

ALFAA11286

## Gadolinium(III) chloride hexahydrate, REacton®

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**产品说明:**  
**Product Description:** 氯化钆六水合物  
**Gadolinium(III) chloride hexahydrate, REacton®**

**Cat No. :** 11286  
**CAS No** 13450-84-5  
**Molecular Formula** GdCl<sub>3</sub>.6H<sub>2</sub>O

**Supplier** Avocado Research Chemicals Ltd.  
(Part of Thermo Fisher Scientific)  
Shore Road, Heysham  
Lancashire, LA3 2XY,  
United Kingdom  
Office Tel: +44 (0) 1524 850506  
Office Fax: +44 (0) 1524 850608

**Emergency Telephone Number** For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

**E-mail address** begel.sdsdesk@thermofisher.com

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

### SECTION 2. HAZARD IDENTIFICATION

**Physical State**  
Solid Crystalline

**Appearance**  
No information available

**Odor**  
No information available

**Emergency Overview**  
Causes skin irritation. Causes serious eye irritation. Hygroscopic.

#### Classification of the substance or mixture

|                                   |            |
|-----------------------------------|------------|
| Skin Corrosion/Irritation         | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 2 |

#### Label Elements



**Signal Word**

**Warning**

**Hazard Statements**  
H315 - Causes skin irritation

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H319 - Causes serious eye irritation

### Precautionary Statements

#### Prevention

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/protective clothing/eye protection/face protection

#### Response

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

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

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P337 + P313 - If eye irritation persists: Get medical advice/attention

P362 + P364 - Take off contaminated clothing and wash it before reuse

#### Storage

P403 - Store in a well-ventilated place

#### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

### Physical and Chemical Hazards

Hygroscopic.

#### Health Hazards

Causes skin irritation. Causes serious eye irritation.

#### Environmental hazards

Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants. Will likely be mobile in the environment due to its water solubility. The product is water soluble, and may spread in water systems.

This product does not contain any known or suspected endocrine disruptors.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component                                             | CAS No     | Weight % |
|-------------------------------------------------------|------------|----------|
| Gadolinium chloride (GdCl <sub>3</sub> ), hexahydrate | 13450-84-5 | <=100    |

## SECTION 4. FIRST AID MEASURES

#### General Advice

If symptoms persist, call a physician.

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

#### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

#### Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.

#### Ingestion

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

#### Most important symptoms and effects

None reasonably foreseeable.

#### Self-Protection of the First Aider

No special precautions required.

#### Notes to Physician

Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES****Suitable Extinguishing Media**

Not combustible.

**Extinguishing media which must not be used for safety reasons**

No information available.

**Specific Hazards Arising from the Chemical**

Thermal decomposition can lead to release of irritating gases and vapors.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**SECTION 6. ACCIDENTAL RELEASE MEASURES****Personal Precautions**

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

**Environmental Precautions**

Should not be released into the environment. See Section 12 for additional Ecological Information. Do not allow material to contaminate ground water system. Do not flush into surface water or sanitary sewer system.

**Methods for Containment and Clean Up**

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

Refer to protective measures listed in Sections 8 and 13.

**SECTION 7. HANDLING AND STORAGE****Handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid dust formation. Do not get in eyes, on skin, or on clothing.

**Storage**

Store under an inert atmosphere. Keep container tightly closed in a dry and well-ventilated place. Air sensitive.

**Specific Use(s)**

Use in laboratories

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control Parameters****Monitoring methods**

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust MDHS 91 Metals and metalloids in workplace air by X-ray fluorescence spectrometry MDHS 99 Metals in air by ICP-AES

**Exposure Controls****Engineering Measures**

None under normal use conditions. Ensure that eyewash stations and safety showers are close to the workstation location. .

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## Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments        |
|----------------|-------------------|-----------------|-------------|-----------------------|
| Natural rubber | See manufacturers | -               | EN 374      | (minimum requirement) |
| Nitrile rubber | recommendations   |                 |             |                       |
| Neoprene       |                   |                 |             |                       |
| PVC            |                   |                 |             |                       |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Skin and body protection** Long sleeved clothing

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Large scale/emergency use** Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced  
**Recommended Filter type:** Particle filter

