

# MLP Steel, LLC

Fayette Steel Division • Laurel Steel Division

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Dear Customer:

Enclosed are Material Safety Data Sheets (MSDS) for the steel products you have purchased, or may purchase, in the near future from MLP Steel, LLC. The Material Safety Data Sheets are provided as part of our continuing efforts to comply with the Occupational Safety and Health Administration Hazard Communication Standard, 29 CFR 1910.1200. These MSDSs are complete and accurate to the best of our knowledge.

While steel products in their usual physical state are not considered hazardous, when subjected to welding, burning, grinding, cutting, abrasive blasting, heat treating, pickling, or similar operations, they may emit potentially hazardous fumes or dusts.

Non-metallic coatings, such as drawing compounds and water soluble oils may be applied in small quantities to the surface of steel products during the manufacturing process. The possible presence of these coatings should be recognized and considered when evaluating potential employee health hazards and exposures.

If you have any questions concerning the Material Safety Data Sheet program, please contact the Safety Department at the phone number listed on the MSDS.

Respectfully submitted,

*Judy DeWitt*

Human Resources & Safety Mgr.  
MLP Steel, LLC



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**MLP STEEL, LLC  
FAYETTE STEEL DIVISION**

**MATERIAL SAFETY DATA SHEET**

-----**GENERAL INFORMATION**-----

**MANUFACTURER:** MLP STEEL, LLC Date: January 2008  
 FAYETTE STEEL DIVISION  
 18 Mount Pleasant Road  
 Scottdale, PA 15683

For Additional Information, contact:  
 Safety Department  
 (724) 887-8100

-----**PRODUCT IDENTIFICATION**-----

**PRODUCT NAME:** Leaded Steel Wire **Formula**  
 NA

**Synonym(s):** NA **Chemical Family**  
 NA

-----**TYPICAL CHEMICAL COMPOSITION (1)**-----

<u>Ingredient (2)</u>	<u>CAS No.</u>	<u>Wt. %</u>	<u>Permissible Air Level (3)</u>	
			<u>OSHA PEL</u>	<u>ACGIH TLV</u>
<b>Iron</b>	7439-89-6	Balance	10 (4)	5 (4)
<b>Nickel</b>	7440-02-0	.01-4.0	1.0 (5)	1.0 (5)
<b>Chromium</b>	7740-47-3	.01-2.5	0.1 (6)	.05 (6)
<b>Silicon</b>	7740-21-3	.15-2.2	15	10
			(Total Dust)	
			5	5
			(Respirable Dust)	
<b>Manganese</b>	7439-96-5	.25-2.0	5.0 (7)	1.0 (8)
<b>Carbon</b>	7440-44-0	.01-1.2	NA	NA
<b>Molybdenum</b>	7439-98-7	.01-1.1	5	5
			(Soluble Compounds)	
			15	10
			(Insoluble Compounds)	
<b>Copper</b>	7740-50-8	.01-1.0	0.1 (9)	0.2 (9)
<b>Lead</b>	7439-92-1	.01-1.0	0.05 (10)	0.15 (10)
<b>Trace Elements</b>	NA	LT 1.0	NA	NA

-----**PHYSICAL DATA**-----

<b>Physical State:</b> Solid	<b>Specific Gravity:</b> 7.6-7.8
<b>Appearance and Odor:</b> Gray metal; odorless	<b>Vapor Pressure:</b> NA
<b>Boiling Point:</b> NA	<b>Vapor Density:</b> NA
<b>Melting Point:</b> 2800°F	<b>Evaporation Rate:</b> NA
<b>Solubility in Water:</b> NA	<b>% Volatile by Volume:</b> NA
<b>pH:</b> NA	

-----**FIRE AND EXPLOSION HAZARD DATA**-----

Not Applicable

-----**REACTIVITY DATA**-----

<b>Stability:</b> Stable
<b>Incompatibilities (Materials to avoid):</b> Acids
<b>Hazardous Decomposition Products:</b> Welding and burning on this product may cause the generation of a variety of noxious fumes and gases (e.g., carbon monoxide, lead fume, etc.)
<b>Polymerization:</b> Will not occur

