

<b>1388291</b>		<b>GSLA LMC-6098 White Marking Mat'l</b>	
Product specification	<b>RS_FP_602391</b>	Revision Date	<b>11/03/2015</b>
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**SECTION 1. IDENTIFICATION**

Product name : GSLA LMC-6098 White Marking Mat'l  
000000000001388291

Product code : RS\_FP\_602391

**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

Disposal considerations : Dispose of wastes in an approved waste disposal facility.

**Emergency telephone number**

CHEMTREC In-Country : (800)424-9300  
Number

CHEMTREC Global Number : +(1)-703-527-3887(Call Collect)

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

Recommended use : Industrial use

Restrictions on use : Reserved for industrial and professional use.

**SECTION 2. HAZARDS IDENTIFICATION**


**GHS Classification**

Carcinogenicity : Category 1A

Reproductive toxicity : Category 2

Specific target organ toxicity : Category 1  
- repeated exposure  
(Inhalation)

**GHS Label element**

Hazard pictograms : 

Signal word : Danger

Hazard statements : H350 May cause cancer.  
H361 Suspected of damaging fertility or the unborn child.  
H372 Causes damage to organs through prolonged or repeated exposure if inhaled.

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Precautionary statements : **Prevention:**  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P281 Use personal protective equipment as required.  
**Response:**  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
**Disposal:**  
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 : glass/frit, metal oxide/hydroxide, water

#### Hazardous components

Chemical Name	CAS-No.	Concentration (%)
Trade Secret Zirconium Compound	Not Assigned	>= 20 - < 30
Feldspar-group minerals	68476-25-5	>= 1 - < 5
Trade Secret Mica compound	Not Assigned	>= 1 - < 5
silicon dioxide	7631-86-9	>= 0.1 - < 1
quartz	14808-60-7	>= 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

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advice.

Most important symptoms and effects, both acute and delayed : May cause cancer.  
Suspected of damaging fertility or the unborn child.  
Causes damage to organs through prolonged or repeated exposure if inhaled.

## SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- 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**

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Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Trade Secret Zirconium Compound		TWA	5 mg/m <sup>3</sup> (Zirconium)	OSHA Z-1
		TWA	5 mg/m <sup>3</sup> (Zirconium)	ACGIH
		STEL	10 mg/m <sup>3</sup> (Zirconium)	ACGIH
		TWA	5 mg/m <sup>3</sup> (Zirconium)	OSHA P0
		STEL	10 mg/m <sup>3</sup> (Zirconium)	OSHA P0
		TWA	5 mg/m <sup>3</sup> (Zirconium)	NIOSH REL
		ST	10 mg/m <sup>3</sup> (Zirconium)	NIOSH REL
Trade Secret Mica compound		TWA (Respirable fraction)	3 mg/m <sup>3</sup>	ACGIH
		TWA (Dust)	20 Million particles per cubic foot	OSHA Z-3
		TWA (Respirable)	3 mg/m <sup>3</sup>	NIOSH REL
		TWA (respirable dust fraction)	3 mg/m <sup>3</sup>	OSHA P0
quartz	14808-60-7	TWA (total dust)	30 mg/m <sup>3</sup> / %SiO <sub>2</sub> +2	OSHA Z-3
		TWA (respirable)	10 mg/m <sup>3</sup> / %SiO <sub>2</sub> +2	OSHA Z-3
		TWA (respirable)	250 mppcf / %SiO <sub>2</sub> +5	OSHA Z-3
		TWA (respirable dust fraction)	0.1 mg/m <sup>3</sup>	OSHA P0
		TWA (Respirable fraction)	0.025 mg/m <sup>3</sup> (Silica)	ACGIH
		TWA (Respirable dust)	0.05 mg/m <sup>3</sup> (Silica)	NIOSH REL

**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

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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. 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	: paste
Colour	: white
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	: 189 °C
Evaporation 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

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Thermal decomposition : No data available

Viscosity  
Viscosity, kinematic : No data available

Oxidizing properties : No data available

Refractive index : No data available

## SECTION 10. STABILITY AND REACTIVITY

Reactivity : No data available

Chemical stability : No data available

Possibility of hazardous reactions : No data available

Conditions to avoid : Incompatible materials

Incompatible materials : Incompatible with oxidizing agents.  
Incompatible with strong acids and bases.

## 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 inhalation toxicity : Acute toxicity estimate : > 40 mg/l  
Exposure time: 4 h  
Test atmosphere: vapour  
Method: Calculation method

### Components:

#### **silicon dioxide:**

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2.2 mg/l  
Exposure time: 1 h

Acute dermal toxicity : LD50 Dermal (Rabbit): > 2,000 mg/kg

#### **quartz:**

Acute oral toxicity : LD50 Oral (Rat): 500 mg/kg

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**Octamethylcyclotetrasiloxane:**

Acute oral toxicity : LD50 Oral (Rat): 1,540 mg/kg

Acute inhalation toxicity : LC50 (Rat): 36 g/m3  
Exposure time: 4 h

**Skin corrosion/irritation**

Not classified based on available information.

**Serious eye damage/eye irritation**

Not classified based on available information.

**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**

May cause cancer.

