

1. IDENTIFICATION

Name: Steel Coils

CAS Number: N/A

Other Names: Hot Rolled (HR), Hot Roll Pickle (HRPO), Cold Roll Full Hard (CRFH), Cold Roll Fully Processed (CRFP), Galvanized (GI)

Usage: Steel Fabricated Parts

Contact Info:

24 Hour Contact – CHEMTREC @ 1-800-424-9300

08:00am – 05:00pm Contact – Safety Officer – Robert Carter @ 1-870- 819-3031

2. HAZARDS IDENTIFICATION

Emergency Overview

As originally manufactured, this solid metal product poses little or no immediate health or fire hazard. When this product goes through further processing such as welding, burning, melting, sawing, brazing, grinding, or other similar processes, potentially hazardous airborne particulate and fumes may be generated.

OSHA Hazards

Carcinogen

Skin Sensitizer

Target Organ Effect – Lungs

GHS Classification

Carcinogenicity (Category 2)

Skin Sensitization (Category 1)

Specific Target Organ Toxicity – Repeated Exposure (Category 1)

Signal Word

Danger

Hazard Statements

H317: Dust and fumes may cause an allergic skin reaction

H351: Dust and fumes suspected of causing cancer via inhalation

H372: Inhalation of dust and fumes causes damage to respiratory tract through prolonged or repeated exposure

Pictograms(s)



Precautionary Statements

P202: Read all safety precautions before handling.

P261: Avoid breathing dust and fumes.

P281: Always use personal protective equipment as required.

P308+P313: If exposed or concerned, seek medical advice/attention.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Components	CAS No.	% Wt	Exposure Limits			
			ACGIH TLV (mg/m ³)		OSHA PEL (mg/m ³)	
Iron (Fe)	7439-89-6	Balance	5	Oxide Dust/Fume	10	Oxide Dust/Fume
Alloying Elements:						
Aluminum (Al)	7429-90-5	0-0.08	10 5	Metal Dust Welding Fume	15 5	Total Dust Respirable Fraction ³
Antimony (Sb)	7440-36-0	<0.1	0.5	As Antimony	0.5	As Antimony
Arsenic (As)	7440-38-2	<0.01	0.01	As Arsenic (A1 Carcinogen)	0.01	As Arsenic
Beryllium (Be)	7440-41-7	<0.01	0.002 0.01	As Beryllium (A1 Carcinogen) As Beryllium (STEL ⁴)	0.002 0.005	As Beryllium As Beryllium (Ceiling ⁵)
Boron (B)	7440-42-8	0-0.02	10	Oxide Dust	15	Oxide Dust
Cadmium (Cd)	7440-43-9	<0.01	0.01 0.002	As Cadmium (A2 Carcinogen) Respirable Fraction	0.005 0.0025	As Cadmium As Cadmium (Action Level)
Calcium (Ca)	1305-78-8	0-0.1	2	Oxide Dust	5	Oxide Dust
Carbon (C)	7440-44-0	0.04- 0.95	10 3	Inhalable Fraction (PNOS) ⁶ Respirable fraction (PNOS)	15 5	Total Dust (PNOR) ⁷ Total Dust (PNOR)
Chromium (Cr)	7440-47-3	0.01-1	0.5	Metal	1	Metal
Cobalt (Co)	7440-48-4	<0.01	0.02	As Cobalt (A3 Carcinogen)	0.1	Metal/Dust/Fume
Copper (Cu)	7440-50-8	0.04-1	1 0.2	Dust Fume	1 0.1	Dust Fume
Lead (Pb)	7439-92-1	<0.1	0.05	Dust/Fume (A3 Carcinogen)	0.05	Dust/Fume
Magnesium (Mg)	7439-95-4	<1.0		Not Established		Not Established
Manganese (Mn)	7439-96-5	0-3.0	0.2	Elemental Mn and Inorg Cmpds	5	Fume (Ceiling)
Molybdenum (Mo)	7439-98-7	0.01-0.8	10	Insoluble Compounds	15	Insoluble Compounds
Niobium (Nb)	7440-03-1	0-1		Not Established		
Nickel (Ni)	7440-02-0	0.01-1	1.5	Metal	1	Metal and Insoluble Compounds
Nitrogen (N)	7727-37-9	<0.03		Simple Asphyxiate		Simple Asphyxiate
Phosphorous (P)	7723-14-0	0-1	0.1	Phosphorous	0.1	Phosphorous
Selenium (Se)	7782-49-2	<0.01	0.2	Selenium	0.2	Selenium
Silicon (Si)	7440-21-3	0-2.0	10	Dust	15	Dust
Sulfur (S)	7446-09-05	<0.04	5.2 13	Sulfur Dioxide Sulfur Dioxide (STEL)	13	Sulfur Dioxide
Tin (Sn)	7723-14-0	<0.05	2	Metal, Oxide and Inorganic Compounds	2	Inorganic Compounds
Titanium (Ti)	7440-32-6	0-1	10	Titanium Dioxide	15 5	Total Dust (PNOR) Total Dust (PNOR)
Tungsten (W)	7440-33-7	0-1	5 10	Insoluble Cmpds as W Insoluble Cmpds as W (STEL)		Not Established
Vanadium (V)	7440-62-2	0-1	0.05	Oxide Dust/Fume	0.5 0.1	Oxide Dust (Ceiling) Oxide Fume (Ceiling)
Zinc (Zn)	7440-66-6	<0.01	10 5 10	Oxide Dust Oxide Fume Oxide Fume (STEL)	5 10	Oxide Fume Oxide Dust

