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MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1. Product identifiers

Product name: Gadolinium(III) hydroxide, hydrate, 99.9% Product Code: G 1198 CAS No : 100634-91-1

1.2. Relevant identified uses of the substance or mixture and uses advised against Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet
Company identification
OTTO CHEMIE PVT LTD
101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate, Chinchpada, Vasai East, Waliv, Maharashtra 401208.
Email <u>info@ottokemi.com</u>

1.4. Emergency telephone number Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Skin irritation, (Category 2) Eye irritation, (Category 2) Specific target organ toxicity single exposure, (Category 3), Respiratory system 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 Pictogram Signal Word Hazard Statements H315 H319 H335 Precautionary Statements P261 P264 P271 P280 P302 + P352 P305 + P351 + P338

Supplemental Hazard Statements Reduced Labeling (<= 125 ml) Pictogram Signal Word Hazard Statements Precautionary Statements Supplemental Hazard Statements 2.3 Other hazards This substance/mixture contain H315: Causes skin irritation. H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

Warning

Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Avoid breathing dust. Wash skin thoroughly after handling. Use only outdoors or in a well-ventilated area. Wear protective gloves/ eye protection/ face protection. IF ON SKIN: Wash with plenty of water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. none

Warning none none none

2.3 Other hazards This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Ecological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation

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(EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Toxicological information: The substance/mixture does not contain components considered to have endocrine

disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

| : Gd(OH)3 · xH2O |
|------------------|
| : 208,27 g/mol |
| : 100634-91-1 |
| : 240-516-5 |
| |

| Component | Classification | Concentration |
|-----------------------------------|---|---------------|
| Gadolinium(III) hydroxide hydrate | | |
| CAS-No. 100634-91-1 | Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; | <= 100 % |
| EC-No. 240-516-5 | H315, H319, H335 | |

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures General advice Show this material safety data sheet to the doctor in attendance. If inhaled After inhalation: fresh air. In case of skin contact In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. In case of eye contact After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses. If swallowed After swallowing: immediately make victim drink water (two glasses at most). Consult a physician. 4.2 Most important symptoms and effects, both acute and delayed The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 4.3 Indication of any immediate medical attention and special treatment needed No data available **SECTION 5: Firefighting measures** 5.1 Extinguishing media Suitable extinguishing media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Unsuitable extinguishing media For this substance/mixture no limitations of extinguishing agents are given. 5.2 Special hazards arising from the substance or mixture gadolinium oxides Not combustible. Ambient fire may liberate hazardous vapours. 5.3 Advice for firefighters Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. 5.4 Further information Prevent fire extinguishing water from contaminating surface water or the ground water system.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8. 6.2 Environmental precautions Do not let product enter drains. 6.3 Methods and materials for containment and cleaning up Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts. 6.4 Reference to other sections For disposal see section 13. **SECTION 7: Handling and storage** 7.1 Precautions for safe handling For precautions see section 2.2. 7.2 Conditions for safe storage, including any incompatibilities Storage conditions Tightly closed. Dry. Storage class Storage class (TRGS 510): 11: Combustible Solids 7.3 Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated SECTION 8: Exposure controls/personal protection 8.1 Control parameters Ingredients with workplace control parameters 8.2 Exposure controls Personal protective equipment Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses Skin protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Full contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:Dermatril® (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario. Body Protection protective clothing

