Thermark Spray

MATERIAL SAFETY DATA SHEET

PRODUCT: Spray
REVISION NUMBER: 1

REVISION DATE: 04/15/2006
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1. PRODUCT AND COMPANY IDENTIFICATION

MANUFACTURED BY:

Ferro Corporation
251 West Wylie Avenue
P.O. Box 519
Washington, PA 15301
Prod Info 724-223-5900
CHEMTREC 800-424-9300

Use the CHEMTREC telephone number only in the event of chemical emergencies.

PREPARED BY: Mike Pellegrini
Environmental Engineer

PRODUCT CODE: **LMM-14AER**

PRODUCT TRADE NAME: **LMM-14 BLACK AEROSOL LASER MARKING MATL.**

CAS NO: Mixture
CHEMICAL FAMILY: Decorative Coating
PRODUCT TYPE: Laser Marking Coating

2. COMPOSITION/INFORMATION ON INGREDIENTS

This product does not have exposure limit values. Exposure limit values for some of the components are listed below as a guideline for safe use of this product.

HAZARDOUS COMPONENTS

INGREDIENTS/CAS #	OSHA PEL:	ACGIH TLV:
Mica Group Minerals 12001-26-2	TWA: 20 mppcf	TWA: (respirable fraction): 3 mg/m^3
Crystalline Silica 14808-60-7	TWA respirable dust: 0.05 mg/m^3	TWA respirable fraction: 0.05 mg/m^3
Molybdenum Trioxide 1313-27-5	TWA Insoluble Mo compounds: 10.0 mg/m^3 Soluble Mo compounds: 3.0 mg/m^3	TWA 5.0 mg/m^3
Nickel Compound NONE	TWA as Ni: 1.0 mg/m^3	TWA as Ni: 0.2 mg/m^3

3. HAZARDS IDENTIFICATION

PRINCIPLE ROUTES OF EXPOSURE: Inhalation, ingestion and dermal.

The key immediate hazards are:
Skin, eye, and respiratory irritant
Extremely Flammable Aerosol.
Harmful if swallowed or inhaled.
May cause allergic skin and respiratory reactions.

Effects from Acute Exposure:

EYE CONTACT : Causes eye irritation.

SKIN CONTACT: May cause an allergic skin reaction.

INHALATION: May cause an allergic respiratory reaction.

INGESTION: May be harmful if swallowed.

AGGRAVATED MEDICAL CONDITIONS:
Allergic skin and respiratory reactions.

Effects from Chronic Exposure:

CARCINOGENIC INGREDIENTS:
This product contains greater than 0.1% crystalline silica. The International Agency for Research on Cancer (IARC) has determined that "there is sufficient evidence for the carcinogenicity of crystalline silica to experimental animals and limited evidence of carcinogenicity in humans. "The National Toxiocology Program (NTP) Sixth Annual Report confirms this determination. It has listed crystalline silica as a substance reasonably anticipated to be a carcinogen.

Nickel and certain nickel compounds: There is sufficient evidence of the carcinogenicity of nickel and nickel compounds (NTP-1985) also, (IARC 1976, vol. 11) states there is sufficient evidence for the carcinogenicity of certain nickel compounds. Nickel subsulfide is carcinogenic in rats by inhalation, producing lung cancer. Nickel compounds (nickel powder, subsulfide, oxide, carbonate, and nickelocene) produced local sarcomas in mice, rats and hamsters when given intramuscularly. Inhalation of nickel carbonyl produced a low incidence of of lung tumors in rats.

OVEREXPOSURE EFFECTS:

CONTAINS MOLYBDENUM COMPOUND(S) :

Molybdenum compounds can cause eye and respiratory irritation. They can be toxic if swallowed or inhaled based on animal studies where symptoms included anemia, loss of appetite, diarrhea, tiredness, joint pain and changes, liver and kidney damage, and lung effects.

CONTAINS CRYSTALLINE SILICA:

Crystalline silica can cause silicosis, a lung disease characterized by coughing, wheezing, impaired lung function and increased sputum production. This damage can be progressive and may cause death. May cause cancer following repeated and prolonged inhalation of the fine dust. Smoking aggravates these effects. Skin and eye contact may cause irritation due to mechanical abrasion.

