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CHEMICALS.

Reviewed on 07/14/2021

1 Identification

- · Product name
- · Trade name: Tris(cyclopentadienyl)erbium(III) (99.9%-Er) (REO)
- Item number: 68-8000
- · CAS Number:
- 39330-74-0
- *EC number:* 254-416-4
- 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



Flam. Sol. 1 H228 Flammable solid.

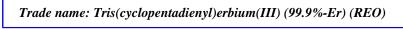
- · Label elements
- · GHS label elements
- *The substance is classified and labeled according to the Globally Harmonized System (GHS). Hazard pictograms*



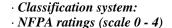
· Signal word Danger · Hazard statements H228 Flammable solid. · Precautionary statements P231 Handle under inert gas. P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking. P222 Do not allow contact with air. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P422 Store contents under inert gas. Dispose of contents/container in accordance with local/regional/national/international regulations. P501 (Contd. on page 2)

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- · 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
- 39330-74-0 Tris(cyclopentadienyl)erbium (99.9%-Er) (REO)
- · Identification number(s)
- EC number: 254-416-4

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.
- After swallowing: If symptoms persist consult doctor.
- Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- \cdot 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
- Wear protective equipment. Keep unprotected persons away.
- Environmental precautions: No special measures required.

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Trade name: Tris(cyclopentadienyl)erbium(III) (99.9%-Er) (REO)

- *Methods and material for containment and cleaning up:* 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: Handle under inert gas.
- · Precautions for safe handling Open and handle receptacle with care.
- Information about protection against explosions and fires: Keep ignition sources away - Do not smoke. Protect against electrostatic charges.
- · Conditions for safe storage, including any incompatibilities
- Storage: Store contents under inert gas.
- 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.

Store in cool, dry conditions in well sealed receptacles.

• 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: Not required.
- Protection of hands:



Protective gloves

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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 \cdot *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: Safety glasses

Information on basic physical and	chemical properties	
General Information		
Appearance: Form:	Powder	
Form: Color:	Powaer Pink	
Odor:	гик Odorless	
Odor threshold:	Not determined.	
pH-value:	Not applicable.	
Change in condition		
Melting point/Melting range:	285 °C (545 °F)	
Boiling point/Boiling range:	200 °C (392 °F)	
Flash point:	Not applicable.	
Flammability (solid, gaseous):	Flammable.	
Ignition temperature:		
Decomposition temperature:	Not determined.	
Auto igniting:	Not determined.	
Danger of explosion:	Not determined.	
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
Vapor pressure:	Not applicable.	
Density:	Not determined.	
Relative density	Not determined.	
Vapor density	Not applicable.	
Evaporation rate	Not applicable.	
Solubility in / Miscibility with		
Water:	Insoluble.	
Partition coefficient (n-octanol/wat	er): Not determined.	
Viscosity:		
Dynamic:	Not applicable.	
Kinematic:	Not applicable.	



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Trade name: Tris(cyclopentadienyl)erbium(III) (99.9%-Er) (REO)

	(Contd. of page 4
 Solvent content: Organic solvents: VOC content: 	0.0 % 0.0 g/l / 0.00 lb/gl
Solids content: • Other information	100.0 % 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.

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Trade name: Tris(cyclopentadienyl)erbium(III) (99.9%-Er) (REO)

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 \cdot 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.

UN-Number DOT, IMDG, IATA	UN1325
· UN proper shipping name	
$\cdot DOT$	Flammable solids, organic, n.o.s.
· IMDG, IATA	FLAMMABLE SOLID, ORGANIC, N.O.S.
· Transport hazard class(es)	
·DOT	
· Class	4.1 Flammable solids, self-reactive substances and solides desensitised explosives
· Label	4.1
· IMDG	
· Class	4
· Label	4.1
·IATA	
· Class	4.1 Flammable solids, self-reactive substances and soli desensitised explosives
· Label	4.1
· Packing group · DOT, IMDG, IATA	II
• Environmental hazards: • Marine pollutant:	No



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Trade name: Tris(cyclopentadienyl)erbium(III) (99.9%-Er) (REO)

	(Contd. of page	
· Special precautions for user	Not applicable.	
· ÊMS Number:	F-A,S-G	
· Stowage Category	В	
• Transport in bulk according to Annex MARPOL73/78 and the IBC Code	II of Not applicable.	
· Transport/Additional information:		
·DOT		
• Quantity limitations	On passenger aircraft/rail: 15 kg	
	On cargo aircraft only: 50 kg	
· UN ''Model Regulation'':	UN 1325 FLAMMABLE SOLIDS, ORGANIC, N.O.S., 4.1, II	

15 Regulatory information

 \cdot Safety, health and environmental regulations/legislation specific for the substance or mixture \cdot 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).

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Trade name: Tris(cyclopentadienyl)erbium(III) (99.9%-Er) (REO)

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· Hazard pictograms GHS02 · Signal word Danger · Hazard statements H228 Flammable solid. · Precautionary statements P231 Handle under inert gas. P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking. P222 Do not allow contact with air. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P422 Store contents under inert gas. Dispose of contents/container in accordance with local/regional/national/international regulations. P501

· 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 07/18/2021 / -

· 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

EINECS: European Inventory of Existing Commercial Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

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 Flam. Sol. 1: Flammable solids – Category 1

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