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| Respiratory protection required when dusts are generated. Our recommendations on filtering respiratory protection are l standards: DIN EN 143, DIN 14387 and other accompanying the used respiratory protection system. Recommended Filter type: Filter type P2 The entrepeneur has to ensure that maintenance, cleaning a protective devices are carried out according to the instruction These measures have to be properly documented. Control of environmental exposure Do not let product enter drains. | g standards relating to and testing of respiratory |
|--|---|
| SECTION 9: Physical and chemical properties | |
| 9.1 Information on basic physical and chemical properties | |
| a) Physical state | Powder with lumps |
| b) Color | No data available |
| c) Odor | No data available |
| d) Melting | Melting point/range: > 350 °C - lit. |
| point/freezing point | |
| e) Initial boiling point | No data available |
| and boiling range | |
| f) Flammability (solid, | No data available |
| gas) | |
| g) Upper/lower | No data available |
| flammability or | |
| explosive limits h) Flash point | Not applicable |
| i) Autoignition | No data available |
| temperature | |
| j) Decomposition | No data available |
| temperature | Mines 1 1 Dares |
| k) pH | No data available |
| I) Viscosity | Viscosity, kinematic: No data available |
| | Viscosity, dynamic: No data available |
| m) Water solubility | No data available |
| n) Partition coefficient: | No data available |
| n-octanol/water | Na data available |
| o) Vapor pressure p) Density | No data available No data available |
| Relative density | No data available |
| q) Relative vapor | No data available |
| density | |
| r) Particle | No data available |
| characteristics | |
| s) Explosive properties | No data available |
| t) Oxidizing properties | No data available |
| 9.2 Other safety information | |
| No data available | |
| SECTION 10: Stability and reactivity | |
| 10.1 Reactivity | |
| No data available | |
| 10.2 Chemical stability | |
| The product is chemically stable under standard ambient cor | nditions (room temperature) . |
| 10.3 Possibility of hazardous reactions | |
| No data available | |
| 10.4 Conditions to avoid | |
| no information available | |
| 10.5 Incompatible materials Strong oxidizing agents | |
| 10.6 Hazardous decomposition products | |
| | |

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In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals:
Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg
Inhalation LC50 Rat: > 50mg/L.
Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH.
Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant).
Special Remarks on Toxicity
to Animals: Not available.
Special Remarks on Chronic Effects on Humans: Not available.
Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: Ecological information

| SECTION 12: Ed | cological information | | |
|--------------------|-----------------------------|---|-----------|
| 12.1 Toxicity | 0 | | |
| No data available | Э | | |
| 12.2 Persistence | and degradability | | |
| No data available | 3 | | |
| 12.3 Bioaccumul | ative potential | | |
| No data available | Э | | |
| 12.4 Mobility in s | oil | | |
| No data available | Э | | |
| 12.5 Results of F | PBT and vPvB assessment | | |
| This substance/r | nixture contains no compone | nts considered to be either persistent, | |
| | | istent and very bioaccumulative (vPvB) |) at |
| levels of 0.1% or | | | |
| | lisrupting properties | | |
| Product: | 1 01 1 | | |
| Assessment | : The substance/mixture of | does not contain components | |
| | | crine disrupting properties | |
| | according to REACH Artic | | J A STATE |
| | Delegated regulation (EU |) 2017/2100 or Commission | |
| | Regulation (EU) 2018/60/ | 5 at levels of 0.1% or higher. | |
| 12.7 Other adver | | | |
| No data available | a | | |
| | | | |
| | sposal considerations | | |
| 13.1 Waste treat | ment methods | | |
| No data available | | | |
| | | | |
| SECTION 14: Tr | ansport information | | |
| 14.1 UN number | | | |
| ADR/RID: - | 4 | IMDG: - | IATA: - |
| 14.2 UN proper s | shipping name | | |
| ADR/RID | : Not dangerous goods | | |
| IMDG | : Not dangerous goods | | |
| IATA | : Not dangerous goods | | |
| 14.3 Transport h | azard class(es) | | |
| ADR/RID: - | | IMDG: - | IATA: - |
| 14.4 Packaging | group | | |
| ADR/RID: - | | IMDG: - | IATA: - |
| 14.5 Environmer | ital hazards | | |
| ADR/RID: no | | IMDG Marine pollutant: no | IATA: no |
| | cautions for user | | |
| No data available | - | | |
| Further informati | on | | |
| | | 4 | |

Not classified as dangerous in the meaning of transport regulations.

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.
Other regulations
Take note of Dir 94/33/EC on the protection of young people at work.
15.2 Chemical Safety Assessment
For this product a chemical safety assessment was not carried out

SECTION 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.



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