CONTAINS PROPANE AND ISOBUTANE:

When inhaled, this product is an asphyxiant and may exhibit anesthetic properties at very high concentrations. Initial symptoms of exposure at these concentrations are disorientation, lack of coordination, rapid respiration, headache, and nausea. Continued exposure may result in unconsciousness, coma, and possible death.

CONTAINS NICKEL COMPOUNDS:

Nickel overexposure can cause allergic skin reactions and asthma. Inhalation can cause effects on the lungs such as bronchitis, emphysema, and impaired function , as well as kidney damage. Swallowing can result in nausea, vomiting, diarrhea and abdominal cramps. Chronic overexposure during nickel production has been shown to cause lung and nasal cavity cancers in workers; these effects are directly related to the degree of exposure. The compounds associated with the production environment included metallic nickel, nickel oxides and nickel sulfides. Workplaces other than those involved with mining, refining, and alloy manufacture have not been studied.

4. FIRST AID MEASURES

INGESTION: If swallowed, give at least 3-4 glasses of water, but do not induce vomiting. Do not give anything by mouth to an unconscious or convulsing person. Get immediate medical attention.

SKIN: For skin contact, wash affected areas with plenty of water, and soap if available, for several minutes. Get medical attention if irritation occurs.

INHALATION: If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

EYES: For eye contact, immediately flush eyes for at least 15 minutes with running water. Hold eyelids apart to ensure rinsing of the entire eye surface and lids with water. Get immediate medical attention if irritation develops.

NOTES TO PHYSICIAN: None specified.

5. FIRE FIGHTING MEASURES

OSHA FLAMMABILITY CLASS: FLAMMABLE

FLASH POINT (°F): -156

Lower Explosive Limit: Not Available

Upper Explosive Limit: Not Available

EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam or Water Mist

FIRE FIGHTING PROCEDURES: Fire-Fighters should wear self-contained breathing apparatus and full protective clothing when fighting chemical fires.

Use water spray to cool nearby containers and structures exposed to fire.

UNUSUAL HAZARDS: Keep away from heat, sparks and flame.

Decomposition and combustion products may be toxic.

This product presents an extreme fire hazard. Liquid very quickly evaporates, even at low temperatures, and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment. This may include self-contained breathing apparatus against the hazardous effects of normal products of combustion or oxygen deficiency. Petroleum gases are heavier than air and travel along the ground or into drains to possible distant ignition sources, causing an explosive flashback.

6. ACCIDENTAL RELEASE MEASURES

SPILL PROCEDURES: Wear appropriate protective equipment. Avoid the generation of dust. Collect material and place in closable container(s) for disposal.

7. HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Caution, contents under pressure. Do not puncture, incinerate, crush, or store above 120 degrees fahrenheit. Heat from sunlight, radiators, stoves, or other sources may cause container to burst.

Store in a cool, dry location away from incompatible materials.

NOTES ON HANDLING INFORMATION: Minimize dust generation during handling. Use adequate ventilation.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

VENTILATION: Adequate ventilation should be provided to keep concentrations below acceptable Exposure Limits. Discharge from the ventilation system should comply with the applicable air pollution control regulations.

EYE PROTECTION: Wear safety glasses or goggles to protect against exposure.

PROTECTIVE GLOVES: Use gloves as a standard industrial handling procedure.

RESPIRATORY PROTECTION: Appropriate respiratory protection is required when exposure to airborne contaminant is likely to exceed acceptable limits. Respirators should be selected and used in accordance with OSHA Subpart I (29 CFR 1910.134) and manufacturer's recommendations.

OTHER PERSONAL PROTECTIVE EQUIPMENT: None specified.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Black Liquid

BOILING POINT: Not Available

VAPOR DENSITY (AIR=1): Heavier than air

EVAP. RATE(BUTYL ACETATE=1): Slower than n-Butyl Acetate

VOC, Wt.% (EPA METH.24): 43

BULK DENSITY: 13 lbs/gal.

SOLUBILITY (in water): Insoluble

10. STABILITY AND REACTIVITY

STABILITY DATA: STABLE

POLYMERIZATION: WILL NOT OCCUR

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide and depending on conditions, some hydrocarbon fragments may also be formed.

