

Safety Data Sheet

Acc to reg (EC) No 1907/2006 and OSHA 29 CFR 1910.1200 App D

LCP Spectrum Silence™

Revision date: 2026-02-06

Product Code: X-MC-LC-EMI-LRD-02

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

1.1. Product identifier

LCP Spectrum Silence™

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

Use of the substance/mixture: Thermoplastic injection molding compound**Uses advised against:** Any non-intended use.

1.3. Details of the supplier of the safety data sheet

Company name: Elect Nano LLC.
Street: 3850 E. Baseline Rd. Suite 125
Place: USA-85206 Mesa, AZ
Telephone: +1 (480) 648-9919
Contact Person: Cali Jackson
E-mail: info@electnano.com

1.4. Emergency telephone number:

+1 703-527-3887 CHEMTREC (International 24 hrs/day; 7 days/week)
1-800-424-9300 CHEMTREC (USA)

Further Information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2020/878) and OSHA 29 CFR 1910.1200 App D

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is not classified as hazardous in accordance with Regulation (EC) No 1272/2008.

2.2. Label elements

Additional advice on labelling

Labelling according to Regulation (EC) No. 1272/2008 [CLP]: none

2.3. Other hazards

The substances in the mixture (> 0.1%) do not meet the PBT/vPvB criteria according to REACH, annex XIII. This product does not contain a substance (> 0.1 %) that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria. The carbon nanotubes and the nickel alloy filler are incorporated into the polymer matrix. Under normal conditions of handling and use, exposure by skin contact or inhalation of dust is not expected. Hazardous exposure may occur during machining, sanding, grinding, or other operations that generate dust or fumes.

SECTION 3: Composition / information on ingredients

3.2. Mixtures

Chemical characterization

Functionalized nano carbons embedded in a thermotropic liquid crystal polymer (LCP) with glass fiber and metal alloy filler.

Hazardous components

Continued on next page.

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CAS No	Chemical Name	EC No	Classification (Regulation (EC) No 1272/2008)	Quantity
308068-56-6	Carbon Nanotube	608-533-6	Skin Irrit. 2, Eye Irrit. 2, STOT SE 3. Carc. 2; H315, H319, H335, H351	1% – 5%
Trade Secret	Nano carbon functional agent	NA	NA	3% – 7%
7440-02-0	Nickel (Ni), as alloy	231-111-4	Skin Sens. 1, Carc. 2, STOT RE 1, Aquatic Chronic 3; H317, H351, H372, H412	15% – 40%
7439-89-6	Iron (Fe), as alloy	231-096-4	NA	5% – 10%
7439-98-7	Molybdenum (Mo), as alloy	231-107-2	NA	1% – 5%
65997-17-3	Glass fiber	266-046-0	NA	10% – 30%
70679-92-4	P-hydroxybenzoic acid-co-6-hydroxy-2-naphthoic acid copolymer	NA	NA	30% – 60%

Trade Secret: In accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200(i)) and the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS), the specific chemical identity and/or exact concentration of one or more components in this product has been withheld as a trade secret.

Full text of H and EUH statements: see section 16.

Further Information

Product does not contain listed SVHC substances > 0.1 % according to Regulation (EC) No. 1907/2006 Article 59 (REACH)

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In case of respiratory tract irritation, consult a physician.

After contact with skin

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

After contact with eyes

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

After ingestion

Rinse mouth thoroughly with water. Allow small sips of water (dilution effect). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media Suitable extinguishing media

Carbon dioxide (CO₂). Dry extinguishing powder. Alcohol resistant foam. Atomized water.

Unsuitable extinguishing media

High power water jet.

5.2. Special hazards arising from the substance or mixture

Can be released in case of fire: Carbon monoxide, carbon dioxide (CO₂), aldehydes, other organic compounds

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

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Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Co-ordinate fire-fighting measures to the fire surroundings.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Avoid spills. Do not breathe dust.

For non-emergency personnel

Wear personal protection equipment (refer to section 8).

For emergency responders

No special measures are necessary.

6.2. Environmental precautions

Discharge into the environment must be avoided.

6.3. Methods and material for containment and cleaning up

For containment

Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Treat the recovered material as prescribed in the section on waste disposal.

For cleaning up

Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Wear personal protection equipment (refer to section 8).

Advice on protection against fire and explosion

Usual measures for fire prevention.

Advice on general occupational hygiene

Always close containers tightly after the removal of product. Do not eat, drink, smoke or sneeze at the workplace. Wash hands before breaks and after work.

Further information on handling

General protection and hygiene measures: refer to Section 8

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.