**Small scale/Laboratory use** Maintain adequate ventilation

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** No information available.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

|                                                |                          |                                          |
|------------------------------------------------|--------------------------|------------------------------------------|
| <b>Appearance</b>                              |                          |                                          |
| <b>Physical State</b>                          | Solid Crystalline        |                                          |
| <b>Odor</b>                                    | No information available |                                          |
| <b>Odor Threshold</b>                          | No data available        |                                          |
| <b>pH</b>                                      | No information available |                                          |
| <b>Melting Point/Range</b>                     | No data available        |                                          |
| <b>Softening Point</b>                         | No data available        |                                          |
| <b>Boiling Point/Range</b>                     | No information available |                                          |
| <b>Flash Point</b>                             | No information available | <b>Method -</b> No information available |
| <b>Evaporation Rate</b>                        | Not applicable           | Solid                                    |
| <b>Flammability (solid,gas)</b>                | No information available |                                          |
| <b>Explosion Limits</b>                        | No data available        |                                          |
| <b>Vapor Pressure</b>                          | No data available        |                                          |
| <b>Vapor Density</b>                           | Not applicable           | Solid                                    |
| <b>Specific Gravity / Density</b>              | 2.424 g/cm3              | @ 20 °C                                  |
| <b>Bulk Density</b>                            | No data available        |                                          |
| <b>Water Solubility</b>                        | Soluble in water         |                                          |
| <b>Solubility in other solvents</b>            | No information available |                                          |
| <b>Partition Coefficient (n-octanol/water)</b> |                          |                                          |
| <b>Autoignition Temperature</b>                | No data available        |                                          |
| <b>Decomposition Temperature</b>               | No data available        |                                          |
| <b>Viscosity</b>                               | Not applicable           | Solid                                    |

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|                             |                          |
|-----------------------------|--------------------------|
| <b>Explosive Properties</b> | No information available |
| <b>Oxidizing Properties</b> | No information available |

|                          |                                      |
|--------------------------|--------------------------------------|
| <b>Molecular Formula</b> | GdCl <sub>3</sub> .6H <sub>2</sub> O |
| <b>Molecular Weight</b>  | 371.70 (263.61anhy)                  |

**SECTION 10. STABILITY AND REACTIVITY**

|                                 |                                       |
|---------------------------------|---------------------------------------|
| <b>Stability</b>                | Hygroscopic.                          |
| <b>Hazardous Reactions</b>      | None under normal processing.         |
| <b>Hazardous Polymerization</b> | No information available.             |
| <b>Conditions to Avoid</b>      | Exposure to moist air or water.       |
| <b>Materials to avoid</b>       | Acids. Strong bases. Oxidizing agent. |

**Hazardous Decomposition Products** Hydrogen chloride. Gadolinium oxide.

**SECTION 11. TOXICOLOGICAL INFORMATION****Product Information**

(a) acute toxicity;

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;

|                    |                   |
|--------------------|-------------------|
| <b>Respiratory</b> | No data available |
| <b>Skin</b>        | No data available |

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

|                      |                           |
|----------------------|---------------------------|
| <b>Target Organs</b> | No information available. |
|----------------------|---------------------------|

(j) aspiration hazard; Not applicable  
Solid

**Symptoms / effects, both acute and delayed** No information available

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## SECTION 12. ECOLOGICAL INFORMATION

|                                              |                                                                                                                                                                |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Ecotoxicity effects</b>                   | May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.                                              |
| <b>Persistence and Degradability</b>         | Product contains heavy metals. Discharge into the environment must be avoided. Special pre-treatment is necessary based on information available, May persist. |
| <b>Persistence</b>                           | Not relevant for inorganic substances.                                                                                                                         |
| <b>Degradability</b>                         | Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.                                                |
| <b>Degradation in sewage treatment plant</b> |                                                                                                                                                                |
| <b>Bioaccumulative Potential</b>             | May have some potential to bioaccumulate                                                                                                                       |
| <b>Mobility in soil</b>                      | The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility Highly mobile in soils      |
| <b>Endocrine Disruptor Information</b>       | This product does not contain any known or suspected endocrine disruptors                                                                                      |
| <b>Persistent Organic Pollutant</b>          | This product does not contain any known or suspected substance                                                                                                 |
| <b>Ozone Depletion Potential</b>             | This product does not contain any known or suspected substance                                                                                                 |

## SECTION 13. DISPOSAL CONSIDERATIONS

|                                            |                                                                                                                                                                        |
|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Waste from Residues/Unused Products</b> | Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations. |
| <b>Contaminated Packaging</b>              | Dispose of this container to hazardous or special waste collection point.                                                                                              |
| <b>Other Information</b>                   | Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.                                          |

## SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport Not Regulated

IMDG/IMO Not regulated

IATA Not regulated

**Special Precautions for User** No special precautions required

## SECTION 15. REGULATORY INFORMATION

### Measures on the Environmental Administration of New Chemical Substances Registration

Registration/Notification number B1A222250987

Downstream users need to comply with the conditions of safe use of the chemical, understand the environmental and health

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hazard and risk management measures identified on the SDS as well as the local/national regulations concerning the chemical.

### International Inventories

X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

### National Regulations

## SECTION 16. OTHER INFORMATION

|                         |                                             |
|-------------------------|---------------------------------------------|
| <b>Prepared By</b>      | Health, Safety and Environmental Department |
| <b>Revision Date</b>    | 27-Jul-2026                                 |
| <b>Revision Summary</b> | Not applicable.                             |

### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

### Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

## End of Safety Data Sheet