

Safety Data Sheet according to OSHA HCS

Printing date 07/21/2021

Reviewed on 07/15/2021

1 Identification

- **Product name**
- **Trade name:** Europium(III) perchlorate, 50% aqueous solution (99.9%-Eu) (REO)
- **Item number:** 93-6323
- **CAS Number:**
36907-40-1
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Strem Chemicals, Inc.
7 Mulliken Way
NEWBURYPORT, MA 01950
USA
info@strem.com
- **Information department:** Technical Department
- **Emergency telephone number:**
EMERGENCY: CHEMTREC: + 1 (800) 424-9300
During normal opening times: +1 (978) 499-1600

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS03 Flame over circle

Ox. Liq. 2 H272 May intensify fire; oxidizer.

- **Label elements**

- **GHS label elements**

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

- **Hazard pictograms**



GHS03

- **Signal word** Danger

- **Hazard statements**

H272 May intensify fire; oxidizer.

- **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P221 Take any precaution to avoid mixing with combustibles.

P262 Do not get in eyes, on skin, or on clothing.

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

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

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

(Contd. on page 2)

US

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



Health = 0
Fire = 3
Reactivity = 0

The substance possesses oxidizing properties.

- HMIS-ratings (scale 0 - 4)

HEALTH	0	Health = 0
FIRE	3	Fire = 3
REACTIVITY	0	Reactivity = 0

- Other hazards
- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

(Contd. of page 1)

3 Composition/information on ingredients

- Chemical characterization: Substances
- CAS No. Description
36907-40-1 Europium(III) perchlorate, 50% aqueous solution

4 First-aid measures

- Description of first aid measures
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Generally the product does not irritate the skin.
- After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- After swallowing: If symptoms persist consult doctor.
- Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.
- Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Fire-fighting measures

- Extinguishing media
- Suitable extinguishing agents: 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: No special measures required.

6 Accidental release measures

- Personal precautions, protective equipment and emergency procedures Not required.
- Environmental precautions: No special measures required.

(Contd. on page 3)

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(Contd. of page 2)

· Methods and material for containment and cleaning up:

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

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· Protective Action Criteria for Chemicals**· PAC-1:**

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**

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:** None.**· Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.**· Control parameters****· Components with limit values that require monitoring at the workplace:** Not required.**· Additional information:** The lists that were valid during the creation were used as basis.**· Exposure controls****· Personal protective equipment:****· General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Wash hands before breaks and at the end of work.

· Breathing equipment: A NIOSH approved respirator in accordance with 29 CFR 1910.134.**· Protection of hands:**

Protective gloves

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

(Contd. on page 4)

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(Contd. of page 3)

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:** Goggles recommended during refilling.

9 Physical and chemical properties

- Information on basic physical and chemical properties**

- General Information**

- Appearance:**

Form:	Liquid
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Color:	Colorless
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- Odor:**

Odor threshold:	Odorless
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pH-value:	Not determined.
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- Change in condition**

Melting point/Melting range:	Undetermined.
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Boiling point/Boiling range:	Undetermined.
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- Flash point:**

Not applicable.

- Flammability (solid, gaseous):**

Not determined.

- Ignition temperature:**

Decomposition temperature:	Not determined.
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- Auto igniting:**

Not determined.

- Danger of explosion:**

Product does not present an explosion hazard.
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- Explosion limits:**

Lower:	Not determined.
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Upper:	Not determined.
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- Vapor pressure:**

Not determined.

- Density:**

Not determined.

- Relative density**

Not determined.

- Vapor density**

Not determined.

- Evaporation rate**

Not determined.

- Solubility in / Miscibility with**

Water:	Not miscible or difficult to mix.
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- Partition coefficient (n-octanol/water):** Not determined.

