

According to OSHA Hazard Communication Standard 29CFR 1910.1200 (HCS 2012)

<b>LA LMM-6150</b>		<b>GSLA_LMM-6150 Pearl Laser Mark 100g</b>	
Product specification	<b>RS_FP_603547</b>	Revision Date	<b>04/30/2020</b>
Version	<b>2.0</b>	Print Date	<b>08/23/2022</b>
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**SECTION 1. IDENTIFICATION**

Product name : **LA LMM-6150**  
GSLA\_LMM-6150 Pearl Laser Mark 100g

Material number : **1411033**

**Manufacturer or supplier's details**

Company name of supplier : Ferro Corporation  
Address : 6060 Parkland Blvd. Suite 250  
Mayfield Heights OH 44124-4185  
Telephone : (216) 875-5600

**Emergency telephone number**

In-Country Number : (800)424-9300  
CHEMTREC Global Number : +(1)-703-527-3887 (Call Collect)

**Recommended use of the chemical and restrictions on use**


Recommended use : Consult the technical guidelines for the use of this substance/mixture.

**SECTION 2. HAZARDS IDENTIFICATION**

**GHS Classification**

Skin sensitisation : Category 1

**GHS Label element**

Hazard pictograms : 

Signal word : Warning

Hazard statements : H317 May cause an allergic skin reaction.

Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves.  
**Response:**  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P363 Wash contaminated clothing before reuse.

**Disposal:**

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P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

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

Substance / Mixture : Mixture  
 Chemical nature : water, precious metal, inorganic acid/base, carbohydrate/(derivative of) cellulose

**Hazardous components**

Chemical Name	CAS-No.	Concentration (%)
silver	7440-22-4	>= 30 - < 50
Trade Secret Rheology Additive	Not Assigned	>= 5 - < 10
2-butoxyethanol	111-76-2	>= 0.1 - < 1
3-aminopropyltriethoxysilane	919-30-2	>= 0.1 - < 1

**SECTION 4. FIRST AID MEASURES**

General advice : Consult a physician.  
 If inhaled : Remove to fresh air.  
 If unconscious place in recovery position and seek medical advice.  
 Never give anything by mouth to an unconscious person.  
 In case of skin contact : Wash off immediately with soap and plenty of water.  
 If a person feels unwell or symptoms of skin irritation appear, consult a physician.  
 In case of eye contact : Rinse immediately with plenty of water and seek medical advice.  
 If swallowed : Do NOT induce vomiting.  
 Rinse immediately with plenty of water and seek medical advice.  
 Most important symptoms and effects, both acute and delayed : May cause an allergic skin reaction.  
 Causes serious eye irritation.  
 May damage fertility or the unborn child.  
 Causes damage to organs.  
 Causes damage to organs through prolonged or repeated exposure.

**SECTION 5. FIREFIGHTING MEASURES**

Specific hazards during firefighting : Exposure to decomposition products may be a hazard to health.  
 Do not allow run-off from fire fighting to enter drains or water courses.

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Further information : In the event of fire and/or explosion do not breathe fumes.  
 Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Exposure to decomposition products may be a hazard to health.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Ensure adequate ventilation. Follow safe handling advice and personal protective equipment recommendations.  
 Environmental precautions : Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.  
 Methods and materials for containment and cleaning up : Sweep up and shovel into suitable containers for disposal. Clean contaminated floors and objects thoroughly while observing environmental regulations.

**SECTION 7. HANDLING AND STORAGE**

Advice on protection against fire and explosion : Normal measures for preventive fire protection.  
 Advice on safe handling : Do not get in eyes or mouth or on skin. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Do not use in areas without adequate ventilation. Keep away from heat and sources of ignition.  
 Conditions for safe storage : Keep in a dry, cool and well-ventilated place.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Components with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
silver	7440-22-4	TWA	0.01 mg/m3 (Silver)	OSHA Z-1
		TWA	0.01 mg/m3	OSHA P0
		TWA (Dust and fume)	0.1 mg/m3	ACGIH
		TWA (Dust)	0.01 mg/m3	NIOSH REL
Trade Secret Rheology Additive	Not Assigned	TWA (Inhalable fraction)	2 mg/m3 (Borate)	ACGIH
		STEL (Inhalable)	6 mg/m3 (Borate)	ACGIH

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		fraction)		
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**Hazardous components without workplace control parameters**

Components	CAS-No.
2-butoxyethanol	111-76-2
3-aminopropyltriethoxysilane	919-30-2

**Biological occupational exposure limits**

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
2-butoxyethanol	111-76-2	Butoxyacetic acid (BAA)	Urine	End of shift (As soon as possible after exposure ceases)	200 mg/g Creatinine	ACGIH BEI

**Engineering measures** : Apply technical measures to comply with the occupational exposure limits.  
Provide adequate ventilation.

