

Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

Date of issue: 08/14/2015

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Version: 1.1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name : Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars
 Product code : Not available

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Cold finished wire and bars for fabrication of metal alloy products

1.3. Details of the supplier of the safety data sheet

Taubensee Steel & Wire Co.
 600 Diens Drive
 Wheeling, IL 60090 - USA
 T 847-459-5100

1.4. Emergency telephone number

Emergency number : CHEMTREC 1 (800) 424-9300

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The classification given below pertains to the product during processing:

GHS-US classification

Combustible Dust
 Skin Sensitization 1
 Carcinogenicity 2
 Reproductive Toxicity 1A (developmental)
 Reproductive Toxicity 2 (fertility)
 Specific Target Organ Toxicity After Repeated Exposure 1

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS07

GHS08

Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

May form combustible dust concentrations in air. May cause an allergic skin reaction. Suspected of causing cancer. May damage the unborn child. Suspected of damaging fertility. Causes damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS-US) :

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection. Do not breathe dust/fume/gas/mist/vapors/spray. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. If exposed or concerned: Get medical advice/attention. If on skin: Wash with plenty of water. Wash contaminated clothing before reuse. If skin irritation or rash occurs: Get medical advice/attention. Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3. Other hazards

No additional information available.

2.4. Unknown acute toxicity (GHS US)

Not applicable.

Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable.

3.2. Mixture

Name	Product identifier	%
Iron	(CAS No) 7439-89-6	<89.6
Silicon	(CAS No) 7440-21-3	<2.5
Manganese	(CAS No) 7439-96-5	<2.0
Nickel	(CAS No) 7440-02-0	<2.0
Chromium	(CAS No) 7440-47-3	<1.5
Carbon black	(CAS No) 1333-86-4	<1.1
Molybdenum	(CAS No) 7439-98-7	<0.7
Lead ¹	(CAS No) 7439-92-1	<0.35
Copper	(CAS No) 7440-50-8	<0.2
Tin	(CAS No) 7440-31-5	<0.02
Aluminum	(CAS No) 7429-90-5	<0.01
Cobalt	(CAS No) 7440-48-4	<0.009
Niobium	(CAS No) 7440-03-1	<0.005
Boron	(CAS No) 7440-42-8	<0.004
Vanadium	(CAS No) 7440-62-2	<0.003
Cadmium	(CAS No) 7440-43-9	<0.001
Calcium	(CAS No) 7440-70-2	<0.0002

¹ Only when leaded steel are ordered

* The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell.
- First-aid measures after skin contact : In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists. Burns caused by molten material must be treated clinically.
- First-aid measures after eye contact : In case of contact, immediately flush eyes with plenty of water. Remove contact lenses, if worn. If irritation persists, get medical attention. Burns caused by molten material must be treated clinically.
- First-aid measures after ingestion : If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries after inhalation : May cause respiratory tract irritation. Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.
- Symptoms/injuries after skin contact : May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin. May cause sensitization by skin contact. Risk of thermal burns on contact with molten product.
- Symptoms/injuries after eye contact : May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling. Molten material can cause severe burns.
- Symptoms/injuries after ingestion : May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

4.3. Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Treat for surrounding material.
- Unsuitable extinguishing media : Do not use water when molten metals are present.

5.2. Special hazards arising from the substance or mixture

- Fire hazard : Combustible dust. Products of combustion may include, and are not limited to: oxides of carbon, metallic oxides.

Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

5.3. Advice for firefighters

Protection during firefighting : Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA). Avoid breathing dust. Avoid generating dust. Dust may form explosive mixture in air.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (ie, clearing dust surfaces with compressed air).

6.2. Methods and material for containment and cleaning up

For containment : Contain spill, then place in a suitable container. Minimize dust generation. Do not flush to sewer or allow to enter waterways. Use appropriate Personal Protective Equipment (PPE).

Methods for cleaning up : Vacuum or sweep material and place in a disposal container. Provide ventilation.