4. FIRST AID MEASURES

Eye Contact

In the event of over exposure to dusts or fumes, immediately flush eyes with water for a minimum of fifteen (15) minutes, periodically rinsing under the eyelids. Seek medical attention if irritation develops or persists. Thermal burns should be treated as medical emergencies.

Skin Contact

In the event of overexposure to dusts or particles, wash with soap and water. Seek medical attention if irritation develops or persists. If thermal burn occurs, rinse area with cold water and seek immediate medical attention.

Inhalation

In the event of overexposure to dusts or fumes, move into open / fresh air. Seek immediate medical attention if symptoms occur as defined in this document.

Ingestion

As manufactured, this product is not considered an ingestion hazard. If large amounts of dust or particles are ingested, treat symptoms and seek medical attention.

5. FIRE FIGHTING MEASURES

Flash Point and Flammable Limits

Not applicable

Extinguishing Media

For molten metal, use sand or dry powder.
For steel dust, use sand, water, foam, argon or nitrogen.

Special Fire Fighting Procedures

Do not use water on molten metal.
Do not use Carbon Dioxide (CO₂).
Firefighters should not enter confined spaces without wearing NIOSH/MSHA approved positive pressure breathing apparatus (SCBA) with full-face mask and full protective equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions if Material is Spilled or Released

Emergency response is not necessary unless in the form of combustible dust. Avoid contact and breathing of dusts by using appropriate personal protective equipment defined in this document. Small particles, pieces and shavings should be swept or vacuumed and disposed of appropriately. Keep fine dust or powder away from sources of ignition. Always recycle.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Coatings can make material slippery. Avoid contact with sharp edges and hot surfaces. Use appropriate personal protective equipment such as gloves and tools to ensure safe handling. Use work methods that minimize dust and fumes. Do not breathe dusts or fumes. Follow all recommendations in ANSI Z49.1, Safety in Welding and Cutting. Always practice good industrial hygiene.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Exposure Guidelines

No permissible exposure limits (PEL) or threshold limit values (TLV) exist for steel. See Section 3 for component materials. Various grades of steel will contain different combinations of these elements. Trace elements may also be present in minute amounts.

- Eye Protection - Always wear safety glasses; wear face shield when grinding, cutting or welding.
- Skin - Always wear appropriate gloves. Good personal hygiene practices should be followed to avoid skin irritation.
- Respiratory Protection - NIOSH/MSHA approved dust/fume/mist respirator may be used to avoid excessive exposure. Follow all applicable respirator use, fitting and training standards and regulations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Silver grey to grey black with metallic luster

Odor

No odor

pH

Not applicable

Freezing Point

Not applicable

Melting Point

Approximately 2800 degrees F (1537 degrees C)

Boiling Point

Not applicable

Flash Point

Not applicable

Evaporation Rate (Butyl Acetate = 1)

Not applicable

Vapor Pressure and Density (air = 1)

Not applicable

Specific Gravity (at 15.6 degree C)

Not applicable

Density (at 15.6 degree C)

Not applicable

Solubility in Water

Insoluble

% Volatile, by Volume

Not applicable

Other Physical and Chemical Data

None

10. STABILITY AND REACTIVITY

Stability

Stable

Hazardous Reactions

Will not occur

Conditions to Avoid

Temperatures above melting point may create fumes containing oxides of iron and alloying elements

Incompatible Materials

Strong acids to form hydrogen gas; strong oxidizers

Hazardous Decomposition Products

Metallic fumes can be produced during welding, burning, grinding, and possibly machining or any situation with the potential for thermal decomposition. Refer to ANSI Z49.1

11. TOXICOLOGICAL INFO

Under normal conditions of intended use, this product does not pose a health risk.

Exposure Inhalation

Further processing such as: welding, burning, sawing, brazing, grinding or machining may generate dusts or fumes of oxides. Inhalation of dust or fumes released during processing of this product may cause mild irritation of the respiratory tract. High concentrations, repeated and prolonged overexposure to oil mists may result in droplet deposition, oil granuloma formation, inflammation and increased incidence of infection in the respiratory tract.

Eye Effects

Contact with hot product may cause thermal burns, which could result in permanent damage. When product is further processed, dust could be generated which may irritate eyes.

Skin Effects

Contact with hot product may cause thermal burns, which could result in permanent damage. Dust and oils may cause irritation to the skin

Product may contain Nickel, which may cause allergy or asthma symptoms or effect breathing if inhaled although release for the bound material is not expected.

