SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name: Gadolinium, âˆ’ 40 mesh, 99% trace rare earth metals basis

Product Number: 263060
Brand: Aldrich
REACH No.: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

CAS-No.: 7440-54-2

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company: Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO  63103
UNITED STATES

Telephone: +1 314 771-5765
Fax: +1 800 325-5052

1.4 Emergency telephone

Emergency Phone #: 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008
Substances and mixtures which in contact with water emit flammable gases (Category 3), H261

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

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
The life science business of Merck operates as MilliporeSigma in the US and Canada

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula: Gd  
Molecular weight: 157.25 g/mol  
CAS-No.: 7440-54-2  
EC-No.: 231-162-2

No components need to be disclosed according to the applicable regulations.
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  
Consult a physician. Show this material safety data sheet to the doctor in attendance.

If inhaled  
If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact  
Wash off with soap and plenty of water. Consult a physician.

In case of eye contact  
Flush eyes with water as a precaution.

If swallowed  
Never give anything by mouth to an unconscious person. Rinse mouth with water. 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
Dry powder

5.2 Special hazards arising from the substance or mixture

gadolinium oxides

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.
Evacuate personnel to safe areas.
For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
Never allow product to get in contact with water during storage.
Air and moisture sensitive.

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

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection
Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

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
Flame retardant protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and
The life science business of Merck operates as MilliporeSigma in
the US and Canada.

Control of environmental exposure
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- **a)** Appearance: Form: powder  
  Color: light gray
- **b)** Odor: No data available
- **c)** Odor Threshold: No data available
- **d)** pH: No data available
- **e)** Melting point/freezing point: Melting point/range: 1.313 °C - lit.
- **f)** Initial boiling point and boiling range: 3.273 °C - lit.
- **g)** Flash point: No data available
- **h)** Evaporation rate: No data available
- **i)** Flammability (solid, gas): No data available
- **j)** Upper/lower flammability or explosive limits: No data available
- **k)** Vapor pressure: No data available
- **l)** Vapor density: No data available
- **m)** Relative density: 7,886 g/mL at 25 °C
- **n)** Water solubility: insoluble
- **o)** Partition coefficient: n-octanol/water: No data available
- **p)** Autoignition temperature: No data available
- **q)** Decomposition temperature: No data available
- **r)** Viscosity: No data available
- **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**
Stable under recommended storage conditions.

10.3 **Possibility of hazardous reactions**
Reacts violently with water.

10.4 **Conditions to avoid**
Exposure to moisture.

10.5 **Incompatible materials**
Oxygen, Strong acids, Strong oxidizing agents

10.6 **Hazardous decomposition products**
Hazardous decomposition products formed under fire conditions. - gadolinium oxides
Other decomposition products - No data available
In the event of fire: see section 5

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**SECTION 11: Toxicological information**

11.1 **Information on toxicological effects**

- **Acute toxicity**
  No data available

- **Skin corrosion/irritation**
  No data available

- **Serious eye damage/eye irritation**
  No data available

- **Respiratory or skin sensitization**
  No data available

- **Germ cell mutagenicity**
  No data available

- **Carcinogenicity**
  IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

- **Reproductive toxicity**
  No data available

- **Specific target organ toxicity - single exposure**
  No data available

- **Specific target organ toxicity - repeated exposure**
  No data available

- **Aspiration hazard**
  No data available

- **Additional Information**
  RTECS: LW3850000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
SECTION 12: Ecological information

12.1 Toxicity
No data available

12.2 Persistence and degradability
The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
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.

12.6 Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number
ADR/RID: 3208          IMDG: 3208          IATA: 3208

14.2 UN proper shipping name
ADR/RID: METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S. (Gadolinium)
IMDG: METALLIC SUBSTANCE, WATER-REACTIVE, N.O.S. (Gadolinium)
IATA: Metallic substance, water-reactive, n.o.s. (Gadolinium)

14.3 Transport hazard class(es)
ADR/RID: 4.3          IMDG: 4.3          IATA: 4.3

14.4 Packaging group
ADR/RID: III          IMDG: III          IATA: III

14.5 Environmental hazards
ADR/RID: no          IMDG Marine pollutant: no          IATA: no

14.6 Special precautions for user
No data available
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.

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H261 In contact with water releases flammable gas.

Further information
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