**Personal protective equipment**

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection  
Material : Protective gloves

Eye protection : Safety glasses with side-shields  
Ensure that eyewash stations and safety showers are close to the workstation location.

Protective measures : Wear suitable protective equipment.  
Avoid contact with skin.

Hygiene measures : When using do not eat, drink or smoke.  
Remove contaminated clothing and protective equipment before entering eating areas.  
Wash hands before breaks and immediately after handling the product.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : paste  
Colour : grey  
Odour : odourless  
Odour Threshold : No data available

pH : No data available  
Melting point/range : No data available  
Boiling point/boiling range : No data available  
Flash point : > 94 °C

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Method: ASTM D 93, Pensky-Martens closed cup

Evaporation rate	: No data available
Burning rate	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative density	: No data available
Density	: No data available
Bulk density	: No data available
Solubility(ies)	
Water solubility	: soluble
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: Not determined
Decomposition temperature	: No data available
Viscosity	
Viscosity, kinematic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Refractive index	: No data available
Volatile organic compounds (VOC) content	: 0 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

This product does not contain any VOC exemptions listed under the U.S. Clean Air Act Section 450.

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	: Stable under recommended storage conditions. No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: No data available
Conditions to avoid	: Incompatible materials
Incompatible materials	: Incompatible with oxidizing agents. Incompatible with strong acids and bases.
Hazardous decomposition	: Stable under normal conditions.

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products

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Information on likely routes of exposure**

- inhalation (dust/mist/fume)
- inhalation (vapour)
- Skin
- Eye contact
- Ingestion

**Acute toxicity**

Not classified based on available information.

**Product:**

- Acute oral toxicity : Remarks: No data available  
Acute toxicity estimate: > 5,000 mg/kg  
Method: Calculation method
- Acute inhalation toxicity : Acute toxicity estimate: > 40 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Calculation method

**Components:**

***silver:***

- Acute oral toxicity : LD50 Oral (Rat): > 2,000 mg/kg

***Trade Secret Rheology Additive:***

- Acute oral toxicity : LD50 Oral (Rat): 2,660 mg/kg
- Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes

***2-butoxyethanol:***

- Acute oral toxicity : LD50 Oral (Rat, male and female): 1,200 mg/kg  
Method: OECD Test Guideline 401  
GLP: no
- Acute dermal toxicity : LD50 Dermal (Rabbit, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes

***3-aminopropyltriethoxysilane:***

- Acute oral toxicity : LD50 Oral (Rat): 1,780 mg/kg

**Skin corrosion/irritation**

Not classified based on available information.

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**Components:**

***Trade Secret Rheology Additive:***

Species: Rabbit  
Result: No skin irritation

***2-butoxyethanol:***

Species: Rabbit  
Exposure time: 72 h  
Method: OECD Test Guideline 404  
Result: Irritating to skin.  
GLP: yes

**Serious eye damage/eye irritation**

Causes serious eye irritation.

**Components:**

***Trade Secret Rheology Additive:***

Species: Rabbit  
Result: No eye irritation

***2-butoxyethanol:***

Result: Eye irritation

**Respiratory or skin sensitisation**

Skin sensitisation: May cause an allergic skin reaction.  
Respiratory sensitisation: Not classified based on available information.

**Components:**

***3-aminopropyltriethoxysilane:***

Test Type: Buehler Test  
Exposure routes: Dermal  
Species: Guinea pig  
Assessment: May cause sensitisation by skin contact.  
Method: OECD Test Guideline 406  
Result: positive

**Germ cell mutagenicity**

Not classified based on available information.

**Carcinogenicity**

Not classified based on available information.

<b>IARC</b>	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>OSHA</b>	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
<b>NTP</b>	No component of this product present at levels greater than or

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equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

**Reproductive toxicity**

May damage fertility or the unborn child.

**STOT Specific Target Organ Toxicity - single exposure**

Causes damage to organs.

**STOT Specific Target Organ Toxicity - repeated exposure**

Causes damage to organs through prolonged or repeated exposure.

**Aspiration toxicity**

Not classified based on available information.

