



MATERIAL SAFETY DATA SHEET

Ferro Corporation
Performance Pigments & Colors
251 West Wylie Ave.
Washington, PA 15301 USA

Emergency telephone number
CHEMTREC: 1-800-424-9300
CHEMTREC (outside U.S.): 1-703-527-3887
Phone Number: 1-724-223-5900

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: GS LA LMM-14 Aerosol **Date of Preparation:** 12/11/2012
CAS-No.: Mixture
Recommended use: Industrial Use Only
Product Code: 1320717

2. HAZARDS IDENTIFICATION

Emergency Overview

Warning

Highly flammable liquid and vapor. Vapors may travel to a source and flash back. May cause respiratory tract, eye and skin irritation. May cause allergic skin or respiratory reaction. May be harmful by inhalation. Contains crystalline silica which causes silicosis and lung cancer. Cancer hazard from inhalation (Nickel compounds).

		HMIS	NFPA 704
Color: Black	Health:	2*	2
Physical state: Liquid	Flammability:	4	4
Odor: Characteristic	Physical Hazard:	1	1
	PPE:	X	

Potential Health Effects

Eye contact: Contact with eyes may cause irritation.

Skin contact: Prolonged skin contact may cause skin irritation and/or dermatitis. May cause allergic skin reaction.

Inhalation: Over-exposure by inhalation may cause respiratory irritation. May be harmful by inhalation. May cause allergic respiratory reaction.

Ingestion: May irritate digestive tract.

Chronic toxicity: Chronic inhalation exposure can cause lung damage. Long term inhalation causes lung damage (silicosis and cancer). Respirable crystalline silica has been classified as a Group I (sufficient evidence in humans for carcinogenicity) carcinogenic by IARC and is listed by NTP as a substance which may reasonably be anticipated to be a carcinogen. Inhalation of nickel and nickel compounds is associated with nasal and lung damage and cancer.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Weight %
Molybdenum compounds		10 - 20%
Quartz silica	14808-60-7	1 - 5%
Nickel iron chromite, black, spinel	71631-15-7	1 - 5%
Mica	12001-26-2	1 - 5%

The specific chemical identities are being withheld as a trade secret (29CFR1910.1200).

4. FIRST AID MEASURES

4. FIRST AID MEASURES

Eye contact:	Rinse immediately with plenty of water, also under the eyelids. Get medical attention if irritation develops.
Skin contact:	Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing before re-use. If symptoms persist, call a physician.
Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If symptoms persist, call a physician.
Ingestion:	Drink plenty of water. Do not induce vomiting. Consult a physician if necessary.
Notes to physician:	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash point (°C): -104(-156°F) Method: Estimated

Suitable extinguishing media: Use dry chemical, CO₂, water spray or "alcohol" foam.

Hazardous decomposition products under fire conditions: Carbon oxides.

Special protective equipment for firefighters: As in any fire, wear self-contained breathing apparatus (pressure-demand, NIOSH approved or equivalent) and full protective gear

Unusual hazards: Flammable. Vapors may form explosive mixture with air. Vapors are heavier than air and may spread along floors. Vapor may travel considerable distance to source of ignition and flash back.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Remove all non-essential people from the affected area. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin, eyes and clothing. Wear personal protective equipment.

Environmental precautions: Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system.

Methods for cleaning up: Wear personal protective equipment. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Clean contaminated surface thoroughly. Dispose of promptly.

7. HANDLING AND STORAGE

Handling:

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Handle in accordance with good industrial hygiene and safety practice. Use only in area provided with appropriate exhaust ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not eat, drink, or smoke in areas of use or storage. Do not take internally. Wash thoroughly after handling.

Storage:

Keep containers tightly closed in a cool, well-ventilated place. Keep product and empty container away from heat and sources of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits

Minimize exposure in accordance with good hygiene practice.

Components	OSHA	ACGIH
Quartz silica	0.1 mg/m ³ TWA (respirable dust)	0.025 mg/m ³ TWA respirable fraction
Mica	20 mppcf TWA	3 mg/m ³ TWA respirable fraction

Engineering measures:	Provide appropriate exhaust ventilation wherever dust, mist, vapors, or fumes can be generated. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Eye protection:	Safety glasses with side-shields.
Skin and body protection:	Lightweight protective clothing. Remove and wash contaminated clothing before re-use. Keep working clothes separately.
Hand protection:	Impervious gloves. Follow the recommendations given by the manufacturer of protective gloves.
Respiratory protection:	In case of insufficient ventilation, wear suitable respiratory equipment. NIOSH-approved respirators should be worn where engineering controls and work practices do not reduce exposure to or below the PEL. Seek professional advice prior to respirator selection and use.
Hygiene measures:	Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Black	Physical state:	Liquid
Odor:	Characteristic	Molecular weight:	No data available
Boiling point/range (°C):	No data available	pH:	No data available
Melting point/range (°C):	No data available	Specific gravity (Water =1):	No data available
Bulk density:	13 lbs/gal.	Vapor pressure :	No data available
Water solubility:	No information available	VOC content (%)	43