Product may contain Copper, which may cause irritation to the eyes, nose and throat and could cause coughing, wheezing, nosebleeds and metal fume fever. Repeated inhalation exposure of copper fumes effects can be metallic or sweet taste and discoloration of the skin, teeth or hair. Overexposure to Copper can effect a person's liver.

Ingestion

No ingestion hazard under normal conditions. Welding, burning, sawing, brazing, grinding or machining may generate dusts may cause nausea and vomiting.

Symptoms related to physical, chemical and toxicological characteristics

Exposure to dust or fume may cause tearing of the eyes, redness and/or discomfort. May cause dryness to the skin causing discomfort, dermatitis, irritation and cracking.

High concentrations of fumes / dusts of oxides could cause symptoms of metal fume fever. Typical metal fume fever symptoms last 12 to 48 hours and are characterized by a metallic taste and dryness of mouth and irritation to throat and weakness and pain in the muscles with fever and chills.

Information on toxicological effects

Acute Toxicity

Further processing of this product may generate hazardous dusts or fumes. Welding, cutting and metalizing can generate ozone and cause irritation of eyes, nose and respiratory tract.

No LC50 or LD50 established for the mixture as a whole. Chemicals with established limits:

Chemical	LD50 or LD _{Lo} or TD _{Lo}
Boron	LD50 = 2000 mg/kg oral (mouse)
Chromium	LD _{Lo} = 71 mg/kg oral (human)
Copper	TD _{Lo} = 120 ug/kg oral (human)
Manganese	LD50 = 9 g/kg oral (rat)
Molybdenum	LD _{Lo} = 70 mg/kg intratraechel (rabbit)
Nickel	LD _{Lo} = 5 mg/kg oral (guinea pig)
Silicon	LD50 = 3160 mg/kg oral (rat)
Sulfur	LD50 = >8437 mg/kg oral (rat)
Vanadium	LD50 = 59 mg/kg scu (rabbit)

Germ Cell Mutagenicity

No hazard in standard form; this ingredient is bounded within the product. Further processing could liberate hazardous vanadium pentoxide (classified as suspect of causing genetic defects) at temperatures above melting point.

Carcinogenicity

No hazard in standard form; this ingredient is bounded within the product. Further processing could liberate hazardous oxides such as iron oxides and vanadium pentoxide at temperatures above melting point. Inhaling concentrations of a high value of iron oxide may possible increase the risk of lung cancer.

12. ECOLOGICAL INFORMATION

Eco toxicity

Environmental hazard is considered limited.

Persistence and Degradability

No data available

Bio accumulative Potential

No data available

Mobility in Soil

Not relevant

Other Adverse Effects

None known

BIG RIVER STEEL



13. DISPOSAL CONSIDERATIONS

Disposal Instructions

Dispose according to federal, state and local regulations as appropriate; always try to recycle if possible.

Hazardous Waste Codes

Not regulated

14. TRANSPORT INFORMATION

Material is not DOT regulated.

15. REGULATORY INFORMATION

Material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29 CFR 1910.1200. By-products from further processing such as dust and fumes may be combustible or hazardous and require compliance with applicable federal, state and local laws and regulations.

California Proposition 65

This product may contain chemicals (Antimony, arsenic, beryllium, chromium, cobalt, cadmium, lead and nickel) known to the state of California to cause cancer and chemicals (cadmium and lead) known to the state of California to cause birth defects or other reproductive harm.

Massachusetts Substance List

This product may contain aluminum, antimony, arsenic, beryllium, boron, cadmium, chromium, cobalt, copper, lead, magnesium, manganese, molybdenum, nickel, nitrogen, phosphorus, selenium, silicon, sulfur, tin, titanium, tungsten vanadium and zinc.

Pennsylvania Hazardous Substance List

This product may contain aluminum, antimony, arsenic, beryllium, boron, cadmium, chromium, cobalt, copper, lead, magnesium, manganese, molybdenum, nickel, nitrogen, phosphorus, selenium, silicon, sulfur, tin, titanium, tungsten vanadium and zinc.

New Jersey Hazardous Substance List

This product may contain aluminum, antimony, arsenic, beryllium, boron, cadmium, chromium, cobalt, copper, lead, magnesium, manganese, molybdenum, nickel, nitrogen, phosphorus, selenium, silicon, sulfur, tin, titanium, tungsten vanadium and zinc.

Toxic Substances Control Act (TSCA)

Components of this material are listed on the TSCA Inventory.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

Material is not reportable in steel coil form but substances contained within are hazardous and may be reportable if diameters are less than or equal to 0.004 inches.



16. OTHER INFO

See document header and footers for document numbering, revisions and issue dates

HMIS Ratings

Health: 0

Flammability: 0

Physical Hazard: 0

Disclaimer

This information is provided without warranty and is believed to be correct. This information should be used to safeguard the environment and workers. SDS for the specific coatings are available upon request.

