KOSWIRE, Inc

Safety Data Sheet

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

A. **GHS Production Identifier:** Stainless Steel Products, All Grades

B. **Other Means of Identification:** Coil, Wire, and Wire Coil

C. **Manufacturer/Supplier/Distributor Information:**

Name KOSWIRE, Inc

Address 4600 Cantrell Rd., Flowery Branch, GA 30542

Emergency phone Number TEL : 770-965-1145 / Fax : 770-965-1147

SECTION 2. HAZARD(S) IDENTIFICATION

A. **General Hazard Statement:**

As sold in its solid form, stainless steel is not hazardous to health and considered an article according to the OSHA Hazard Communication Standard 2019 (29 CFR 1910.1200). However, exposure to small chips, dusts, powder, or fumes which may be generated during manufacturing processes such as but not limited to incineration, melting, sawing, grinding, milling, and welding may be detrimental to your health.

The following classification information is for hazardous elements which may be produced during these processes.

B. **Signal Word:** Danger

C. **Symbols:** Health Hazard/Exclamation Mark

D. **Hazard Pictograms:**


Hazard	GHS Class	*Hazard Statements*
Serious Eye Damage/Irritation	**2B**	May irritate the eyes
Respiratory Sensitization	**1**	May cause asthma symptoms
Skin Sensitization	**1**	May cause an allergic skin reaction
Germ Cell Mutagenicity	**2**	May cause genetic defects
Carcinogen	**1B**	May increase the risk of cancer
Reproduction Toxicity	**1B**	May damage fertility or the unborn child
Target Organ Toxicity (Single Exposure)	**1**	May cause respiratory irritation
Target Organ Toxicity (Repeated Exposure)	**1**	May cause damage to organs
Hazardous to Aquatic Environment	**3**	Harmful to aquatic life - long term effects

E. Precautionary Statements

E-1. Prevention:

i. Obtain special instructions prior to use
ii. Read and understand all safety precautions.
iii. Wear proper protective equipment
iv. Avoid any food or drink while handling this product
v. Avoid any tobacco products while handling this product
vi. Thoroughly wash any parts of the body exposed to the product after handling
vii. Discard any contaminated clothing
viii. Do not inhale dust, powder, or fumes associated with processing stainless steel
ix. Use only a well-ventilated space or/ and wear respiratory protection

E-2. First Aid Response:

i. **Fire**: Use media as needed to control primary source of fire.
ii. **Eye:** Immediately flush eye with large quantities of water for at least 20 minutes, occasionally lifting the superior and inferior lids. Remove contact lenses, if worn and easy to do so, while rinsing with water. Contact a poison control center or/and physician, as needed. Promptly transport to a medical facility, if needed.
Get medical attention if irritation persists
iii. **Skin/ Hair:** Wash thoroughly with soap and water/shower for at least 20 minutes or until all material has been removed. Contact a poison control center or/and physician, as needed. Promptly transport to a medical facility, if needed.
Get medical attention if irritation persists
iv. **Inhalation**: Inhalation of dust may cause irritate the respiratory tract. Remove person from contaminated atmosphere to fresh air and keep in a comfortable position.
Contact a poison control center or/and physician, as needed.
Promptly transport to a medical facility, if needed.
Get medical attention if irritation persists
v. **Ingestion:** Not a normal route of exposure. If swallowed, can cause nausea, oral cavity, and gastrointestinal irritation. Contact a poison control center or/and physician, as needed. Promptly transport to a medical facility, if needed.
Get medical attention if irritation persists

E-3. Storage:

i. Store away from acids and incompatible materials.
ii. Store in accordance with local, state, federal, and international regulations

E-4. Disposal: Dispose in accordance with local, state, federal, and international regulations

SECTION 3. COMPOSITION

Element	Other Name(s)	CAS Number	% by weight
C	Carbon	7440-44-0	<0.150
Si	Silicon. Silicon Powder	7440-21-3	<3.000
Mn	Manganese, Colloidal	7439-96-5	<10.0
P	Phosphorous	7723-14-0	<0.06
S	Sulfur, Sulphur	7704-34-9	<0.4
Ni	Nickel, Nickel metal	7440-02-0	1.5-37
Cr	Chromium	7440-47-3	13.5-26
Al	Aluminum metal/powder	7429-90-5	<1.5

Mo	Molybdenum	7439-98-7	<5
Cu	Copper	7440-50-8	<4
Pb	Lead	7439-92-1	<0.1
Fe	Iron, Ferrium, Iron	7439-89-6	Balance