Hints on joint storage

Do not store together with: Explosives. Oxidizing solids. Oxidizing liquids. Radioactive substances. Infectious substances. Food and animal feeding stuff.

Further information on storage conditions

Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

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Recommended storage temperature: 20 °C

Protect against: frost. UV-radiation/sunlight. heat. Humidity

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls / personal protection**8.1. Control parameters****Additional advice on limit values**

No product-specific occupational exposure limits are established. Applicable limits for nuisance dust and constituent metals may apply during dust-generating operations.

8.2. Exposure controls**Appropriate engineering controls**

Technical measures and the application of suitable work processes have priority over personal protection equipment.

Individual protection measures, such as personal protective equipment**Eye / face protection**

Eye protection goggles.

Hand protection

In case of prolonged or frequently repeated skin contact: Wear suitable gloves.

Suitable material:

FKM (fluororubber). - Thickness of glove material: 0,4 mm Breakthrough time \geq 8 h

Butyl rubber. - Thickness of glove material: 0,5 mm

Breakthrough time \geq 8 h

CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm

Breakthrough time \geq 8 h

NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm

Breakthrough time \geq 8 h

PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm

Breakthrough time \geq 8 h

The selected protective gloves have to satisfy the specifications of EU Directive EC/2016/425 and the standard EN 374 derived from it.

Before using check leak tightness / impermeability. In the case of wanting to use the gloves again, clean them before taking off and air them well.

Skin protection

Suitable protective clothing: Protective clothing.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required. Respiratory protection necessary at:

-Exceeding exposure limit values

-Insufficient ventilation and generation or formation of dust

Suitable respiratory protective equipment: particulates filter device (DIN EN 143). type: P1-3

The filter class must be suitable for the maximum contaminant concentration (gas/vapor/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Thermal hazards

Material handled at elevated temperature may cause thermal burns by contact with liquid product.

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Environmental exposure controls

No special precautionary measures are necessary.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Solid
Color:	Black
Odor:	Not determined
Odor threshold:	Not determined

Changes in the physical state

Melting point/freezing point:	Not determined
Boiling point or initial boiling point and boiling range:	Not determined
Sublimation point:	Not determined
Softening point:	Not determined
Pour point:	Not determined
Flash point:	Not determined

Flammability

Solid / liquid:	Not determined
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Explosive properties

Lower explosion limits:	Not determined
Upper explosion limits:	Not determined
Auto-ignition temperature:	Not determined

Self-ignition temperature

Solid:	Not determined
Gas:	Not determined

Decomposition temperature:	Not determined
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pH-Value:	Not determined
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Viscosity / dynamic:	Not determined
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Viscosity / kinematic:	Not determined
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Flow time:	Not determined
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Water solubility:	Not determined
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Solubility in other solvents:

Dissolution rate:	Not determined
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Partition coefficient n-octanol/water:	Not determined
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Dispersion stability:	Not determined
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Vapor pressure:	Not determined
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Density:	Not determined
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Bulk density:	Not determined
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Relative vapor density:	Not determined
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Particle characteristics:	Not determined
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9.2. Other information

Information with regard to physical hazard classes

Sustaining combustion:	none
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Oxidizing properties:	none
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Other safety characteristics

Solvent separation test:	Not determined
Solvent content:	Not determined
Solid content:	Not determined
Evaporation rate:	Not determined

Further Information

No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions

No hazardous reactions are expected under normal conditions of storage, handling, or use. At processing temperatures significantly above the recommended range, thermal degradation of the polymer matrix may occur, producing carbon monoxide, carbon dioxide, and other organic decomposition products.

10.4. Conditions to avoid

Protect against: UV-radiation/sunlight, heat.

10.5. Incompatible materials

Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicokinetics, metabolism and distribution

No data available.

Acute toxicity

Based on available data, the classification criteria are not met.

Irritation and corrosivity

Carbon nanotubes may cause mechanical skin irritation in powder form. Due to incorporation into a solid polymer matrix, the mixture does not meet classification criteria.

Sensitizing effects

Nickel present as an alloy constituent is classified as a skin sensitizer. Due to incorporation into a solid polymer matrix, the mixture does not meet classification criteria.

Carcinogenic / mutagenic / toxic effects for reproduction

Carbon nanotubes and nickel metal are classified for carcinogenicity based on inhalation exposure to respirable particles. Due to incorporation into a solid polymer matrix, the mixture does not meet the criteria for classification as carcinogenic under Regulation (EC) No 1272/2008.

