

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

LA LMM-6151		GSLA_LMM-6151 Copper Metal Mark 100g	
Product specification	RS_FP_602227	Revision Date	04/30/2020
Version	2.0	Print Date	08/22/2022
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## SECTION 1. IDENTIFICATION

Product name : **LA LMM-6151**  
GSLA\_LMM-6151 Copper Metal Mark 100g

Material number : **1407105**

### 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

Reproductive toxicity : Category 2

### GHS Label element

Hazard pictograms :



Signal word : Warning

Hazard statements : H361 Suspected of damaging fertility or the  
unborn child.

Precautionary statements : **Prevention:**  
P201 Obtain special instructions before  
use.  
P202 Do not handle until all safety  
precautions have been read and  
understood.  
P280 Wear protective gloves/ protective  
clothing/ eye protection/ face  
protection.

**Response:**  
P308 + P313 IF exposed or concerned: Get  
medical advice/ attention.

**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, alcohol, carbohydrate/(derivative of) cellulose, inorganic salt

### Hazardous components

Chemical Name	CAS-No.	Concentration (%)
copper	7440-50-8	>= 30 - < 50
Trade Secret Rheology Additive	Not Assigned	>= 5 - < 10
propane-1,2-diol	57-55-6	>= 5 - < 10
2-butoxyethanol	111-76-2	>= 0.1 - < 1
Octamethylcyclotetrasiloxane	556-67-2	>= 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	: Suspected of damaging fertility or the unborn child.

## SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
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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Special protective equipment : In the event of fire, wear self-contained breathing apparatus.  
for firefighters

## SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Ensure adequate ventilation.  
Follow safe handling advice and personal protective equipment recommendations.  
No conditions to be specially mentioned.
- 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 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
copper	7440-50-8	TWA (dusts and mists)	1 mg/m3 (Copper)	OSHA Z-1
		TWA (Fumes)	0.1 mg/m3 (Copper)	OSHA Z-1
		TWA (Dust and mist)	1 mg/m3 (Copper)	ACGIH
		TWA (Fumes)	0.2 mg/m3 (Copper)	ACGIH
		TWA (Dust)	1 mg/m3 (Copper)	NIOSH REL
		TWA (Mist)	1 mg/m3 (Copper)	NIOSH REL
		TWA (Fumes)	0.1 mg/m3 (Copper)	OSHA P0
		TWA (Dust)	1 mg/m3	OSHA P0

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		and mist)	(Copper)	
Trade Secret Rheology Additive	Not Assigned	TWA (Inhalable fraction)	2 mg/m3 (Borate)	ACGIH
		STEL (Inhalable fraction)	6 mg/m3 (Borate)	ACGIH
propane-1,2-diol	57-55-6	TWA	10 mg/m3	US WEEL

## Hazardous components without workplace control parameters

Components	CAS-No.
2-butoxyethanol	111-76-2
Octamethylcyclotetrasiloxane	556-67-2

## 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.  
When using do not eat, drink or smoke.

**Hygiene measures** : 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** : liquid  
**Colour** : copper  
**Odour** : characteristic

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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 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
Bulk density	: No data available
Solubility(ies)	
Water solubility	: soluble
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 %

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM 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	: No data available
Chemical stability	: No data available
Possibility of hazardous reactions	: No data available
Hazardous decomposition products	: Stable under normal conditions.

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## 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	: Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	: Acute toxicity estimate: Remarks: No data available
Acute dermal toxicity	: Acute toxicity estimate: Remarks: No data available
	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

#### Components:

##### **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

##### **propane-1,2-diol:**

Acute oral toxicity	: LD50 Oral (Rat): 20 g/kg
Acute dermal toxicity	: LD50 Dermal (Rabbit): 20,800 mg/kg

##### **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

##### **Octamethylcyclotetrasiloxane:**

Acute oral toxicity	: LD50 Oral (Rat): 1,540 mg/kg
Acute inhalation toxicity	: LC50 (Rat): 36 g/m3 Exposure time: 4 h

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## Skin corrosion/irritation

Not classified based on available information.