SECTION 4. FIRST AID MEASURES

A. Eyes:

Immediately flush eye with large quantities of water for at least 20 minutes, occasionally lifting the superior and inferior lids.Remove contact lenses, if worn and easy to do so, while rinsing with water. Contact a poison control center or/and physician, as needed. Promptly transport to a medical facility, if needed. Get medical attention if irritation persists

B. Skin or Hair:

Wash thoroughly with soap and water/shower for at least 20 minutes or until all material is removed. Contact a poison control center or/and physician, as needed. Promptly transport to a medical facility, if needed. Get medical attention if irritation persists

C. Ingestion:

Not a normal route of exposure. If swallowed, can cause nausea, oral cavity and gastrointestinal irritation. Contact a poison control center or/and physician, as needed. Promptly transport to a medical facility, if needed.

D. Inhalation:

Inhalation of dust may cause irritate the respiratory tract. Remove person from contaminated atmosphere to fresh air and keep in a comfortable position. Contact a poison control center or/and physician, as needed. Promptly transport to a medical facility, if needed. Get medical attention if irritation persists.

SECTION 5. FIRE-FIGHTING MEASURES

A. Suitable Extinguishing Media:

Not applicable for stainless steel in the solid state as it is non-flammable.
Use the fire extinguishing agent appropriate for the surrounding conditions.
For fine alloyed material, use a Type D fire extinguisher.

B. Specific Hazards Arising from the Chemical: Not applicable for stainless steel in the solid state.

C. Hazardous Combustion Products:

Not applicable for stainless steel in the solid state.
Stainless steel during processing may generate dust, chips, or fines, which during a fire may generate hazardous metal and oxide fumes.

D. Special Precautions for Firefighters:

Not applicable for stainless steel in the solid state as it is non-flammable.
Use the fire extinguishing agent appropriate for the surrounding conditions. Stainless steel during processing may generate dust, chips, or fines, which during a fire may release hazardous fumes in the atmosphere. Fire fighters need to wear the proper approved breathing apparatus and full protective clothing while keeping a safe distance to extinguish the fire to protect against these toxic fumes. Dust and powder are not allowed in waterways or drains.

E. Explosion Hazard:

Stainless steel during processing may generate dust, chips, or fines, which may be combustible.
Keep material away from ignition sources such as but not limited to heat, sparks, and flame

SECTION 6. ACCIDENTAL RELEASE MEASURES

A. Personal Precautions, Emergency Proceduresand Protective Equipment:

Do not inhale dust, powder, or fumes produced during the processing of stainless steel. Wear appropriate protective equipment to decrease inhalation or eye contact of the dust, fumes, or powder. Refer to section 8 for more on the protective equipment and emergency procedures.

B. Containment:

Collect material in the properly labeled container for recovery or disposal in accordance to local, state, federal, and international regulations.

C. Clean Up:

Only authorized personnel with proper protective gear may carefully cleanup the spills of dust and should aim at decreasing the amount of particles in the air and avoid contaminating air and water. Methods include but are not limited to wet sweeping and vacuuming.

D. Environment:

There are no hazards to the environment from stainless steel as sold in the solid state Follow local, state, federal, and international regulations.

SECTION 7. HANDLING AND STORAGE

A. Precautions for Safe Handling:

It is prudent to assess and control processes that may generate high concentrations of airborne particles. Handle in accordance with good industrial hygiene and safety practice. After handling thoroughly wash with soap and water. Abstain from contact with eyes, skin and clothing. Avoid breathing in any fumes and/or dust that may result of the steel being processed. Avoid eating, drinking, and using tobacco products while handling this product.

B. Precautions for Safe Storage, Including Incompatibilities:

Store in accordance to local, state, federal, and international regulations. Store away from acids and other incompatible materials as the material may react with strong acids to emit toxic gaseous products.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure Guidelines:

There are no specific occupational exposure limits for stainless steel. The ACGIH has established a limit of 5 mg/m3, measured as iron, total particulate. Specific occupational exposure limits (OELs) have been recognized for some constituent elements and compounds, which are produced during the processing of steel .