INCOMPATIBILITY
(MATERIALS TO AVOID): None known.

CONDITIONS/HAZARDS TO AVOID: Keep away from heat,sparks and flame. Avoid any source of ignition.

11. TOXICOLOGICAL INFORMATION

No Toxicological data known.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: No data at this time
CHEMICAL FATE INFORMATION: No data at this time.
PERSISTENCE/DEGRADABILITY: No data at this time.
APPRAISAL: No data at this time.
MOBILITY: No data at this time.

13. DISPOSAL CONSIDERATIONS

DISPOSAL OF WASTE METHOD: Dispose in accordance with Federal, State and Local regulations.

14. TRANSPORT INFORMATION

DOT Shipping Name: CONSUMER COMMODITY
DOT HAZARD CLASS: ORM-D
DOT LABEL(S): NONE
UN/NA NUMBER: UN8000
PACKING GROUP: NONE

15. REGULATORY INFORMATION

SARA SECTION 302: None Found

SARA (311, 312) HAZARD CLASS:ACUTE HEALTH HAZARD

CHRONIC HEALTH HAZARD

SARA 313 Title III Toxic Chemical List:

The following chemicals are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

4	%	Manganese compounds	< 1	%	Metal as Mn
4	%	Nickel compounds	< 1	%	Metal as Ni
4	%	Chromium (III) compounds	< 1	%	Metal as Cr
28	%	Molybdenum Trioxide	28	%	

TSCA Inventory Status: This product (and/or all of its components) is in compliance with the U.S. EPA Toxic Substance Control Act, TSCA, (15 U.S.C. 2604).
This product and all of its components is listed on the DSL inventory.

16. OTHER INFORMATION

Revisions: The Format has been changed to meet the requirements of the new ANSI Standard Z400.1.

LABEL INFORMATION:
DANGER!
Extremely flammable.
Keep away from heat, sparks and flame.
Vapors will accumulate and may ignite explosively. Turn off all sources of flame and sparks before use. Do not smoke. Keep area well ventilated until all vapors (odors) are gone.
Contains crystalline silica which can cause lung damage, including cancer.
Skin, eye, and respiratory irritant.
Avoid contact with eyes, skin and clothing.
Harmful if swallowed or inhaled.
Keep away from food products.
Avoid breathing dust, mist or vapor.
Wash thoroughly after handling and before eating, drinking or using cosmetic or tobacco products or toilet facilities.
Use with adequate ventilation.
Keep container closed when not in use.
May cause allergic skin and respiratory reactions.
Contains nickel which may cause respiratory effects, including cancer.
FIRST AID: If inhaled, remove to fresh air. If breathing is difficult, give oxygen. In case of contact, immediately flush eyes or skin with plenty of water. Remove contaminated clothing. Get medical attention.
IN CASE OF FIRE: Use water, dry chemical or carbon dioxide.
IN CASE OF SPILL: Soak up with inert absorbent and dispose in accordance with federal, state and local regulations.
FOR INDUSTRIAL USE ONLY.

DEFINITIONS AND ABBREVIATIONS :
ACGIH = American Conference of Governmental Industrial Hygienists
C (CEIL) = The concentration that shall not be exceeded during any part of the working exposure.
CAS # = Chemical Abstracts Service Registry Number
EPA = Environmental Protection Agency
IARC = International Agency for Research on Cancer
NIOSH = National Institute for Occupational Safety and Health
NTP = National Toxicology Program
OSHA = Occupational Safety and Health Administration
PEL = Permissible Exposure Limit
SARA = Superfund Amendments and Reauthorization Act
STEL = Short Term Exposure Limit. Usually a 15 minute time weighted average exposure.
TLV = Threshold Limit Values
TSCA = Toxic Substance Control Act
TWA = Time Weighted Average. Exposure concentration for a normal 8 hour day or 40 hour week.
VOC = Volatile Organic Content

DISCLAIMER: The information contained in this Material Safety Data Sheet (MSDS) has 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 guarantee 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 the regulatory compliance obligations under any applicable federal or state laws.

***** END OF MSDS *****