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions
Polymerization	None under normal processing
Hazardous decomposition products:	Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides.
Materials to avoid:	None known.
Conditions to avoid	Avoid elevated temperatures. Heat, flames and sparks.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:	Information given is based on data on the components and the toxicology of similar products
Chronic Toxicity:	Contains crystalline silica which causes silicosis and lung cancer.
Carcinogenic Effects:	Respirable crystalline silica has been classified as a Group I (sufficient evidence in humans for carcinogenicity) carcinogenic by IARC and is listed by NTP as a substance which may reasonably be anticipated to be a carcinogen. Crystalline silica is also a known cause of silicosis, a non-cancerous lung disease caused by excessive exposure to crystalline silica. IARC made the overall evaluation that "Nickel compounds are carcinogenic to humans (Group 1)" on the basis of the combined results of epidemiological studies, carcinogenicity studies in experimental animals, and several types of other relevant data.
Target Organ Effects:	Chromium compound (inorganic): Eyes, skin, respiratory system. Silica: Respiratory system. Nickel compounds: Lungs, skin.

Component information, if any, is listed below

Molybdenum compounds

LD50s and LC50s: Oral LD50 (Rat) = 2689 mg/kg
Dermal LD50 (Rat) = 2 g/kg
Inhalation LC50 (Rat) = 5840 mg/m³

Quartz silica

LD50s and LC50s: Oral LD50 (Rat) = 500 mg/kg
OSHA - Select Carcinogens: Present
NTP: Known Human Carcinogen
IARC - Group 1: Listed

Nickel iron chromite, black, spinel

OSHA - Select Carcinogens: Present
NTP: Known Human Carcinogen
IARC - Group 1: Listed

12. ECOLOGICAL INFORMATION

Aquatic toxicity: No data is available on the product itself. Information given is based on data on the components and the ecotoxicology of similar products.

Persistence and degradability: Not determined

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Waste must be disposed of in accordance with federal, state and local environmental control regulations. Where possible recycling is preferred to disposal or incineration.

14. TRANSPORT INFORMATION**DOT (U.S.)**

UN/ID No: UN1950
Proper shipping name: Aerosols
Hazard Class: 2.1
ERG No: 126

TDG (Canada)

UN-No UN1950
Proper Shipping Name Aerosols
Hazard Class 2.1

IMDG

UN-No UN1950
Proper Shipping Name Aerosols
Hazard Class 2
Ems: F-D, S-U

IATA

UN-No UN1950
Proper shipping name Aerosols, flammable
Hazard Class 2.1
ERG Code 10L

15. REGULATORY INFORMATION

U.S. Regulations:

TSCA: Not subject to TSCA 12(b) Export Notification

SARA 313:

Components	U.S. - CERCLA/SARA - Section 313 - Emission Reporting
Molybdenum compounds (10 - 20%)	1.0 % de minimis concentration
Nickel compounds (1 - 5%)	0.1 % de minimis concentration
Chromium (III) compounds (1 - 5%)	1.0 % de minimis concentration

State Regulations

This product or its ingredients have been evaluated for New Jersey, Pennsylvania, and California Prop 65 supplier notification requirements. Substances that are subject to notification requirements, if any, are listed below.

Components	PARTK:
Molybdenum compounds	Listed (PARTK)
Nickel compounds	Listed (PARTK)
Chromium (III) compounds	Listed (PARTK)

Components	NJRTK:
Silica, amorphous, fumed, cryst.-free	Listed (NJRTK)
Mica	Listed (NJRTK)
Molybdenum compounds	Listed (NJRTK)
Kaolin	Listed (NJRTK)
Quartz silica	Listed (NJRTK)
Nickel compounds	Listed (NJRTK)
Chromium (III) compounds	Listed (NJRTK)

Canadian WHMIS

WHMIS hazard class: D2A Very toxic materials

Canadian Ingredient Disclosure List (IDL):

International Inventories

TSCA 8(b):	Listed or exempt.
Canadian DSL/NDSL list	All ingredient(s) are listed on the DSL or NDSL
EC-No.	Listed or exempt.
Philippines (PICCS):	One or more ingredient(s) are not on the PICCS list.
Japan (ENCS):	Listed or exempt.
Korea (KECL):	Listed.
China (IECS):	Listed.
Australia (AICS):	Listed.
New Zealand (NZIoC):	Listed.

16. OTHER INFORMATION

For Industrial Use Only

Prepared by: Ferro Technical Center

The information and recommendations contained in this Material Safety Data Sheet have been compiled from sources believed to be reliable and to represent the most reasonable current opinion on the subject when the MSDS was prepared. No warranty, guaranty or representation is made as to the correctness or sufficiency of the information. The user of this product must decide what safety measures are necessary to safely use this product, either alone or in combination with other products, and determine its environmental regulatory compliance obligations under any applicable federal or state laws.

End of Safety Data Sheet