<b>IARC</b>	Group 1: Carcinogenic to humans	
	quartz	14808-60-7
<b>ACGIH</b>	Suspected human carcinogen	
	quartz	14808-60-7
<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>	Known to be human carcinogen	
	quartz	14808-60-7

**Reproductive toxicity**

Suspected of damaging fertility or the unborn child.

**STOT - single exposure**

Not classified based on available information.

**STOT - repeated exposure**

Causes damage to organs through prolonged or repeated exposure if inhaled.

**Aspiration toxicity**

Not classified based on available information.

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**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Components:**

**silicon dioxide:**

Toxicity to fish : LC50 (Fish): 5,000 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 7,600 mg/l  
Exposure time: 48 h

Toxicity to algae : EC50 (algae): 440 mg/l  
Exposure time: 72 h

**Persistence and degradability**

**Components:**

**Trade Secret Zirconium Compound:**

Biodegradability : Remarks: No data available

**Feldspar-group minerals:**

Biodegradability : Remarks: No data available

**Trade Secret Mica compound:**

Biodegradability : Remarks: No data available

**silicon dioxide:**

Biodegradability : Remarks: No data available

**quartz:**

Biodegradability : Remarks: No data available

**Bioaccumulative potential**

**Components:**

**Trade Secret Zirconium Compound:**

Bioaccumulation : Remarks: No data available

**Feldspar-group minerals:**

Bioaccumulation : Remarks: No data available

**Trade Secret Mica compound:**

Bioaccumulation : Remarks: No data available

**silicon dioxide:**

Bioaccumulation : Remarks: No data available

**quartz:**

Bioaccumulation : Remarks: No data available



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**Mobility in soil**

**Components:**

**Trade Secret Zirconium Compound:**

Distribution among environmental compartments : Remarks: No data available

**Feldspar-group minerals:**

Distribution among environmental compartments : Remarks: No data available

**Trade Secret Mica compound:**

Distribution among environmental compartments : Remarks: No data available

**silicon dioxide:**

Distribution among environmental compartments : Remarks: No data available

**quartz:**

Distribution among environmental compartments : Remarks: No data available

**Other adverse effects**

No data available

**SECTION 13. DISPOSAL CONSIDERATIONS**

**Disposal methods**

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

**SECTION 14. TRANSPORT INFORMATION**

**International Regulation**

**UNRTDG**

Not regulated as a dangerous good

**IATA-DGR**

Not regulated as a dangerous good

**IMDG-Code**

Not regulated as a dangerous good

**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 DOT**

Not regulated as a hazardous material

**SECTION 15. REGULATORY INFORMATION**

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**TSCA list** : TSCA 5a - Not relevant  
TSCA\_12b - Not relevant

**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 material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Massachusetts Right To Know**

Trade Secret Zirconium Compound  
Trade Secret Mica compound  
quartz 14808-60-7  
formaldehyde 50-00-0

**Pennsylvania Right To Know**

water 7732-18-5  
Trade Secret Zirconium Compound  
frits, chemicals (group 1) 65997-18-4  
Feldspar-group minerals 68476-25-5  
Trade Secret Mica compound

**New Jersey Right To Know**

water 7732-18-5  
Trade Secret Zirconium Compound  
frits, chemicals (group 1) 65997-18-4  
Feldspar-group minerals 68476-25-5  
Trade Secret Mica compound  
quartz 14808-60-7

**California Prop 65** WARNING! This product contains a chemical known to the State of California to cause cancer.

formaldehyde 50-00-0  
quartz 14808-60-7

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

REACH : Not in compliance with the inventory  
: Octamethylcyclotetrasiloxane  
: Bicyclic oxzaolidines  
CH INV : Not in compliance with the inventory  
: Trade Secret Mica compound

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	: Bicyclic oxzaolidines
	: Trade Secret cellulose compound
	: siloxanes & silicones, insolub.
TSCA	: Not On TSCA Inventory
	: Bicyclic oxzaolidines
DSL	: This product contains the following components that are not on the Canadian DSL nor NDSL.
	: siloxanes & silicones, insolub.
	: Feldspar-group minerals
AICS	: Not in compliance with the inventory
	: hafnium dioxide
	: siloxanes & silicones, insolub.
NZIoC	: Not in compliance with the inventory
	: siloxanes & silicones, insolub.
ENCS	: Not in compliance with the inventory
	: Trade Secret Mica compound
	: Feldspar-group minerals
	: water
	: Bicyclic oxzaolidines
	: siloxanes & silicones, insolub.
	: Sn-Sb cassiterite gray
ISHL	: Not in compliance with the inventory
	: frits, chemicals (group 1)
	: Trade Secret Mica compound
	: Feldspar-group minerals
	: Bicyclic oxzaolidines
	: siloxanes & silicones, insolub.
	: Sn-Sb cassiterite gray
KECI	: Not in compliance with the inventory

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: siloxanes & silicones, insolub.  
 PICCS : Not in compliance with the inventory  
 : hafnium dioxide  
 : siloxanes & silicones, insolub.  
 IECSC : Not in compliance with the inventory  
 : siloxanes & silicones, insolub.

**Inventories**

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA), CH INV (Switzerland), MY INV (Malaysia), TR INV (Turkey), TW INV (Taiwan)

**SECTION 16. OTHER INFORMATION**

Revision Date : 11/03/2015

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.