

WALSIN LIHWA CORP.
Safety Data Sheet

To : YUEN CHANG STAINLESS STEEL CO., LTD.

Issue Date : 2020/02/06

I. IDENTIFICATION

Product Name : Stainless Steel Coils

Chemical Family : Solid Metal

Manufacturer : WALSIN LIHWA CORP.

YENSHUI PLANT

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II. HAZARDS IDENTIFICATION

WALSIN LIHWA CORP. stainless steels, in their various solid forms, as delivered, are **NOT** known to present immediate inhalation, ingestion, contact or fire health hazards. In such cases, extra precautions appropriate to the operation and industry safety standards should be taken.

However, operations such as welding, burring, melting, brazing, peeling, grinding, polishing, and machining etc, which results in the generation of airborne particle or dust may present **Potential** health hazard.

- **Inhalation:** Excessive exposed high concentration of dust or metallic particle may cause irritation to the eye, skin and the upper respiratory system. Symptoms consist of chills and fever, metallic taste in the mouth, dryness and irritation of the throat followed by weakness and muscle pain.
- **Eye:** Particles of metallic compounds or dust, which become imbedded in the eyes, may cause stains unless removed fairly promptly. Welding or burning operations on steel or steel products with coatings may present emissions that can be irritating to the eyes.
- **Skin:** Skin contact with dusts may cause irritation or sensitization.
- **Ingestion:** Highly unlikely

Chronic Effects:

Listed as below are certain potential health effects, which apply to hazardous ingredients were found in steel solid metal:

- **Chromium:** Suspect carcinogen. Acute effects – Bronchial irritation. Chronic effects – Possible chronic bronchitis, histological fibrosis of lungs, asthma, allergic dermatitis, ulcerations of skin and nasal cavities.
- **Copper:** (Fume) Acute effects – Moderate irritation of eyes, nose, and throat lungs. Metal Fume Fever Chills, nausea fever, dry throat cough metallic taste. Chronic effects – Irritation of lungs. Discoloration of skin, hair.

- **Copper:** (Dust and Mist) Acute effects – Mild irritation of eyes, nose, throat and skin. Metallic taste. Chronic effects – Irritation of lungs. Dermatitis.
- **Iron:** (Oxide Fume) Acute effects – None. Chronic effects – Repeated exposure over time may cause lung changes. Benign pneumoconiosis. X-Ray shadows indistinguishable from fibrosis pneumoconiosis.
- **Manganese:** Acute effects - May cause metal fume fever: chills, fever, cough, muscle aches, difficulty in breathing. Chronic effects – Cumulative central nervous system damage. (Parkinson like syndrome). Lung damage. Asthenia. Insomnia. Malaise.
- **Molybdenum:** Acute effects – Irritation of eyes, nose, throat. Weight loss. Chronic effects - Cumulative liver and kidney damage. Pneumoconiosis. Blood disorders.
- **Nickel:** Suspect carcinogen. Acute effects – Respiratory irritation, possibly leading to respiratory disease. Chronic effects – Cumulative lung damage. Possible cancer of lungs and nasal cavity. Dermatitis.
- **Silicon:** Nuisance particulate. Acute effects – Accumulation in lungs, causing respiratory tract irritation. Chronic effects – Non-toxic, but a high temperature, silicon can be transformed into silica, posing a silicosis hazard.

III. COMPOSITION/INFORMATION ON INGREDIENTS

WALSIN LIHWA CORP. TRADE MARK 304/304L/316L

Element	Weight %	CAS number
C (carbon)	0.08 max.	7440-44-0
Si (Silicon)	1.00 max.	7440-21-3
Mn (Manganese)	2.00 max.	7439-96-5
P (Phosphorous)	0.045 max.	7723-14-0
S (Sulfur)	0.030 max.	7704-34-9
Ni (Nickel)	8.00-12.00	7440-02-0
Cr (Chromium)	16.00-20.00	7440-47-3
Mo (molybdenum)	3.00 max	7439-98-7
N (nitrogen)	0.10 max.	7727-37-9
Fe (Iron)	Balance(>50)	7439-89-6

IV. FIRST AID MEASURES

Utilize standard first-aid procedures as normally administered for situations resulting from day-to-day operation.