Component	OSHA PEL-TWA (mg/m³)	ACGIH (mg/m³)
Iron	10 .0 mg/m³(fume)	5.0 mg/m³
Chromium	1.0 mg/m³(Cr metal) 0.5 mg/m³ (Cr (III) 5.0 µg/ m³ Cr(VI) 2.5 µg/ m³ Action Level Cr (VI)	0.5 mg/m³(Cr metal) 0.5 mg/m³ (Cr (III) 0.05mg/ m³(water soluble) 0.01mg/ m³ (insoluble Cr (VI compounds)
Nickel	1.0 mg/m³ (metal & insoluble compounds)	1.5 mg/m³(Ni metal) 0.1 mg/ m³(aqueous compounds) 0.2 mg/ m³ (nonaqueuous compounds)
Manganese	5 mg/m³ (max and fume)	0.2 mg/m³
Molybdenum	5.0 mg/m³(water soluble Mo compounds) 15.0 mg/m³ (Total Dust)	5.0 mg/m³(water Soluble compounds) 10.0 mg/m³ (water insoluble Mo compounds)

Carbon	N/A	N/A
Aluminum	15.0 mg/m³ (Metal &Total Dust)	10.0 mg/m³ (Fume and Dust)
Sulfur	5.0 mg/m³ (Nonmetal & Oxides)	0.7 mg/m³
Silicon	15.0 mg/m³(Total Dust) 5.0 mg/m³ (Respirable Fraction)	10.0 mg/m³(Total Dust)
Lead	0.05 mg/m³ (Total Dust and fume)	0.05 mg/m³(dust and fumes)
Copper	1.0 mg/m³ (Dust, fume, mist)	1.0 mg/m³(dust,fumes, mist)

B. Appropriate Engineering Controls:

In the solid state, no engineering controls are required. Manufacturing steel processes such as but limited to grinding, sawing, or welding require the use of a local exhaust ventilation or other engineering controls to maintain concentrations of airborne hazardous substances below the pertinent exposure limits.

C. Personal Protective Equipment (PPE):

C-1. Eye Protection:

Wear safety glasses, goggles, face shield, or/and helmet when there is a risk of getting particles in the eyes

C-2. Skin Protection: Use appropriate protective clothing and gloves for the processed material

C-3. Respiratory Protection:

In the solid state, no respiratory protection is required.

If the concentrations of airborne hazardous substances are believed to exceed the applicable exposure limit, employees may require the use of a NIOSH/MSHA approved respirator during stainless steel manufacturing processes such as but not limited to sawing, burning, and welding.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Silver-gray metallic solid
Specific Gravity:	7.0 to 9.0g/cm3
Odor Threshold:	No Data Available
Density	No Data Available
Odor:	Odorless
Odor Threshold:	No Data Available
Vapor Pressure:	No Data Available
Vapor Density (Air=1):	No Data Available
Boiling Point:	No Data Available
Melting Point:	1370-1538 °C / 2498-2800 °F
Molecular Weight:	No Data Available
Freezing Point:	No Data Available
Water Solubility:	No Data Available
Fat Solubility:	No Data Available
Density:	No Data Available
Evaporation Rate:	No Data Available
Refractive Index:	No Data Available
Viscosity:	No Data Available
Viscosity, kinematic:	No Data Available
Viscosity, dynamic:	No Data Available
% Volatile:	No Data Available
Surface Tension:	No Data Available

Flash Point:	No Data Available
Upper Explosive Limit(%):	No Data Available
Lower Explosive Limit((%):	No Data Available
Autoignition Temperature:	No Data Available
Decomposition Temperature	No Data Available
Flammable Properties:	No Data Available
Partition coefficient:	No Data Available
Oxidizing Properties:	No Data Available
VOC Content (%):	No Data Available

SECTION 10. STABILITY AND REACTIVITY

A. Reactivity: No Data Available

B. Chemical Stability: Stable during normal storage and handling

C. Incompatibility: Reactions with strong acids generate hydrogen gas
Reactions with oxdizers generate oxygen gas

D. Toxic Decay Products: Stainless steel manufacturing processes such as but not limited to sawing, burning, and welding may generate toxic metal metal fumes such as hexavelent chromium, which is a highly known carcinogen.

E. Hazardous Polymerization: Will not occur

SECTION 11. TOXILOGICAL INFORMATION

A. Information: Toxicological information has yet to determined for this product as a solid.
However, certain manufacturing processes such as but not limited to burning, sawing, and grinding may generate stainless steel dust, fumes and/or particulates that would be considered hazardous under the OSHA Hazard Communication Standard 2019 (29 CFR 1910.1200).
Metal dust particles may cause eye, skin and/or respiratory system irritation.
The information shown below is for such instances

B. Eyes: May cause eye irritation.

C. Skin : May cause skin irritation or/ and skin sensitization

D. Ingestion: If swallowed, can cause nausea, oral cavity and gastrointestinal irritation.
May cause acute or chronic health issues such as allergy

E. Inhalation: May cause acute or chronic health issues such as allergy asthma symptoms or breathing difficulties if the dust or fumes generated from the processing of stainless steel is inhaled.

