

Printing date 07/18/2021

Reviewed on 07/18/2021

## 1 Identification

- **Product name**
- **Trade name:** Tris(N,N'-di-i-propylformamidinato)gadolinium(III), Gd-FMD
- **Item number:** 64-3575
- **CAS Number:** 1034537-36-4
- **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**



GHS05 Corrosion

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



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

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



GHS05 GHS07

- **Signal word** *Danger*
- **Hazard statements**  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.
- **Precautionary statements**  
P231 Handle under inert gas.  
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.  
P422 Store contents under inert gas.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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



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



- **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**  
242751-48-1 Tris(N,N'-di-i-propylformamidinato)gadolinium(III), Gd-FMD
- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- **Dangerous components:** not applicable

### 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. If symptoms persist, consult a doctor.
- **After swallowing:** 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:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

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**6 Accidental release measures**

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

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions: No special measures required.**

· **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:**

None of the ingredients is listed.

· **PAC-2:**

None of the ingredients is listed.

· **PAC-3:**

None of the ingredients is listed.

**7 Handling and storage**

· **Handling:**

· **Precautions for safe handling**

Thorough dedusting.

Open and handle receptacle with care.

· **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.

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:**

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: Wear protective clothing**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

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Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· **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.

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

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

· **Material of gloves**

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

· **Penetration time of glove material**

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

· **Eye protection:**



Tightly sealed goggles

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

|                          |                 |
|--------------------------|-----------------|
| <b>Form:</b>             | Powder          |
| <b>Color:</b>            | Whitish         |
| · <b>Odor:</b>           | Odorless        |
| · <b>Odor threshold:</b> | Not determined. |

· **pH-value:** Not applicable.

· **Change in condition**

|                                     |               |
|-------------------------------------|---------------|
| <b>Melting point/Melting range:</b> | Undetermined. |
| <b>Boiling point/Boiling range:</b> | 0 °C (32 °F)  |

· **Flash point:** 0 °C (32 °F)

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

· **Ignition temperature:**

**Decomposition temperature:** Not determined.

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

· **Danger of explosion:** Product does not present an explosion hazard.

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|   |  |
|---|--|
| · <b>Explosion limits:</b>                        |  |
| <b>Lower:</b>                                     | Not determined.                            |
| <b>Upper:</b>                                     | Not determined.                            |
| · <b>Vapor pressure:</b>                          | Not applicable.                            |
| · <b>Density:</b>                                 | Not determined.                            |
| · <b>Relative density</b>                         | Not determined.                            |
| · <b>Vapor density</b>                            | Not applicable.                            |
| · <b>Evaporation rate</b>                         | Not applicable.                            |
| · <b>Solubility in / Miscibility with Water:</b>  | Insoluble.                                 |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| · <b>Viscosity:</b>                               |  |
| <b>Dynamic:</b>                                   | Not applicable.                            |
| <b>Kinematic:</b>                                 | Not applicable.                            |
| · <b>Solvent content:</b>                         |  |
| <b>Organic solvents:</b>                          | 0.0 %                                      |
| <b>VOC content:</b>                               | 0.0 g/l / 0.00 lb/gl                       |
| · <b>Other information</b>                        | 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:** Caustic effect on skin and mucous membranes.
- **on the eye:**
- Strong caustic effect.
- Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- The product shows the following dangers according to internally approved calculation methods for preparations:
- Corrosive
- Irritant
- Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

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· **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:** 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 packaging:**

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

**14 Transport information**

· **UN-Number**

· **DOT, IMDG, IATA**

UN3263

· **UN proper shipping name**

· **DOT**

Corrosive solid, basic, organic, n.o.s. (Lanthanum tris(formamidinate))

· **IMDG, IATA**

CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (Lanthanum tris(formamidinate))

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· **Transport hazard class(es)**

· **DOT**



· **Class** 8 Corrosive substances  
· **Label** 8

· **IMDG, IATA**



· **Class** 8 Corrosive substances  
· **Label** 8

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

· **Environmental hazards:**  
· **Marine pollutant:** No

· **Special precautions for user** Warning: Corrosive substances  
· **EMS Number:** F-A,S-B  
· **Segregation groups** Alkalis  
· **Stowage Category** B  
· **Segregation Code** SG35 Stow "separated from" acids.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **IMDG**  
· **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

· **UN "Model Regulation":** UN 3263 CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. (LANTHANUM TRIS(FORMAMIDINATE)), 8, II

**15 Regulatory information**

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

· **Section 355 (extremely hazardous substances):**  
None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**  
None of the ingredients is listed.

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

*This product is in compliance with the rules, regulations, and/or orders of TSCA and should be used in the accordance with the LVE (Low Volume Exemptions) regulations of TSCA.*

None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

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

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 GHS07

· **Signal word** *Danger*

· **Hazard statements**

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

· **Precautionary statements**

P231 Handle under inert gas.

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.

P422 Store contents under inert gas.

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.

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· **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

ELINCS: European List of Notified Chemical Substances

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

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

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 Irrit. 2A: Serious eye damage/eye irritation – Category 2A

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

US