-----**HEALTH HAZARD DATA**-----

**Health Effects/Signs and Symptoms:**

*Note:* Steel products in their usual physical form do not pose any health hazards. However, when subjected to welding, burning, grinding, cutting, abrasive blasting, heat treatment, pickling, or similar operations, potentially hazardous fumes or dusts may be emitted. Despite the fact that the welding, burning, etc. of steel in this category may produce fumes containing copper, silicon, molybdenum, and manganese, the air concentrations generated of these compounds are expected to be extremely low. Particular attention should be directed to the other constituents (especially lead) which may be present at substantial levels. The following is a list of fumes or dusts that may be generated from this steel product category and the health effects associated with overexposure to them:

**Iron (Fe):**

Subjecting iron and alloys containing iron to high temperatures (such as occurs during welding) will cause the formation of iron oxide. Long-term exposure to iron oxide fumes or dusts has been associated with a benign lung condition known as siderosis which is observable as an X-ray change. No physical impairment of lung function has been linked to siderosis.

**Manganese (Mn):**

Mn intoxication is usually due to the oxide or salts of Mn, elemental Mn exhibits very low toxicity. The dusts and fumes can act as minor irritants to the eyes and respiratory tract. Both acute and chronic exposures may adversely affect the central nervous system (CNS), but symptoms are more likely to occur after at least 1 or 2 years of prolonged or repeated exposures. Early symptoms may include weakness in lower extremities, sleepiness, salivation, nervousness, and apathy. In more advanced stages, severe muscular incoordination, impaired speech, spastic walking, mask-like facial expression and uncontrollable laughter may occur. Manganese fumes have also been reported to result in metal fume fever, a flu-like syndrome with symptoms such as dizziness, chills, fever, headache, and nausea. An increased incidence of pneumonia, bronchitis, and pneumonitis has been reported in some worker populations exposed to manganese. Animal studies indicate that manganese exposure may increase susceptibility to bacterial and viral infections.

**Chromium (Cr):**

The toxicity and health hazards of chromium are heavily dependent upon its oxidation state. The elemental (as in the metal), divalent, and trivalent forms are of very low toxicity. The hexavalent form (such as occurs in chromates and chromic acid) is very toxic and can produce both acute and chronic effects. Adverse effects on the skin may include ulcerations, irritative dermatitis, and allergic skin reactions. Adverse effects on the respiratory system may include bronchospasms, edema, hypersecretion, bronchitis, irritation, allergic asthmatic reactions, and ulceration and perforation of the nasal septum. Respiratory symptoms may include coughing and wheezing, shortness of breath, and nasal itch. Eye irritation or inflammation can also be produced. Exposure to some hexavalent chromium compounds have also been shown to be associated with an increased risk of lung cancer.

**Nickel (Ni):**

Ni fumes and dusts are respiratory irritants and may cause a severe pneumonitis. Skin contact with nickel and its compounds may cause an allergic dermatitis. The resulting skin rash is often referred to as "nickel itch." Ni and its compounds may also produce eye irritation, particularly on the inner surfaces of the eyelids (i.e., the conjunctiva). Animal and/or epidemiology studies have linked nickel and certain nickel compounds to an increased incidence of cancer of the lungs and nasal passages.

**Copper (Cu):**

Inhalation of Cu fume may cause irritation of the eyes, nose, and throat and a flu-like illness called metal fume fever. Signs and symptoms of metal fume fever include fever, muscle aches, nausea, chills, dry throat, cough and weakness. Cu fumes may also produce a metallic or sweet taste. Repeated or prolonged exposure to Cu fumes may cause discoloration of the skin and hair.

**Molybdenum (Mo):**

Mo and its compounds generally exhibit a low order of toxicity; however, soluble compounds (such as Mo trioxide) are considerably more toxic. Molybdenum trioxide may produce irritation of the eyes, nose, and throat. In animals, soluble Mo compounds have also caused weight loss, diarrhea, loss of coordination, pneumoconiosis (accumulation of particles in the lungs), breathing difficulties, anemia, and colic. Animal data also suggest that repeated exposures might be associated with gout. Pneumoconiosis with X-ray findings and subjective symptoms has been observed in a small number of workers exposed to metallic molybdenum and Mo trioxide; however, no physical impairment of lung function has been linked to this condition.