- Viscosity:**

Dynamic:	Not determined.
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Kinematic:	Not determined.
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(Contd. on page 5)

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(Contd. of page 4)

. Solvent content:**Organic solvents:** 0.0 %**VOC content:** 0.0 g/l / 0.00 lb/gl**. 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:****on the skin:** No irritant effect.**on the eye:** No irritating effect.**Sensitization:** No sensitizing effects known.**. Additional toxicological information:****. Carcinogenic categories****. IARC (International Agency for Research on Cancer)**

Substance is not listed.

. NTP (National Toxicology Program)

Substance is not listed.

. OSHA-Ca (Occupational Safety & Health Administration)

Substance is not listed.

12 Ecological information

. Toxicity**Aquatic toxicity:** No further relevant information available.**Persistence and degradability:** No further relevant information available.**. Behavior in environmental systems:****Bioaccumulative potential:** No further relevant information available.**Mobility in soil:** No further relevant information available.**. Additional ecological information:****General notes:** Not known to be hazardous to water.**. Results of PBT and vPvB assessment****PBT:** Not applicable.**vPvB:** Not applicable.

(Contd. on page 6)

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

(Contd. of page 5)

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, IMDG, IATA	UN3211
· UN proper shipping name	
· DOT	Perchlorates, inorganic, aqueous solution, n.o.s.
· IMDG, IATA	PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S.
· Transport hazard class(es)	
· DOT	
	
· Class	5.1 Oxidizing substances
· Label	5.1
· IMDG, IATA	
	
· Class	5.1 Oxidizing substances
· Label	5.1
· Packing group	
· DOT, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Oxidizing substances
· EMS Number:	F-H,S-Q
· Segregation groups	Perchlorates
· Stowage Category	B
· Segregation Code	SG38 Stow "separated from" ammonium compounds. SG49 Stow "separated from" cyanides SG62 Stow "separated from" sulphur
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.

(Contd. on page 7)

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(Contd. of page 6)

· Transport/Additional information:**· DOT****· Quantity limitations***On passenger aircraft/rail: 1L**On cargo aircraft only: 5L***· IMDG****· Limited quantities (LQ)***1L***· Excepted quantities (EQ)***Code: E2**Maximum net quantity per inner packaging: 30 ml**Maximum net quantity per outer packaging: 500 ml***· UN "Model Regulation":****UN 3211 PERCHLORATES, INORGANIC, AQUEOUS SOLUTION, N.O.S., 5.1, II****15 Regulatory information****· Safety, health and environmental regulations/legislation specific for the substance or mixture****· Sara****· Section 355 (extremely hazardous substances):***Substance is not listed.***· Section 313 (Specific toxic chemical listings):***Substance is not listed.***· TSCA (Toxic Substances Control Act):***Substance is not listed.***· Proposition 65****· Chemicals known to cause cancer:***Substance is not listed.***· Chemicals known to cause reproductive toxicity for females:***Substance is not listed.***· Chemicals known to cause reproductive toxicity for males:***Substance is not listed.***· Chemicals known to cause developmental toxicity:***Substance is not listed.***· Carcinogenic categories****· EPA (Environmental Protection Agency)***Substance is not listed.***· TLV (Threshold Limit Value established by ACGIH)***Substance is not listed.***· NIOSH-Ca (National Institute for Occupational Safety and Health)***Substance is not listed.***· GHS label elements***The substance is classified and labeled according to the Globally Harmonized System (GHS).*

(Contd. on page 8)

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(Contd. of page 7)

· Hazard pictograms

GHS03

· Signal word Danger**· Hazard statements**

H272 May intensify fire; oxidizer.

· Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P221 Take any precaution to avoid mixing with combustibles.

P262 Do not get in eyes, on skin, or on clothing.

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

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

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

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

16 Other information

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

· Department issuing SDS: Technical Department.**· Contact:** Technical Director**· Date of preparation / last revision** 07/21/2021 / -**· 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)

VOC: Volatile Organic Compounds (USA, EU)

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. Liq. 2: Oxidizing liquids – Category 2

US