



LTS Research Laboratories, Inc.
Safety Data Sheet
Stainless Steel 410

1. Product and Company Identification

Trade Name: Stainless Steel 410
Chemical Formula: FeCrCMnSiNi
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.
Street: 37 Ramland Road
City: Orangeburg
State: New York
Zip Code: 10962
Country: USA
Tel #: 855-587-2436 / 855-lts-chem

24-Hour Emergency Contact: 800-424-9300 (US & Canada)
+1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H317: May cause an allergic skin reaction
H319 Causes serious eye irritation
H335: May cause respiratory irritation
H351: Suspected of causing cancer
H372: Causes damage to the lung, the kidneys, and the liver through prolonged or repeated exposure. Route of exposure: Inhalation.

Precautionary Statements: P260: Do not breathe dust/fume/gas/mist/vapours/spray
P280: Wear protective gloves/protective clothing/eye protection/face protection
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P405: Store locked up
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):
Health: Powder 2 Bulk 0
Flammability: 1 0
Physical: 1 0

3. Composition

Chemical Family: Alloy
Additional Names: SS410, AISI410, UNS S41000, Alloy 410

Iron (Fe):
Percentage: 81.3-88.4 wt%
CAS #: 7439-89-6
EC #: 231-096-4

Chromium (Cr):
Percentage: 11.50-13.50 wt%
CAS #: 7440-47-3
EC #: 231-157-5

Carbon (C):
Percentage: 0.10-0.20 wt%
CAS #: 7440-44-0
EC #: 231-153-3

Manganese (Mn):
Percentage: 0-2 wt%
CAS #: 7439-96-5
EC #: 231-105-1

Silicon (Si):
Percentage: 0-2 wt%
CAS #: 7440-21-3
EC #: 231-130-8

Nickel (Ni):
Percentage: 0-1 wt%
CAS #: 7440-02-0
EC #: 231-111-4



4. First Aid Procedures

General Treatment: Seek medical attention if symptoms persist.
Special Treatment: None
Important Symptoms: None

Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion: Never induce vomiting or give anything by mouth to an unconscious person. Seek medical treatment.
Skin: Wash affected area with mild soap and water. Remove any contaminated clothing. Seek immediate medical advice
Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

5. Firefighting Measures

Flammability: Non-flammable, except as powder

Extinguishing Media: Do not use water for metal fires – use CO₂, sand, extinguishing powder.
Spec. Fire Fighting Procedure: Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

6. Accidental Release Measures

If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions:	Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store away from oxidizing agents. Store away from acids. Store away from strong bases. Store away in dry conditions, may form light rust with moisture exposure. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	1 mg/m ³ as Cr, long-term value 1 mg/m ³ as Ni, long-term value
Threshold Limit Value:	5 mg/m ³ as Fe, long-term value 0.5 mg/m ³ as Cr, long-term value 1.5 mg/m ³ as Ni, long-term value
Special Equipment:	None
Respiratory Protection:	Dust Respirator
Protective Gloves:	Rubber gloves (0.11 mm minimum thickness)
Eye Protection:	Safety glasses or goggles with side shields
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Gray
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	N/A
Melting Point:	1460-1532 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	7.75 g/cc
Molecular weight:	N/A

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts With:	Oxidizing agents, Strong Bases, Strong acids
Incompatible Conditions:	Moisture (may form light rust if exposed to moisture)
Hazardous Decomposition Products:	Chromium Oxides, Niobium Oxides, Iron oxides, Nickel Oxides, Metal oxide fume

11. Toxicological Information

Potential Health Effects:

Eyes:	Causes serious eye irritation
Skin:	May cause an allergic skin reaction.
Ingestion:	May cause irritation
Inhalation:	May cause irritation
Chronic:	Causes damage to the lung, the kidneys, and the liver through prolonged or repeated exposure. Route of exposure: Inhalation.

Signs & Symptoms: N/A

Aggravated Medical Conditions: N/A

Median Lethal Dose: 3000 mg/kg for rat by mouth

Carcinogen: EPA-A: human carcinogen: sufficient evidence from epidemiologic studies to support a causal association between exposure and cancer
IARC-2B: Possibly carcinogenic to humans: limited evidence in human in the absence of sufficient evidence in experimental animals.

12. Ecological Information

Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	N/A

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous: Not hazardous for transportation.

Hazard Class: N/A

Packing Group: N/A

UN Number: N/A

Proper Shipping Name: N/A

15. Regulatory Information

Sec 302 Extremely Hazardous: N/A

Sec 304 Reportable Quantities: N/A

Sec 313 Toxic Chemicals: N/A

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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