SECTION 1. IDENTIFICATION

Product Name: Gadolinium Nitrate Hexahydrate

Product Number: All applicable American Elements product codes, e.g. GD-NAT-02-C.6HYD, GD-NAT-03-C.6HYD, GD-NAT-04-C.6HYD, GD-NAT-05-C.6HYD

CAS #: 19598-90-4

Relevant identified uses of the substance: Scientific research and development

Supplier details:
American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351

Emergency telephone number:
+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
GHS03 Flame over circle
Ox. Sol. 2 H272 May intensify fire; oxidizer.

GHS07
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

GHS label elements
The substance is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms

Signal word
Danger

Hazard-determining components of labeling:
Gadolinium(III) nitrate hexahydrate (99.9%-Gd) (REO)

Hazard statements
H272 May intensify fire; oxidizer.
H315 Causes skin irritation.
H319 Causes serious eye irritation
H335 May cause respiratory irritation.
Precautionary statements
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read label before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P221 Take any precaution to avoid mixing with combustibles.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
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.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Classification system:
NFPA ratings (scale 0 - 4)
Health = 1
Fire = 3
Reactivity = 0
The substance possesses oxidizing properties.
HMIS-ratings (scale 0 - 4)
Health = 1
Fire = 3
Reactivity = 0
Other hazards
Results of PBT and vPvB assessment
PBT: N/A
vPvB: N/A

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
CAS # / Substance Name
19598-90-4 Gadolinium(III) nitrate hexahydrate (99.9%-Gd) (REO)
Identification number(s)
EC number: 233-437-2

SECTION 4. FIRST AID MEASURES

Description of first aid measures
If inhaled:
In case of unconsciousness place patient stably in side position for transportation.
In case of skin contact:
Immediately wash with soap and water; rinse thoroughly.
In case of eye contact:
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
If swallowed:
If symptoms persist consult doctor.
Most important symptoms and effects, both acute and delayed  
No data available  
Indication of any immediate medical attention and special treatment needed  
No data available

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media  
Suitable extinguishing agents:  
CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.  
Special hazards arising from the substance or mixture  
No data available  
Advice for firefighters  
Protective equipment:  
No special measures required.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures  
Not required.  
Environmental precautions:  
No special measures required.  
Methods and materials for containment and cleanup:  
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.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling  
No special precautions are necessary if used correctly.  
Information about protection against explosions and fires:  
No special measures required.  
Conditions for safe storage, including any incompatibilities:  
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.  
Specific end use(s)  
No data available

SECTION 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.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

Breathing equipment:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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.
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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
Appearance:
Form: Crystalline
Color: White
Odor: Odorless
Odor threshold: No data available.

pH: N/A
Melting point/Melting range: No data available.
Boiling point/Boiling range: Undetermined.
Flash point: N/A

Flammability (solid, gas): Contact with combustible material may cause fire.

Ignition temperature:
Decomposition temperature: No data available.

Autoignition: No data available.

Danger of explosion: No data available.

Explosion limits:
Lower: No data available.
Upper: No data available.

Vapor pressure: not appli hPa
Density: No data available.
Relative density
No data available.
Vapor density
N/A
Evaporation rate
N/A
Solubility in Water (H₂O): Insoluble.
Partition coefficient (n-octanol/water): No data available.
Viscosity:
Dynamic: N/A
Kinematic: N/A
Organic solvents: 0.0 %
Solids content: 100.0 %
Other information
No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity
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 data available
Incompatible materials:
No data available
Hazardous decomposition products:
No dangerous decomposition products known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
Primary irritant effect:
on the skin: Irritant to skin and mucous membranes.
on the eye: 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.
SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Aquatic toxicity: No data available
Persistence and degradability
No data available
Bioaccumulative potential
No data available
Mobility in soil
No data available
Additional ecological information: Not known to be hazardous to water.
Results of PBT and vPvB assessment
PBT: N/A
vPvB: N/A
Other adverse effects
No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Recommendation:
Must not be disposed of together with household garbage. Do not allow product to enter drains, sewage systems, or other water courses system.
Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, IMDG, IATA
UN1477
UN proper shipping name
DOT
Nitrates, inorganic, n.o.s.
IMDG, IATA
NITRATES, INORGANIC, N.O.S.
Transport hazard class(es)
DOT
Class
5.1 Oxidizing substances
Label
5.1
IMDG, IATA
Class
5.1 Oxidizing substances
Label
5.1
Packing group
DOT, IMDG, IATA
II
Environmental hazards:
Marine pollutant: No
Special precautions for user
N/A
EMS Number: F-A,S-Q
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N/A
Transport/Additional information:
DOT
Quantity limitations
On passenger aircraft/rail: 5 kg
On cargo aircraft only: 25 kg
IMDG
Limited quantities (LQ)
5 kg
Excepted quantities (EQ)
Code: E1
Maximum net quantity per inner packaging: 30 g
Maximum net quantity per outer packaging: 1000 g
UN "Model Regulation": UN1477, Nitrates, inorganic, n.o.s., 5.1, II

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
Sara
Section 355 (extremely hazardous substances): Substance is not listed.
Section 313 (Specific toxic chemical listings): Substance is 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).

SECTION 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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