

763-536-8530

**LTV Steel**

0505Y

**Material Safety/Health Data Sheet**

W-424 9-84

DATE  
November 14, 1984

**1. MANUFACTURER NAME & ADDRESS**

LTV Steel Company P.O. Box 8778 Cleveland, Ohio 44101  
T.M. Civic Manager Environmental Health

AJMA CODE & PHONE NO  
(216) 622-5242

AJMA CODE LITV EMERGENCY PHONE NO  
(216) 622-5000

**2. PRODUCT NAME/TRADE NAME**

Cold Rolled Stainless Steel - Sheet and Plates

**CHEMICAL NAME & SYNONYMS**

Example: AISI 301, 347, PH 17-4

**3. RECOMMENDED USE**

NOTE: Ingredients and % wt. vary according to order specification

**CAS#**

% wt.

Permissible Exposure Limits

Units

Base Metal: Iron

1309-37-1

50 - 80

PEL as Iron Oxide Fume

10 mg/M<sup>3</sup>

Alloys:

- Carbon
- Manganese
- Phosphorous
- Sulfur
- Silicon
- Chromium

- 7440-44-0
- 7439-96-5
- 7723-14-0
- 7704-34-9
- 7740-21-3
- 7740-47-3

- 0.5 max.
- 10.0 max.
- 0.05 max.
- 0.04 max.
- 2.0 max.
- 10 - 30

- None Listed
- PEL(c) as Manganese
- PEL as Phosphorous (Yellow)
- PEL as Sulfur Dioxide
- None Listed
- PEL - Soluble Chromic/Chromous Salts
- Chrome & Insoluble Salts
- PEL as Nickel
- PEL as Tantalum

- 5 mg/M<sup>3</sup>
- 1 mg/M<sup>3</sup>
- 13 mg/M<sup>3</sup>
- 
- 
- .5 mg/M<sup>3</sup>
- 1 mg/M<sup>3</sup>
- 1 mg/M<sup>3</sup>
- 5.0 mg/M<sup>3</sup>
- 
- 
- 
- 

- Nickel
- Columbium/Tantalum
- Copper
- Aluminum
- Titanium

- 7740-02-0
- 7440-25-7
- 7440-03-1
- 7440-50-8
- 7429-90-5
- 7439-98-7

- 25.0 max.
- 1.25 max.
- 5.0 max.
- 1.5 max.
- 1.0 max.

- PEL as Nickel
- PEL as Tantalum
- PEL as Copper
- None Listed
- None Listed

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Coatings:

Optional: Petroleum oil.

Note: Use gloves when handling to prevent skin irritation.

**IV. EMERGENCY MEDICAL PROCEDURES**

- FIRST AID:** In case of excessive exposure, remove to fresh air, administer oxygen, and seek physician's assistance.

**2. NOTES TO PHYSICIAN:**

**V. PERSON PROTECTION INFO.**

**BREATHING DEVICES & MASKS**

**1. RESPIRATORY PROTECTION**

**2. PROTECTIVE CLOTHING**

**3. GLOVES**

**4. EYE PROTECTION**

**5. VENTILATION REQUIREMENTS**

**6. OTHER—AS PER WELDING REQUIREMENTS**

**HIDDEN HAZARD (Additional information regarding the hazard)**

Consult the MSDS, Material Safety Data Sheet, and labels for the appropriate instructions.

<b>1. BOILING POINT—NA</b>
<b>2. VAPOR PRESSURE—NA</b>
<b>3. VAPOR DENSITY—NA</b>
<b>4. SOLUBILITY IN WATER—NA</b>
<b>5. SPECIFIC GRAVITY—?</b>
<b>6. % VOLATILE BY VOLUME—NA</b>
<b>7. EVAPORATION RATE—NA</b>
<b>8. AUTO IGNITION TEMP.—NA</b>
<b>9. APPEARANCE &amp; ODOR</b> gray-black & odorless
<b>10. PHYSICAL STATE—SOLID</b>
<b>pH—NA</b>

**NOTE**  
 Steel products in the natural state do not present an inhalation, ingestion or contact hazard. However, operations such as burning, welding, sawing, brazing, and grinding may result in the following effects if exposures exceed permissible limits as listed in Section II.

(1) MAJOR EXPOSURE HAZARD

INHALATION     SKIN CONTACT     SKIN ABSORPTION     EYE CONTACT     INGESTION

**VI. HEALTH HAZARD DATA**

**Effects of Overexposure —**

**ACUTE:**  
 Iron (iron-oxide) - Irritation of eyes, nose, throat, metallic taste in mouth, or metal fume fever.  
 Manganese - Irritation of eyes, nose, throat, metallic taste in mouth, or metal fume fever.  
 Chromium - Irritation of eyes, nose and lungs; dermatitis.  
 Nickel - Irritation of eyes, nose and lungs; dermatitis.  
 Copper - Irritation of eyes, nose, throat, metallic taste in mouth, or metal fume fever.

**CHRONIC:**  
 Iron (iron-oxide) - Pulmonary effects, siderosis  
 Manganese - Bronchitis, pneumonitis, lack of coordination.  
 Chromium - Various forms of dermatitis, inflammation and/or ulceration of upper respiratory tract, and possibly cancer of nasal passages and lungs. Based on available information, there does not appear to be any evidence that exposure to welding fume induces human cancer.  
 Nickel - SAME AS CHROMIUM.  
 Copper - Pulmonary effects.

<p><b>VI. FIRE &amp; EXPLOS. HZRD. DATA</b></p> <ol style="list-style-type: none"> <li>Flash Point—NA</li> <li>Lower Explosive Limit—NA</li> <li>Upper Explosive Limit—NA</li> <li>Extinguishing Media—NA</li> <li>Special Fire Fighting Precautions—NA</li> </ol>	
<p><b>VI. REACTIVITY DATA</b></p> <p>Stable — Yes                  Incompatibility — None                  Products of Decomposition:                  1. Metal Fume: Iron-oxide,                  2. Manganese, Nickel, Copper,                  3. Chromium, Molybdenum                  4.</p>	
<p><b>HAZARD</b></p> <p>1. Clean up—NA                  2. Waste Disposal—NA</p>	<p><b>CONTROL</b></p> <ol style="list-style-type: none"> <li>Handling Storage—NA</li> <li>Welding &amp; Cutting—Adequate ventilation and/or approved respiratory protection should be provided if permissible exposure limits are exceeded.</li> <li>Other Precautions—NA</li> </ol>