F. Acute exposure: Exposure to dusts, mist, or fumes from some metals including but not limited to copper, iron, manganese,and chromium may cause metal fume fever, characterized by a flu-like symptoms such as muscle pain and weakness, nausea, vomiting, and chest tightness.The symptoms appear 2 hours after excessive exposures and usually last less than 48 hours.

G. Chronic exposure: Overexposure of nickel and chromium can cause various forms of skin and respiratory inflammation. Both chromium and nickel have been linked to various types of cancer. Excessive and repeated overexposure of iron fumes may cause pneumoconiosis (siderosis). Excessive and prolonged inhalation of manganese fumes have been linked to poor coordination, renal failure, bronchitis and pneumonitis.

H. Reproductive Toxicity: Suspected of damaging fertility or the unborn child

I. Genetic Mutagenicity : May cause genetic defects

J. STOT single exposure: May cause respiratory irritation

K. STOT repeated exposure: Elevated temperature processes such as welding and cutting may release hazardous metal fumes. Overexposure to the fumes may cause pulmonary issues and lung cancer. Chronic exposure to manganese may cause impairment to the central nervous system, including muscle weakness and locomotion control.

L. Carcinogenicity: Nickel and chromium have been linked to cancer

M. Aspiration Hazard: No Data Available

N. LD50 Oral: No Data Available for Stainless Steel, only for components.

Chemical Name	LD50 Oral (Rat)
Iron	>10, 00mg/kg
Nickel	> 9000 mg/kg
Manganese	9000 mg/kg
Silicon	3,160 mg/kg
Cobalt	6170 mg/kg

Notes: Specific Target Organ Toxicity (STOT)

SECTION 12. ECOLOGICAL INFORMATION

The environmental impact of this stainless steel in its metallic state has not been fully investigated. The individual elements,on the other hand, have been found to be toxic to the environment.

Element	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia
Iron		LC50,96h, 0.56 mg/L	
Nickel	EC50 72h, 0.18 mg/L	LC50,96h, 1.3 mg/L	EC50,48h, 1 mg/L
Chromium		LC50,96h,10-100 mg/L	

Notes: Pseudokirchneriella subcapitata used for Toxicity of Algae.

Cyprinus carpio used to determine Iron and Nickel Toxicity to Fish.

Pimephales promelas used to determine Chromium Toxicity to Fish.

The EC50 is the concentration of a drug that gives half-maximal response. The LC50 is the concentration of an inhibitor where the response (or binding) is reduced by half.

SECTION 13. DISPOSAL CONSIDERATIONS

A. Waste Disposal Methods: Recover or recycle if possible. Dispose of in accordance with local, state, federal, and international regulations

B. Contaminated Packaging: Dispose of in accordance with local, state, federal, and international regulations

SECTION 14. TRANSPORT INFORMATION

DOT/ADR/IATA/IMDG/TDR Regulations:

Stainless steel (semi finished steel products) is not regulated as a hazardous product.
Ship of in accordance with local, state, federal, and international regulations

UN Number:	No Data Available
UN Shipping Name	No Data Available
Transport Hazard Class	No Data Available
Packing Group	No Data Available
Marine Pollutant	No Data Available
Special Precautions	No Data Available

Notes

US Department of Transportation (DOT)

The European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR)

The International Maritime Dangerous Goods (IMDG):

International Air Transport Association (IATA):

Transport Dangerous Goods (TDG):

SECTION 15. REGULATORY INFORMATION

A. Occupational Health and Safety Administration (OSHA)

As a solid, this product is an article. Dust or fumes generated by stainless steel manufacturing processes such as grinding, sawing, and welding may produce airborne contaminants that are regulated by OSHA.