STOT-single exposure

Carbon nanotubes in this product are fully incorporated into a solid polymer matrix and are not respirable under normal conditions of use. Accordingly, no single-exposure target organ effects (STOT SE 3), including respiratory irritation, are expected and the product is not classified under Regulation (EC) No 1272/2008.

STOT-repeated exposure

Nickel is classified for specific target organ toxicity following prolonged or repeated exposure by inhalation. The mixture does not meet

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the criteria for classification due to limited bioavailability under normal conditions of use.

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

No data available.

11.2. Information on other hazards

Endocrine disrupting properties

This product does not contain a substance (> 0.1 %) that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

Other information

No data available.

SECTION 12: Ecological information

12.1. Toxicity

The product has not been tested.

12.2. Persistence and degradability

The product has not been tested.

12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

The aforementioned statement applies to substances contained in the product with a minimum content of 0.1%.

12.7. Other adverse effects

No data available.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal. Non-contaminated packages may be recycled.

According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

List of Wastes Code - residues/unused products

200128	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); paint, inks, adhesives and resins other than those mentioned in 20 01 27
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List of Wastes Code - used product

200128 MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; separately collected fractions (except 15 01); paint, inks, adhesives and resins other than those mentioned in 20 01 27

List of Wastes Code - contaminated packaging

150106 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); mixed packaging

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

14.1. Land transport (ADR/RID)

UN number or ID number:	No dangerous good in sense of this transport regulation.
UN proper shipping name:	No dangerous good in sense of this transport regulation.
Transport hazard class(es):	No dangerous good in sense of this transport regulation.
Packing group:	No dangerous good in sense of this transport regulation.

14.2. Inland waterways transport (ADN)

UN number or ID number:	No dangerous good in sense of this transport regulation.
UN proper shipping name:	No dangerous good in sense of this transport regulation.
Transport hazard class(es):	No dangerous good in sense of this transport regulation.
Packing group:	No dangerous good in sense of this transport regulation.

14.3. Marine transport (IMDG)

UN number or ID number:	No dangerous good in sense of this transport regulation.
UN proper shipping name:	No dangerous good in sense of this transport regulation.
Transport hazard class(es):	No dangerous good in sense of this transport regulation.
Packing group:	No dangerous good in sense of this transport regulation.

14.4. Air transport (ICAO-TI/IATA-DGR)

UN number or ID number:	No dangerous good in sense of this transport regulation.
UN proper shipping name:	No dangerous good in sense of this transport regulation.
Transport hazard class(es):	No dangerous good in sense of this transport regulation.
Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS:	No
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14.6. Special precautions for user

refer to chapter 6 - 8

14.7. Maritime transport in bulk according to IMO instruments

not relevant

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

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EU regulatory information

2010/75/EU (VOC):	not determined
2004/42/EC (VOC):	not determined
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

Additional information

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (amended by Regulation (EU) No 2020/878) This mixture is classified as not hazardous according to Regulation (EC) 1272/2008 [CLP]. Safety Data Sheet also complies with OSHA according to 29 CFR 1910.1200 Appendix D

REACH 1907/2006 Appendix XVII, No (mixture): not relevant

National regulatory information

None

15.2. Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information

16.1. Changes

Rev 0.2; STOT SE updated for CNTs embedded in polymer. Rev 0.1; Initial release: 2026-01-10.

16.2. Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

CAS: Chemical Abstracts Service

CLP: Classification, Labelling and Packaging of substances and mixtures

DNEL: Derived No Effect Level

d: day(s)

EINECS: European Inventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

ECHA: European Chemicals Agency

EWG: European Waste Catalogue

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA) ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

h: hour

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

NOAEC: No observed adverse effect concentration

NLP: No-Longer Polymers

N/A: not applicable

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OECD: Organisation for Economic Co-operation and Development

PNEC: predicted no effect concentration

PBT: Persistent bioaccumulative toxic

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

REACH: Registration, Evaluation, Authorisation of Chemicals

SVHC: substance of very high concern

TRGS: Technische Regeln für Gefahrstoffe

UN: United Nations

VOC: Volatile Organic Compounds

16.3. Relevant H and EUH statements (number and full text)

The listed H-statements apply to individual ingredients. The mixture is not classified as hazardous according to Regulation (EC) No 1272/2008.

H315 – Causes skin irritation

H317 – May cause an allergic skin reaction.

H319 – Causes serious eye irritation.

H335 – May cause respiratory irritation.

H351 – Suspected of causing cancer.

H372 – Causes damage to organs through prolonged or repeated exposure.

H412 – Harmful to aquatic life with long lasting effects.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.