

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

LA LMC-6013P		GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 1 of 13

SECTION 1. IDENTIFICATION

Product name : **LA LMC-6013P**
GSLA_LMC-6013P Blue LaserMark 250g

Material number : **1407072**

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

Acute toxicity (Oral) : Category 4

Carcinogenicity : Category 2

GHS Label element

Hazard pictograms :



Signal word : Warning

Hazard statements : H302 Harmful if swallowed.
H351 Suspected of causing cancer.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and

SAFETY DATA SHEET



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

LA LMC-6013P		GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 2 of 13

P264
P270
P280

Response:
P301 + P312 +
P330
P308 + P313

Disposal:
P501

understood.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
IF exposed or concerned: Get medical advice/ attention.
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 : glass/frit, water, metal oxide/hydroxide

Hazardous components

Chemical Name	CAS-No.	Concentration (%)
Trade Secret Cobalt compound	Not Assigned	≥ 10 - < 20
Trade Secret Zirconium Compound	Not Assigned	≥ 1 - < 5
2-butoxyethanol	111-76-2	≥ 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.

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

LA LMC-6013P		GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 3 of 13

Rinse immediately with plenty of water and seek medical advice.

Most important symptoms and effects, both acute and delayed : Harmful if swallowed.
Suspected of causing cancer.

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.

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.

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 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

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

LA LMC-6013P	RS_FP_603535	GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 4 of 13

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Trade Secret Cobalt compound	Not Assigned	TWA	0.02 mg/m ³ (Cobalt)	ACGIH
Trade Secret Zirconium Compound	Not Assigned	TWA	5 mg/m ³ (Zirconium)	OSHA Z-1
		TWA	5 mg/m ³ (Zirconium)	ACGIH
		STEL	10 mg/m ³ (Zirconium)	ACGIH
		TWA	5 mg/m ³ (Zirconium)	OSHA P0
		STEL	10 mg/m ³ (Zirconium)	OSHA P0
		TWA	5 mg/m ³ (Zirconium)	NIOSH REL
		ST	10 mg/m ³ (Zirconium)	NIOSH REL

Hazardous components without workplace control parameters

Components	CAS-No.
2-butoxyethanol	111-76-2

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.

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

LA LMC-6013P		GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 5 of 13

- Protective measures : Wear suitable protective equipment.
Avoid contact with skin.
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 : blue
- 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
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 : insoluble
- Partition coefficient: n-octanol/water : No data available
- Auto-ignition temperature : Not determined

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

LA LMC-6013P		GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 6 of 13

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	: 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	: No data available
Chemical stability	: No data available
Possibility of hazardous reactions	: No data available
Conditions to avoid	: No data available
Incompatible materials	: No data available
Hazardous decomposition products	: No data available

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

inhalation (dust/mist/fume)

inhalation (vapour)

Skin

Eye contact

Ingestion

Acute toxicity

Harmful if swallowed.

Product:

Acute oral toxicity : Acute toxicity estimate: 1,553 mg/kg
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Calculation method

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

LA LMC-6013P		GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 7 of 13

Components:

Trade Secret Cobalt compound:

Acute oral toxicity : LD50 Oral (Rat, male and female): 202 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity

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

Skin corrosion/irritation

Not classified based on available information.

Components:

Trade Secret Cobalt compound:

Species: reconstructed human epidermis (RhE)
Method: EPISKIN Human Skin Model Test
Result: No skin irritation
GLP: yes

2-butoxyethanol:

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

Serious eye damage/eye irritation

Not classified based on available information.

Components:

2-butoxyethanol:

Result: Eye irritation

Respiratory or skin sensitisation

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

Components:

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

LA LMC-6013P	RS_FP_603535	GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 8 of 13

Trade Secret Cobalt compound:

Result: May cause sensitisation by skin contact.

Germ cell mutagenicity

Not classified based on available information.

Carcinogenicity

Suspected of causing cancer.

IARC

Group 2B: Possibly carcinogenic to humans

Trade Secret Cobalt
compound

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.

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

Not classified based on available information.

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 : Hazardous to the aquatic environment - acute hazard

Chronic aquatic toxicity : Hazardous to the aquatic environment - chronic hazard

Components:

Trade Secret Cobalt compound:

Toxicity to fish : LC50 (Danio rerio (zebra fish)): 15.98 mg/l
Exposure time: 96 h
Test Type: flow-through test

Toxicity to daphnia and other : LC50 (Daphnia (water flea)): 5.464 mg/l

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

LA LMC-6013P		GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 9 of 13

aquatic invertebrates Exposure time: 72 h
Test Type: static test

M-Factor (Acute aquatic toxicity) : 10

M-Factor (Chronic aquatic toxicity) : 10

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

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Components:

Trade Secret Cobalt compound:

Biodegradability : Remarks: No data available

Trade Secret Zirconium Compound:

Biodegradability : Remarks: No data available

2-butoxyethanol:

Biodegradability : Remarks: No data available

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Components:

Trade Secret Cobalt compound:

Bioaccumulation : Remarks: No data available

Trade Secret Zirconium Compound:

Bioaccumulation : Remarks: No data available

Partition coefficient: n-octanol/water : Remarks: Not applicable

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

LA LMC-6013P		GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 10 of 13

2-butoxyethanol:

Bioaccumulation : Remarks: No data available

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

Mobility in soil

Product:

Distribution among environmental compartments : Remarks: No data available

Components:

Trade Secret Cobalt compound:

Distribution among environmental compartments : Remarks: No data available

Trade Secret Zirconium Compound:

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).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

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

SECTION 14. TRANSPORT INFORMATION

UNRTDG

UN number : UN 3082

Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,

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

LA LMC-6013P		GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 11 of 13

	N.O.S. (cobalt oxide)
Class	: 9
Packing group	: III
Labels	: 9
IATA-DGR	
UN number	: UN 3082
Proper shipping name	: Environmentally hazardous substance, liquid, n.o.s. (cobalt oxide)
Class	: 9
Packing group	: III
Labels	: 9
Packing instruction (cargo aircraft)	: 964
Packing instruction (passenger aircraft)	: 964
IMDG-Code	
UN number	: UN 3082
Proper shipping name	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (cobalt oxide)
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

Not regulated as a dangerous good

SECTION 15. REGULATORY INFORMATION

TSCA list : TSCA 5a - Not relevant

TSCA list : TSCA_12b - Not relevant

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

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

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

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

LA LMC-6013P		GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 12 of 13

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.

Cobalt, inorganic compounds

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 contains components that are reportable under the regulation.

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 does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

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

WARNING! This product contains a chemical known to the State of California to cause cancer.

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) : The formulation contains substances listed on the Swiss Inventory

TSCA (United States) : On TSCA Inventory

DSL/NDSL (Canada) : All components of this product are on the Canadian DSL.

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

LA LMC-6013P		GSLA_LMC-6013P Blue LaserMark 250g	
Product specification	RS_FP_603535	Revision Date	12/13/2017
Version	1.7	Print Date	07/25/2018
Material number	1407072	Page	Page 13 of 13

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)	: Not 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 : 12/13/2017

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