**Lead (Pb):**

Chronic or acute inhalation exposures to the fumes or dusts of inorganic lead compounds (such as lead oxide) can adversely affect several organ systems including the nervous system, the gastrointestinal system, the hematological system, and the renal system. The early effects are characterized by fatigue, constipation, muscle aches, abdominal pains, and decreased appetite. Later signs and symptoms can include anemia, pallor, a “lead line” on the gums, and reduced hand-grip strength. Lead colic produces intense abdominal cramping which can be accompanied by constipation, nausea, and vomiting. A condition called “wrist drop” can develop if the peripheral nervous system is affected. Severe central nervous system effects (referred to as lead encephalopathy) usually only occur after heavy and rapid lead exposures. Signs and symptoms may include headache, dizziness, convulsions, delirium, coma, and possibly death. Long-term lead exposures can also produce kidney damage with possible decreased renal function leading to such conditions as uremia.

**Silicon (Si):**

This is considered to be a nuisance particulate by ACGIH.

**Usual Route(s) of Entry:**

Inhalation

**Medical Conditions Possibly Aggravated:**

Chronic diseases or disorders of the respiratory system

**Carcinogen Information:**

NTP and IARC consider: (1) chromium and certain chromium compounds to be known human carcinogens, and (2) nickel and certain nickel compounds to be probable human carcinogens.

-----**FIRST AID AND MEDICAL EMERGENCY PROCEDURES**-----

**Eye Contact:**

Not anticipated to pose a significant eye hazard

**Skin Contact:**

Not anticipated to pose a significant skin hazard

**Inhalation:**

Remove from excessive exposure levels unless proper respiratory protection is worn

**Ingestion:**

Not considered an ingestion hazard

-----**OCCUPATIONAL EXPOSURE CONTROL MEASURES**-----

**Engineering Controls (Ventilation, etc.):**

Ventilation should be sufficient to maintain exposure levels below the applicable exposure limit

**Work Practices (Handling and Storage, etc.):**

Arc and spark generated when welding or burning on these products could be a source of ignition for combustible or flammable materials

**Eye protection:**

Not anticipated to pose a significant eye hazard

**Skin Protection:**

Not anticipated to pose a significant skin hazard

**Respiratory Protection:**

When engineering controls are not sufficient to lower exposure levels below the applicable exposure limit, use a NIOSH-approved respirator for dusts and metal fumes within the use limits of the respirator

-----**SPILL, LEAK, AND DISPOSAL INFORMATION**-----

**Procedures to Follow if Material is Released or Spilled:**

NA

**Waste Disposal Method(s):**

Any excess product can be recycled for further use, disposed of in a permitted hazardous waste landfill, or disposed by other methods which are in accordance with local, state, and federal regulations

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**Footnotes:**

- (1) Concentrations may vary somewhat between batches or lots.  
Where possible, a concentration range is indicated.  
Occasionally, however, levels may even fall outside of the usual concentration ranges.
- (2) Common names, if applicable, appear in parentheses following the chemical names.

- (3) All values, unless otherwise specified, refer to 8-hour time-weighted average concentrations and units are in mg/M<sup>3</sup>.
- (4) As iron oxide fume.
- (5) As nickel metal and insoluble compounds.
- (6) As hexavalent chromium compounds.
- (7) Ceiling value for manganese.
- (8) As manganese fume.
- (9) As copper fume.
- (10) As inorganic lead compounds, dusts, and fumes.

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**Abbreviations:**

NA = Not Applicable  
NE = Not Established  
UK = Unknown (No applicable information was found)  
GT = Greater Than  
LT = Less Than

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**Revision Information**

Revision Date: January 23, 2008  
Supersedes: July 8, 2002

Revision Number: 2

**Revision Summary**

Company name change.

**DISCLAIMER**

This Material Safety Data Sheet has been prepared solely for the intent of compliance with the provisions of Title 29 CFR 1910.1200 of the Code of Federal Regulations. MLP Steel, LLC (Fayette Steel Division) makes no warranties, expressed or implied, including the implied warranty of merchantability, any implied warranty of fitness for a particular purpose and any implied warranties otherwise arising from course of dealing or trade.

Also, this MSDS is intended for use solely in safety education and environmental health training and not for specification purposes. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. MLP Steel, LLC (Fayette Steel Division) assumes no responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.