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Product:**

Ecotoxicology Assessment

Acute aquatic toxicity : No data available

Chronic aquatic toxicity : No data available

**Components:**

***silver:***

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 16 µg/l  
Exposure time: 96 h  
Test Type: flow-through test

M-Factor (Acute aquatic toxicity) : 10

M-Factor (Chronic aquatic toxicity) : 10

***Trade Secret Rheology Additive:***

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 79.7 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 133 mg/l  
Exposure time: 48 h

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 52.4 mg/l

NOEC (Pseudokirchneriella subcapitata (green algae)): 17.5 mg/l

***2-butoxyethanol:***

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 1,490 mg/l

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Exposure time: 96 h  
 Test Type: static test  
 Method: OECD Test Guideline 203  
 GLP: no

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1,800 mg/l  
 Exposure time: 48 h

**Persistence and degradability**

**Product:**

Biodegradability : Remarks: No data available

**Components:**

***silver:***

Biodegradability : Remarks: No data available

***Trade Secret Rheology Additive:***

Biodegradability : Remarks: No data available

***2-butoxyethanol:***

Biodegradability : Remarks: No data available

***3-aminopropyltriethoxysilane:***

Biodegradability : Remarks: No data available

**Bioaccumulative potential**

**Product:**

Bioaccumulation : Remarks: No data available

**Components:**

***silver:***

Bioaccumulation : Remarks: No data available

***Trade Secret Rheology Additive:***

Bioaccumulation : Remarks: No data available

***2-butoxyethanol:***

Bioaccumulation : Remarks: No data available

Partition coefficient: n-octanol/water : log Pow: 0.77 (20 °C)  
 pH: 7

***3-aminopropyltriethoxysilane:***

Bioaccumulation : Remarks: No data available

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**Mobility in soil**

**Product:**

Distribution among environmental compartments : Remarks: No data available

**Components:**

***silver:***

Distribution among environmental compartments : Remarks: No data available

***Trade Secret Rheology Additive:***

Distribution among environmental compartments : Remarks: No data available

***2-butoxyethanol:***

Distribution among environmental compartments : Remarks: No data available

***3-aminopropyltriethoxysilane:***

Distribution among environmental compartments : Remarks: No data available

**Other adverse effects**

**Product:**

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances  
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

Waste from residues : Dispose of wastes in an approved waste disposal facility.  
Contaminated packaging : Empty remaining contents.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.

**SECTION 14. TRANSPORT INFORMATION**

**IATA-DGR**

UN number : UN 3082  
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (silver)  
Class : 9  
Packing group : III  
Labels : 9  
Packing instruction (cargo) : 964

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aircraft)  
 Packing instruction : 964  
 (passenger aircraft)  
 Packing instruction (LQ) : Y964

**IMDG-Code**

UN number : UN 3082  
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (silver)  
 Class : 9  
 Packing group : III  
 Labels : 9  
 EmS Code : F-A, S-F  
 Marine pollutant : yes

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Not applicable for product as supplied.

**National Regulations**

**49 CFR**

UN number : UN 3082  
 Proper shipping name : OTHER REGULATED SUBSTANCES, LIQUID, N.O.S. (silver)  
 Class : 9  
 Packing group : III  
 Labels : 9  
 ERG Code : 171  
 Marine pollutant : no  
 Remarks : Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

**SECTION 15. REGULATORY INFORMATION**

**TSCA list** : TSCA\_12b - Not relevant

**TSCA list** : TSCA 5a - Not relevant

**EPCRA - Emergency Planning and Community Right-to-Know Act**

**CERCLA Reportable Quantity**

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
silver	7440-22-4	1000	3205

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

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- SARA 311/312 Hazards** : Acute Health Hazard
- SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
- SARA 313** : This product contains components that are reportable under the regulation.
- Silver

**Clean Air Act**

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).  
 This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).  
 This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).  
 This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCOMI Intermediate or Final VOC's (40 CFR 60.489).

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.  
 This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.  
 This product contains components that are reportable under the regulation.

**Massachusetts Right To Know**

This product contains components that are reportable under the regulation.

**Pennsylvania Right To Know**

This product contains components that are reportable under the regulation.

**New Jersey Right To Know**

This product contains components that are reportable under the regulation.

**California Prop 65**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**The components of this product are reported in the following inventories:**

- EINECS (European Union) : On the inventory, or in compliance with the inventory
- SWISS (Switzerland) : On the inventory, or in compliance with the inventory
- TSCA (United States) : On TSCA Inventory
- DSL/NDSL (Canada) : All components of this product are on the Canadian DSL.

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- AICS (Australia) : On the inventory, or in compliance with the inventory
- NZioC (New Zealand) : On the inventory, or in compliance with the inventory
- ENCS (Japan) : On the inventory, or in compliance with the inventory
- ISHL (Japan) : Not in compliance with the inventory
- KECI (Korea) : Not in compliance with the inventory
- PICCS (Philippines) : On the inventory, or in compliance with the inventory
- IECSC (China) : On the inventory, or in compliance with the inventory
- TCSI (Taiwan) : Not in compliance with the inventory
- CICR (Turkey) : Not in compliance with the inventory
- INSQ (Mexico) : Not in compliance with the inventory

**SECTION 16. OTHER INFORMATION**

Revision Date : 04/30/2020

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.

US / EN