6.3. Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Do not swallow. Handle and open container with care. When using do not eat, drink or smoke. Good housekeeping is important to prevent accumulation of dust. The use of compressed air for cleaning clothing, equipment, etc, is not recommended. Use only in well-ventilated areas. Cadmium is subject to the standards 29 CFR 1910.1027 and 1926.1127 which may contain specific requirements for handling including protective equipment, regulated areas, monitoring and medical surveillance. The employer should review the standard and assure compliance with applicable requirements.

Hygiene measures : Launder contaminated clothing before reuse. Wash hands before eating, drinking, or smoking.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep out of the reach of children. Keep container tightly closed.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Iron (7439-89-6)		
ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	10 mg/m ³
Silicon (7440-21-3)		
ACGIH	Not applicable	
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Manganese (7439-96-5)		
ACGIH	ACGIH TWA (mg/m ³)	0.02 mg/m ³ (respirable fraction) 0.1 mg/m ³ (inhalable fraction)
OSHA	OSHA PEL (Ceiling) (mg/m ³)	5 mg/m ³ (fume)
Nickel (7440-02-0)		
ACGIH	ACGIH TWA (mg/m ³)	1.5 mg/m ³ (inhalable fraction)
OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³

Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

Chromium (7440-47-3)		
ACGIH	ACGIH TWA (mg/m ³)	0.5 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³
Carbon black (1333-86-4)		
ACGIH	ACGIH TWA (mg/m ³)	3 mg/m ³ (inhalable fraction)
OSHA	OSHA PEL (TWA) (mg/m ³)	3.5 mg/m ³
Molybdenum (7439-98-7)		
ACGIH	ACGIH TWA (mg/m ³)	10 mg/m ³ (inhalable fraction) 3 mg/m ³ (respirable fraction)
OSHA	Not applicable	
Lead (7439-92-1)		
ACGIH	ACGIH TWA (mg/m ³)	0.05 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	50 µg/m ³
Copper (7440-50-8)		
ACGIH	ACGIH TWA (mg/m ³)	0.2 mg/m ³ (fume)
OSHA	OSHA PEL (TWA) (mg/m ³)	0.1 mg/m ³ (fume) 1 mg/m ³ (dust and mist)
Tin (7440-31-5)		
ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
OSHA	Not applicable	
Aluminum (7429-90-5)		
ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³ (respirable fraction)
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Cobalt (7440-48-4)		
ACGIH	ACGIH TWA (mg/m ³)	0.02 mg/m ³
OSHA	OSHA PEL (TWA) (mg/m ³)	0.1 mg/m ³ (dust and fume)
Niobium (7440-03-1)		
ACGIH	Not applicable	
OSHA	Not applicable	
Boron (7440-42-8)		
ACGIH	Not applicable	
OSHA	Not applicable	
Vanadium (7440-62-2)		
ACGIH	Not applicable	
OSHA	OSHA PEL (Ceiling) (mg/m ³)	0.5 mg/m ³ (respirable dust) 0.1 mg/m ³ (fume)
Cadmium (7440-43-9)		
ACGIH	ACGIH TWA (mg/m ³)	0.01 mg/m ³ 0.002 mg/m ³ (respirable fraction)
OSHA	OSHA PEL (TWA) (mg/m ³)	0.1 mg/m ³ (fume) 0.2 mg/m ³ (dust) 5 µg/m ³ (see 29 CFR 1910.1027)

Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

Cadmium (7440-43-9)		
OSHA	OSHA PEL (Ceiling) (mg/m ³)	0.3 mg/m ³ (applies to any operations or sectors for which the Cadmium standard is not in effect-fume) 0.6 mg/m ³ (applies to any operations or sectors for which the Cadmium standard is not in effect-dust)

Calcium (7440-70-2)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Appropriate engineering controls	: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.
Hand protection	: Wear chemically resistant protective gloves.
Eye protection	: Safety glasses or goggles are recommended when using product.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Environmental exposure controls	: Maintain levels below Community environmental protection thresholds.
Other information	: Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. Handle according to established industrial hygiene and safety practices.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Shiny metal
Colour	: Grey
Odour	: Odourless
Odour threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: 2982.2 °C (5400 °F)
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: Combustible dust
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Vapour pressure	: No data available
Relative density	: 7.6 - 7.8
Relative vapour density at 20 °C	: No data available
Solubility	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

No additional information available.

Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reaction known under conditions of normal use.

10.2. Chemical stability

Stable under normal storage conditions. Combustible Dust.

10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

May include, and are not limited to: oxides of carbon, metallic oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified.

Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
LC50 inhalation rat	> 5 mg/l/4h
Iron (7439-89-6)	
LD50 oral rat	30 g/kg
Silicon (7440-21-3)	
LD50 oral rat	3160 mg/kg
Manganese (7439-96-5)	
LD50 oral rat	9 g/kg
Nickel (7440-02-0)	
LD50 oral rat	> 9000 mg/kg
Carbon black (1333-86-4)	
LD50 oral rat	> 15400 mg/kg
LD50 dermal rabbit	> 3 g/kg
Tin (7440-31-5)	
LD50 oral rat	700 mg/kg
Cobalt (7440-48-4)	
LD50 oral rat	6171 mg/kg
LC50 inhalation rat	> 10 mg/l/1h
Boron (7440-42-8)	
LD50 oral rat	650 mg/kg
Cadmium (7440-43-9)	
LD50 oral rat	2330 mg/kg
LC50 inhalation rat	25 mg/m ³ /30min
Skin corrosion/irritation	: Based on available data, the classification criteria are not met.
Serious eye damage/irritation	: Based on available data, the classification criteria are not met.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Based on available data, the classification criteria are not met.
Carcinogenicity	: Suspected of causing cancer.
Nickel (7440-02-0)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen

Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

Chromium (7440-47-3)	
IARC group	3 - Not classifiable
Carbon black (1333-86-4)	
IARC group	2B - Possibly carcinogenic to humans
Lead (7439-92-1)	
IARC group	2A (inorganic lead compounds) I-3 (organic lead compounds)
National Toxicology Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen
Cobalt (7440-48-4)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	1 - Evidence of Carcinogenicity
Cadmium (7440-43-9)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens
In OSHA Specifically Regulated Carcinogen list	Yes

Reproductive toxicity	: May damage the unborn child. Suspected of damaging fertility.
Specific target organ toxicity (single exposure)	: Based on available data, the classification criteria are not met.
Specific target organ toxicity (repeated exposure)	: Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	: May cause respiratory tract irritation. Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.
Symptoms/injuries after skin contact	: May cause skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin. May cause sensitization by skin contact. Risk of thermal burns on contact with molten product.
Symptoms/injuries after eye contact	: May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling. Molten material can cause severe burns.
Symptoms/injuries after ingestion	: May be harmful if swallowed. May cause stomach distress, nausea or vomiting.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : May cause long-term adverse effects in the aquatic environment.

12.2. Persistence and degradability

Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

No additional information available.

12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : This material must be disposed of in accordance with all local, state, provincial, and federal regulations. The generation of waste should be avoided or minimized wherever possible.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT
Not regulated for transport.

Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars

Safety Data Sheet

according to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

Additional information

Other information	: No supplementary information available.
Special transport precautions	: Do not handle until all safety precautions have been read and understood.

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

Manganese (7439-96-5)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	1.0 %
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Nickel (7440-02-0)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	0.1 %
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Chromium (7440-47-3)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	1.0 %
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Lead (7439-92-1)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	0.1 %
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Copper (7440-50-8)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	1.0 %
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Aluminum (7429-90-5)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	1.0 % (dust or fume only)
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Cobalt (7440-48-4)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	0.1 %
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Vanadium (7440-62-2)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	1.0 % (except when contained in an alloy)
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Cadmium (7440-43-9)

Subject to reporting requirements of United States SARA Section 313

SARA Section 313 - Emission Reporting	0.1 %
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15.2. US State regulations

Cold Drawn Steel Wire, Bars, and Hot Rolled Wire Rods and Bars

State or local regulations	This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.
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SECTION 16: Other information

Date of issue	: 08/14/2015
Revision date	: 05/04/2016
Version number	: 1.1
Other information	: None.

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