Inhalation: Move individual to fresh air, if breathing is difficult or has stooped, administer artificial respiration or oxygen as indicated.

Skin: Wash immediately with water and mild antiseptic detergent.

Eye: Flush with water.

Ingestion: Highly unlikely.

V. FIRE FIGHTING MEASURES

None. Product is a metallic solid in wire, rod, bar, strip, sheet, plate or disc form.

VI. ACCIDENTAL RELEASE MEASURES

None. Product is a metallic solid in wire, rod, bar, strip, sheet, plate or disc form.

VII. HANDLING AND STORAGE

Handling: High concentration of airborne particle or dust should be evaluated and controlled as well, and avoid breathing metal fumes.

Storage: Keep away from acid solution/gas and incompatible material.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection	In manufacturing or handling procedures creating dust or fumes – approved respirators should be worn to limit unnecessary inhalation of potentially hazardous dust particles or fumes.
Skin and Eye Protection	Protective clothing, gloves and glasses should be worn as warranted by the manufacturing operation.
Ventilation	In manufacturing or handling procedures creating dust or fumes, exhaust systems should be utilized to exhaust potentially harmful dust particles or fumes.

IX. CHEMICAL AND PHYSICAL PROPERTIES

Physical State : Solid Melting Point : 1375-1450 °C Specific Gravity : 8.0 g/cm ³ Appearance and Odor : Metallic Gray / Odorless	Boiling Point : N/A Vapor Pressure : N/A Vapor Density : N/A Solubility in Water : N/A Percent Volatile by Volume : N/A Evaporation Rate : N/A
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X. STABILITY AND REACTIVITY

Stability : Stable	Incompatibility : N/A
Hazardous decomposition : N/A	Hazardous polymerization : N/A

XI. TOXICOLOGICAL INFORMATION

None, no information is available for the product as solid metal preparation and article.

XII. ECOLOGICAL INFORMATION

No data available for the stainless steel in its natural solid state. However, individual components of the material have been found to be toxic to the environment.

COMPONENT	TOXICITY TO FISH	TOXICITY TO ALGAE	TOXICITY TO MICROORGANISMS
Iron	LC50 Common Carp 96 hr. 0.56 mg/l	-	-
Chromium	LC50 Fathead minnow 96 hr. 10-100 mg/l	-	-
Nickel	LC50 Common Carp 96 hr. 1.3 mg/l	EC50 Freshwater Algae 72 hr. 0.18 mg/l	EC50 Water Flea 48 hr. 1.0 mg/l

Persistence And Degradability : No data available.

Bioaccumulative Potential : No data available.

Mobility In Soil: : No data available for stainless steel in its natural solid state. Individual metal dusts may migrate into soil and groundwater and be absorbed by plants.

Other Adverse Effects : None known.

XIII. DISPOSAL CONSIDERATION

Waste Disposal Methods : Steel scrap should be recycled whenever possible. Container

Cleaning & Disposal : Dispose of in accordance with applicable federal, provincial/state or local regulations.

XIV. TRANSPORT INFORMATION

In the case of heavy product, exercise care for prevention of load shifting. It is desirable to cover the product with tarpaulin or the like to prevent infiltration of rain water, etc.

XV. REGULATORY INFORMATION

Exposure to hazardous dust and fumes evolved from activities such as welding and grinding of stainless steel may be subject to control and compliance requirements as dictated by local health and safety legislation.

This material contains ingredients in quantities that may be reportable under certain international/national regulations/standards.

XVI. OTHER INFORMATION

For inquiries, refer to Technology Department II Taichung Plant Walsin Lihwa Corporation.

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Feb 6, 2020

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Head of Technology Department II