

Safety Data Sheet

Issue Date: 23-Jul-2015

Revision Date: 01-Oct-2015

Version 1

1. IDENTIFICATION

Product Identifier

Product Name LSM-GDC

Other means of identification

SDS #

Synonyms

LSMGDC; Lanthanum Strontium Manganite-Gadolinium Doped Ceria.

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory chemicals and Manufacture of substances.

Details of the supplier of the safety data sheet

Supplier Address

Nexceris, LLC
404 Enterprise Dr.
Lewis Center, OH 43035
www.nexceris.com

Emergency Telephone Number

Company Phone Number

Non-emergency calls/questions: 1-614-842-6606
Fax: 1-614-842-6607

Emergency Telephone (24 hr)

INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Appearance Gray solid

Physical State Solid

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

Signal Word

Warning

Hazard Statements

Causes skin irritation
Causes serious eye irritation



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation occurs: Get medical advice/attention
Take off contaminated clothing and wash it before reuse

3. COMPOSITION/INFORMATION ON INGREDIENTS**Synonyms**

LSMGDC; Lanthanum Strontium Manganite-Gadolinium Doped Ceria.

Chemical Name	CAS No	Weight-%
Cerium Oxide	1306-38-3	28-48
Lanthanum Oxide	1312-81-8	23-34
Manganese Oxide	1317-35-7	13-20
Gadolinium (III) Oxide	12064-62-9	4-6
Strontium Oxide	1314-11-0	4-6

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST-AID MEASURES**First Aid Measures****General Advice**

If exposed or concerned: Get medical advice/attention.

Eye Contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin Contact

Wash with plenty of water. Remove and wash contaminated clothing before reuse. Seek medical advice / attention if symptoms develop.

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek medical attention for further treatment.

Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Seek medical attention if symptoms develop.

Most important symptoms and effects**Symptoms**

Causes skin irritation. Causes serious eye irritation.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media Not determined.

Specific Hazards Arising from the Chemical

Not determined.

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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Use personal protective equipment as required. Avoid creating dust.
Environmental Precautions	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. See Section 13: DISPOSAL CONSIDERATIONS.

Methods and material for containment and cleaning up

Methods for Containment	Prevent further leakage or spillage if safe to do so.
Methods for Clean-Up	Avoid creating dust. Sweep up dry spills and place in a container for recovery or disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling	Handle in accordance with good industrial hygiene and safety practice. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Avoid generation of dust. Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing before reuse.
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Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed and store in a cool, dry and well-ventilated place.
Incompatible Materials	None known based on information supplied.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Manganese Oxide 1317-35-7	TWA: 0.02 mg/m ³ Mn TWA: 0.1 mg/m ³ Mn	(vacated) TWA: 1 mg/m ³ Mn (vacated) Ceiling: 5 mg/m ³ Ceiling: 5 mg/m ³ Mn	IDLH: 500 mg/m ³ Mn TWA: 1 mg/m ³ Mn STEL: 3 mg/m ³ Mn

Appropriate engineering controls

Engineering Controls	Apply technical measures to comply with the occupational exposure limits. Eyewash stations. Showers.
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Individual protection measures, such as personal protective equipment

Eye/Face Protection	Refer to 29 CFR 1910.133 for eye and face protection regulations.
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Skin and Body Protection	Refer to 29 CFR 1910.138 for appropriate skin and body protection.
Respiratory Protection	Ensure adequate ventilation, especially in confined areas. In case of inadequate ventilation wear respiratory protection.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Solid	Odor	Not determined
Appearance	Gray solid	Odor Threshold	Not determined
Color	Gray		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	Not determined	
Melting Point/Freezing Point	Not determined	
Boiling Point/Boiling Range	Not determined	
Flash Point	Not determined	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Not determined	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	Not determined	
Water Solubility	Not determined	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

Keep out of reach of children. Avoid generation of dust. See Sec. 7 Handling & Storage.

Incompatible Materials

None known based on information supplied.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Eye Contact	Causes serious eye irritation.
Skin Contact	Causes skin irritation.
Inhalation	Avoid inhalation of dust.
Ingestion	Do not ingest.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Lanthanum Oxide 1312-81-8	> 8500 mg/kg (Rat)	-	-
Cerium Oxide 1306-38-3	> 1000 mg/kg (Rat)	> 2000 mg/kg (Rat)	> 2.01 mg/L (Rat) 4 h
Gadolinium (III) Oxide 12064-62-9	> 5 g/kg (Rat)	-	-

Information on physical, chemical and toxicological effects

Symptoms Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

Not determined

12. ECOLOGICAL INFORMATION**Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Persistence/Degradability

Not determined.

Bioaccumulation

Not determined.

Mobility

Not determined

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS**Waste Treatment Methods**

Disposal of Wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

Note	Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.
DOT	Not regulated
IATA	Not regulated
IMDG	Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Cerium Oxide	Present	X		Present		Present	X	Present	X	X
Lanthanum Oxide	Present	X		Present		Present	X	Present	X	X
Manganese Oxide	Present	X		Present		Present	X	Present	X	X
Gadolinium (III) Oxide	Present	X		Present		Present	X	Present	X	X
Strontium Oxide	Present	X		Present		Present	X	Present		X

Legend:

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

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

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

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Manganese Oxide - 1317-35-7	1317-35-7	13-20	1.0

US State Regulations

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Manganese Oxide 1317-35-7	X	X	X

16. OTHER INFORMATION**NFPA****Health Hazards**

Not determined

Flammability

Not determined

Instability

Not determined

Special Hazards

Not determined

HMIS**Health Hazards**

Not determined

Flammability

Not determined

Physical Hazards

Not determined

Personal Protection

Not determined

Issue Date:

23-Jul-2015

Revision Date:

01-Sep-2016

Revision Note:

Added GDC Data

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