### 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

#### **Octamethylcyclotetrasiloxane:**

Assessment: No skin irritation  
Result: No skin irritation

## Serious eye damage/eye irritation

Not classified based on available information.

### Components:

#### **Trade Secret Rheology Additive:**

Species: Rabbit  
Result: No eye irritation

#### **2-butoxyethanol:**

Result: Eye irritation

#### **Octamethylcyclotetrasiloxane:**

Result: No eye irritation  
Assessment: No eye irritation

## Respiratory or skin sensitisation

Skin sensitisation: Not classified based on available information.  
Respiratory sensitisation: Not classified based on available information.

## Germ cell mutagenicity

Not classified based on available information.

## Carcinogenicity

Not classified based on available information.

### **IARC**

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.

### **OSHA**

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.

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#### NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

#### Reproductive toxicity

Suspected of damaging fertility or the unborn child.

##### Components:

##### ***Octamethylcyclotetrasiloxane:***

Reproductive toxicity - Assessment : H361: Some evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments.

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

Not classified based on available information.

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

Not classified based on available information.

#### 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:

##### ***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

##### ***propane-1,2-diol:***

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 51,400 mg/l  
Exposure time: 96 h



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Test Type: static test  
Method: OECD Test Guideline 203  
GLP: yes

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): > 10,000 mg/l  
Exposure time: 96 h

Toxicity to algae : EC50 (algae): 19,000 mg/l  
Exposure time: 96 h

***2-butoxyethanol:***

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

***Octamethylcyclotetrasiloxane:***

Toxicity to fish : LC50 (Brachydanio rerio (zebrafish)): > 500 mg/l  
Exposure time: 96 h

## Persistence and degradability

**Product:**

Biodegradability : Remarks: No data available

**Components:**

***copper:***

Biodegradability : Remarks: No data available

***Trade Secret Rheology Additive:***

Biodegradability : Remarks: No data available

***propane-1,2-diol:***

Biodegradability : Remarks: No data available

***2-butoxyethanol:***

Biodegradability : Remarks: No data available

## Bioaccumulative potential

**Product:**

Bioaccumulation : Remarks: No data available

**Components:**

***copper:***

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Bioaccumulation : Remarks: No data available

***Trade Secret Rheology Additive:***

Bioaccumulation : Remarks: No data available

***propane-1,2-diol:***

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

***Octamethylcyclotetrasiloxane:***

Partition coefficient: n-octanol/water : log Pow: 5.1

## Mobility in soil

**Product:**

Distribution among environmental compartments : Remarks: No data available

**Components:**

***copper:***

Distribution among environmental compartments : Remarks: No data available

***Trade Secret Rheology Additive:***

Distribution among environmental compartments : Remarks: No data available

***propane-1,2-diol:***

Distribution among environmental compartments : Remarks: No data available

***2-butoxyethanol:***

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).

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## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Waste from residues : Dispose of wastes in an approved waste disposal facility.

## SECTION 14. TRANSPORT INFORMATION

### IATA-DGR

UN number : UN 3082  
 Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
 (copper)  
 Class : 9  
 Packing group : III  
 Labels : 9  
 Packing instruction (cargo aircraft) : 964  
 Packing instruction (passenger aircraft) : 964  
 Packing instruction (LQ) : Y964

### IMDG-Code

UN number : UN 3082  
 Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
 N.O.S.  
 (copper)  
 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 : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
 N.O.S.  
 (copper)  
 Class : 9  
 Packing group : III  
 Labels : 9  
 ERG Code : 171  
 Marine pollutant : yes(copper)  
 Remarks : Above applies only to containers over 119 gallons or 450  
 liters. Not regulated if shipped in packages less than or equal  
 to 119 gallons (450 liters).

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## 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)
copper	7440-50-8	5000	*

\*: Calculated RQ exceeds reasonably attainable upper limit.

#### SARA 304 Extremely Hazardous Substances Reportable Quantity

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

**SARA 311/312 Hazards** : Chronic 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.

Copper

#### 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 contains components that are reportable under the regulation.

#### 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

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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 the inventory, or in compliance with the inventory
DSL/NDSL (Canada)	: All components of this product are on the Canadian DSL.
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)	: On the inventory, or 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

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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.

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