***Product identifier*****Trade name:** *Holmium Oxide Solution UV & Visible Wavelength Standard 240nm to 640nm (acc Ph. Eur)****Article number:** RSPEC-EP00641***Application of the substance / the mixture** Laboratory chemicals***Details of the supplier of the safety data sheet*****Manufacturer/Supplier:** Contact: MSDS_CER-SDS@cer.dgroup.it***Manufacturer:** Contact: MSDS_CER-SDS@cer.dgroup.it***Supplier:**

CARLO ERBA REAGENTS

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Suisse : 145

2 Hazard(s) identification***Classification of the substance or mixture**

GHS05 Corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.

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

GHS05

Signal word** DangerHazard-determining components of labeling:**

perchloric acid

***Hazard statements**

Causes severe skin burns and eye damage.

***Precautionary statements**

Do not breathe dusts or mists.

Wash thoroughly after handling.

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

If swallowed: Rinse mouth. Do NOT induce vomiting.

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

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IF INHALED: Remove person to fresh air and keep comfortable for breathing.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Immediately call a poison center/doctor.
 Specific treatment (see on this label).
 Wash contaminated clothing before reuse.
 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 = 0

***Other hazards**

***Results of PBT and vPvB assessment**

***PBT:** Not applicable.

***vPvB:** Not applicable.

3 Composition/information on ingredients

***Chemical characterization: Mixtures**

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

***Dangerous components:**

CAS: 7601-90-3	perchloric acid	10%
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***Non- Hazardous Components**

CAS: 12055-62-8	holmium oxide	2.5-10%
CAS: 7732-18-5	PURIFIED WATER	50-100%

4 First-aid measures

***Description of first aid measures**

***General information:** Immediately remove any clothing soiled by the product.

***After inhalation:** 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:**

Drink copious amounts of water and provide fresh air. Immediately call a doctor.

Do not induce vomiting; immediately call for medical help.

***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.

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- ***Special hazards arising from the substance or mixture** No further relevant information available.
- ***Advice for firefighters**
- ***Protective equipment:** No special measures required.

6 Accidental release measures

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

Wear protective equipment. Keep unprotected persons away.

***Environmental precautions:** Dilute with plenty of water.

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

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

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

***Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

***Protective Action Criteria for Chemicals**

***PAC-1:**

CAS: 7601-90-3	perchloric acid	0.61 ppm
CAS: 12055-62-8	holmium oxide	30 mg/m ³

***PAC-2:**

CAS: 7601-90-3	perchloric acid	6.7 ppm
CAS: 12055-62-8	holmium oxide	330 mg/m ³

***PAC-3:**

CAS: 7601-90-3	perchloric acid	40 ppm
CAS: 12055-62-8	holmium oxide	2,000 mg/m ³

7 Handling and storage

***Handling:**

***Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

***Information about protection against explosions and fires:** No special measures required.

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

***Storage:**

***Requirements to be met by storerooms and receptacles:** No special requirements.

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

***Further information about storage conditions:** Keep receptacle tightly sealed.

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

8 Exposure controls/personal protection

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

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***Control parameters**

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

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

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

***Exposure controls**

***Personal protective equipment:**

***General protective and hygienic measures:**

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

***Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

***Material of gloves**

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

***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:	Fluid
Color:	According to product specification
*Odor:	Characteristic
*Odor threshold:	Not determined.

*pH-value:	Not determined.
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*Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)
*Flash point:	Not applicable.
*Flammability (solid, gaseous):	Not applicable.
*Decomposition temperature:	Not determined.
*Auto igniting:	Product is not selfigniting.
*Danger of explosion:	Product does not present an explosion hazard.
*Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
*Vapor pressure at 20 °C (68 °F):	39.1 hPa (29.3 mm Hg)
*Density at 20 °C (68 °F):	1 g/cm ³ (8.345 lbs/gal)
*Relative density	Not determined.
*Vapor density	Not determined.
*Evaporation rate	Not determined.
*Solubility in / Miscibility with	
Water:	Fully miscible.
*Partition coefficient (n-octanol/water):	Not determined.
*Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
*Solvent content:	
Water:	86.0 %
*Other information	No further relevant information available.

10 Stability and reactivity

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

11 Toxicological information

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

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

CAS: 7601-90-3 perchloric acid

Oral LD50 1,100 mg/kg (rat)

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***Primary irritant effect:**

***on the skin:** Caustic effect on skin and mucous membranes.

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

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

***Additional toxicological information:**

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

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)**

None of the ingredients is listed.

***NTP (National Toxicology Program)**

None of the ingredients is listed.

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

None of the ingredients is listed.

12 Ecological information

***Toxicity**

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

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

***Behavior in environmental systems:**

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

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

***Additional ecological information:**

***General notes:**

Not hazardous for water.

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

***Results of PBT and vPvB assessment**

***PBT:** Not applicable.

***vPvB:** Not applicable.

***Other adverse effects** No further relevant information available.

13 Disposal considerations

***Waste treatment methods**

***Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

***Uncleaned packagings:**

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

***Recommended cleansing agent:** Water, if necessary with cleansing agents.

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14 Transport information

*UN-Number	UN3265
*DOT, ADR, IMDG, IATA	UN3265
*UN proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (Perchloric acid)
*DOT	3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (PERCHLORIC ACID)
*ADR	3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (PERCHLORIC ACID)
*IMDG, IATA	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (PERCHLORIC ACID)
*Transport hazard class(es)	
*DOT	
	
*Class	8 Corrosive substances
*Label	8
*ADR, IMDG, IATA	
	
*Class	8 Corrosive substances
*Label	8
*Packing group	II
*DOT, ADR, IMDG, IATA	II
*Environmental hazards:	
*Marine pollutant:	No
*Special precautions for user	Warning: Corrosive substances
*Danger code (Kemler):	80
*EMS Number:	F-A,S-B
*Segregation groups	Acids
*Stowage Category	B
*Stowage Code	SW2 Clear of living quarters.
*Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
*UN "Model Regulation":	UN 3265 CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (PERCHLORIC ACID), 8, II

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15 Regulatory information

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

***SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

***SARA Section 313 (specific toxic chemical listings)**

None of the ingredients is listed.

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

All components have the value ACTIVE.

***Hazardous Air Pollutants**

None of the ingredients is listed.

***Prop 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

***Carcinogenicity categories**

***EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

None of the ingredients is listed.

***MAK (German Maximum Workplace Concentration)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

***Hazard pictograms**



GHS05

***Signal word** Danger

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

perchloric acid

***Hazard statements**

Causes severe skin burns and eye damage.

***Precautionary statements**

Do not breathe dusts or mists.

Wash thoroughly after handling.

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

If swallowed: Rinse mouth. Do NOT induce vomiting.

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

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

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

Continue rinsing.

Immediately call a poison center/doctor.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

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Store locked up.

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

***National regulations:**

***Water hazard class:** Generally not hazardous for water.

***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.

***Department issuing SDS:** Health and Safety

***Contact:** sds@reagecon.ie

***Date of preparation / last revision** 11/08/2019 / 7

***Abbreviations and acronyms:**

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

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

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

Eye Dam. 1: Serious eye damage/eye irritation – Category 1