SECTION 1. IDENTIFICATION

**Product Identifier:** (5N) 99.999% Lanthanum Carbide

**Product Code:** LA-C-05

**CAS Number:** 12071-15-7

**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**

**Classification according to Regulation (EC) No 1272/2008**

GHS02 Flame

Flam. Sol. 2 H228 Flammable solid.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

F; Highly flammable

R11: Highly flammable.

**Information concerning particular hazards for human and environment:**

Not applicable

Hazards not otherwise classified

No information known.

**Label elements**

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labeled according to the CLP regulation.

**Hazard pictograms**

Signal word

Warning
Hazard statements
H228 Flammable solid.

Precautionary statements
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P370+P378 In case of fire: Use for extinction: CO2, sand, extinguishing powder.

WHMIS classification
B4 - Flammable solid

Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)
Health (acute effects) = 1
Flammability = 3
Physical Hazard = 1

Other hazards

Results of PBT and vPvB assessment
PBT:
Not applicable.
vPvB:
Not applicable

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT NAME: Lanthanum Carbide
FORMULA: LaC2
CAS #: 12071-15-7

SECTION 4. FIRST AID MEASURES

Description of first aid measures
After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact
Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing
Seek medical treatment.

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.
SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing agents
In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water.
Use carbon dioxide, extinguishing powder or foam. Water may be ineffective but may be used for
cooling exposed containers.
For safety reasons unsuitable extinguishing agents
Water
Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide
Lanthanum oxide
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
Environmental precautions:
Do not allow product to reach sewage system or any water course.
Do not allow to penetrate the ground/soil.
Methods and material for containment and cleaning up:
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
Prevention of secondary hazards:
Keep away from ignition sources.
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

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Information about protection against explosions and fires:
Protect against electrostatic charges.
Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and receptacles:
Store in a cool location.
Information about storage in one common storage facility:
Do not store together with acids.
Store away from oxidizing agents.
Further information about storage conditions:
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Specific end use(s)
No further relevant information available.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and
having an average face velocity of at least 100 feet per minute.
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:
No data
Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Maintain an ergonomically appropriate working environment.
Breathing equipment:
Use suitable respirator when high concentrations are present.
Recommended filter device for short term use:
Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls.
Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.
Protection of hands:
Impervious gloves
Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.
Material of gloves
Nitrile rubber, NBR
Penetration time of glove material (in minutes)
480
Glove thickness
0.11 mm
Eye protection:
Safety glasses
Body protection:
Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
General Information
Appearance:
Form: Solid
Color: Dark grey
Odor: Not determined
Odor threshold: Not determined.
pH-value: Not applicable.
Change in condition
Melting point/Melting range: ca 3140 °C (ca 5684 °F)
Boiling point/Boiling range: 4820 °C (8708 °F)
Sublimation temperature / start: Not determined
Flammability (solid, gaseous)
Highly flammable.
Ignition temperature: Not determined
Decomposition temperature: Not determined
Auto igniting: Not determined.
Danger of explosion: Not determined.
Explosion limits:
Lower: Not determined
Upper: Not determined
Vapor pressure: Not applicable.
Density at 20 °C (68 °F): 4.93 g/cm³ (41.141 lbs/gal)
Relative density
Not determined.
Vapor density
Not applicable.
Evaporation rate
Not applicable.
Solubility in / Miscibility with Water: Not determined
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
dynamic: Not applicable.
kineumatic: Not applicable.
Other information
No further relevant information available.

SECTION 10. STABILITY AND REACTIVITY
Reactivity
No information known.
Chemical stability
Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions
Reacts with strong oxidizing agents
Conditions to avoid
No further relevant information available.
Incompatible materials:
Acids
Oxidizing agents
Hazardous decomposition products:
Carbon monoxide and carbon dioxide
SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Acute toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.
LD/LC50 values that are relevant for classification:
No data
Skin irritation or corrosion:
May cause irritation
Eye irritation or corrosion:
May cause irritation
Sensitization:
No sensitizing effects known.
Germ cell mutagenicity:
No effects known.
Carcinogenicity:
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.
Reproductive toxicity:
No effects known.
Specific target organ system toxicity - repeated exposure:
No effects known.
Specific target organ system toxicity - single exposure:
No effects known.
Aspiration hazard:
No effects known.
Subacute to chronic toxicity:
No effects known.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Aquatic toxicity:
No further relevant information available.
Persistence and degradability
No further relevant information available.
Bioaccumulative potential
No further relevant information available.
Mobility in soil
No further relevant information available.
Additional ecological information:
General notes:
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.
Avoid transfer into the environment.
Results of PBT and vPvB assessment
**SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods
Recommendation
Consult state, local or national regulations to ensure proper disposal.
Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations.

**SECTION 14. TRANSPORT INFORMATION**

UN-Number
DOT, IMDG, IATA
UN3178
UN proper shipping name
DOT
Flammable solid, inorganic, n.o.s. (Iron carbide)
IMDG, IATA
FLAMMABLE SOLID, INORGANIC, N.O.S. (Iron carbide)
Transport hazard class(es)
DOT
Class
4.1 Flammable solids, self-reactive substances and solid desensitised explosives.
Label
4.1
Class
4.1 (F3) Flammable solids, self-reactive substances and solid desensitised explosives
Label
4.1
IMDG, IATA
Class
4.1 Flammable solids, self-reactive substances and solid desensitised explosives.
Label
4.1
Packing group
DOT, IMDG, IATA
III
Environmental hazards:
Not applicable.
Special precautions for user
Warning: Flammable solids, self-reactive substances and solid desensitised explosives
EMS Number:
F-A,S-G
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.
Transport/Additional information:
DOT Marine Pollutant (DOT):
No
UN "Model Regulation":
UN3178, Flammable solid, inorganic, n.o.s. (Iron carbide), 4.1, III

SECTION 15. REGULATORY INFORMATION
Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic
Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).
SARA Section 313 (specific toxic chemical listings)
Substance is not listed.
California Proposition 65
Prop 65 - Chemicals known to cause cancer
Substance is not listed.
Prop 65 - Developmental toxicity
Substance is not listed.
Prop 65 - Developmental toxicity, female
Substance is not listed.
Prop 65 - Developmental toxicity, male
Substance is not listed.
Information about limitation of use:
For use only by technically qualified individuals.
Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.
Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No
1907/2006 (REACH) for the manufacturing, placing on themarket and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use)
Substance is not listed.
REACH - Pre-registered substances
Substance is listed.
Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

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
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