B. Other Regulatory Information

The following listing of United Sates regulations related to a KOSWIRE product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities

Component	Cas Number	Regulations
Iron, Fe	7439-89-6	SDWA
Chromium, Cr	7440-47-3	CAA, CERCLA, CWA, SARA 313, RCRA, SDWA
Nickel, Ni	7440-02-0	CAA, CERCLA, CWA, SARA 313, RCRA, SDWA
Manganese, Mn	7439-96-5	CAA, SARA 313, SDWA, CERCLA,
Molybdenum, Mo	7439-98-7	SDWA
Aluminum, Al	7429-90-5	SARA 313, SDWA,
Copper. Cu	7440-50-8	CWA, SARA 313, SDWA, CERCLA

Regulations Key: CAA Clean Air Act (42 USC Sec. 7412; 40 CFR Part 61 [As of: 8/18/06]) CERCLA Comprehensive Environmental Response, Compensation and Liability Act (42 USC Secs. 9601(14), 9603(a); 40 CFR Sec. 302.4, Table 302.4, Table 302.4 and App. A) CWA Clean Water Act (33 USC Secs. 1311; 1314(b), (c), (e), (g); 136(b), (c); 137(b), (c) [as of 8/2/06]) RCRA Resource Conservation Recovery Act (42 USC Sec. 6921; 40 CFR Part 261 App VIII) SARA Superfund Amendments and Reauthorization Act of 1986 Title III Section 302 Extremely Hazardous Substances (42 USC Secs. 11023, 13106; 40 CFR sec. 372.65) and Section 313 Toxic Chemicals (42 USC Secs. 11023, 13106; 40 CFR Sec. 372.65 [as of 6/30/05]) TSCA Toxic Substance Control Act (15 U.S.C. s/s 2601 et seq. [1976]) SDWA Safe Drinking Water Act (42 U.S.C. s/s 300f et seq. [1974])

C. U.S. SARA REPORTING REQUIREMENTS:

The components of this product are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act as shown in the table above.

D. U.S. SARA THRESHOLD PLANNING QUANTITY:
There are no specific Threshold Planning quantities for the components of this material. The default Federal SDS submission and inventory requirement filing threshold of 10,000 lbs (4,540 kg) as a result applies, per 40 CFR 370.20.

E. U.S TSCA INVENTORY STATUS:
The components of this material are listed on the TSCA Inventory or are exempted.

F. CERCLA REPORTABLE QUANTITY (RQ):
RQ's for Hazardous Substances in the Comprehensive Environmental Response, Compensation, and Liability Act are as follows: Chromium = 5000 lb. (2270 kg); Copper = 5000 lb. (2270 kg); Nickel = 100 lb. (45 kg); Phosphorous 1 lb. (0.454 kg).

G. STATE REGULATIONS:
Stainless Steel (all grades) as a group is not listed in any state regulations. However, individual components of the product are listed in various state regulations:

H. California Proposition 65:
Contains elements known to the State of California to cause cancer or reproductive toxicity. These elements include chromium compounds, nickel and cobalt

I. Pennsylvania: Contains regulated material in the following categories:
Hazardous Substances: Chromium, Nickel, Manganese, Cobalt, Silicon, Molybdenum, Tungsten, Copper and Aluminum.
Environmental Hazards: Chromium, Nickel, Manganese, Cobalt, Copper, and Aluminum
Special Hazardous Substance: Chromium and Nickel

J. New Jersey: Contains regulated material in the following categories:
Hazardous Substances: Chromium, Nickel, Manganese, Cobalt, Silicon, Molybdenum, Tungsten, Copper and Aluminum.
Special Hazard Substance: Chromium, Manganese, Cobalt, Silicon, Tungsten and Aluminum.
Environmental Hazard Substance: Chromium, Nickel, Manganese, Cobalt and Copper.

K. Minnesota: Chromium, Nickel, Manganese, Cobalt and Molybdenum

L. Massachusetts: Chromium, Nickel, Manganese, Cobalt, Silicon, Molybdenum, Copper, and Aluminum

SECTION 16. OTHER INFORMATION

A. Prepared By: Koswire

B. Revised/Reviewed Date: 08/01/2018

C. Hazardous Material Identification System (HMIS) Classification
Health: 1 **Flammability**: 0 **Reactivity**: 0
HEALTH= 1, Denotes possible chronic hazard if airborne dusts or fumes are produced. Exposure could cause irritation and/or minor injuries. FLAMMABILITY= 0, Materials that will not burn. REACTIVITY= 0, Normally stable, even under fire exposure conditions, and are not reactive with water

D. National Fire Protection Association (NFPA)
Health: 0 **Flammability:** 0 **Reactivity:** 0
HEALTH = 0, No hazard beyond that of ordinary combustible materials. FLAMMABILITY = 0, Materials that will not burn. REACTIVITY = 0, Normally stable, even under fire exposure conditions, and are not reactive with water.

DISCLAIMER: The information, recommendations, and suggestions contained thus far are considered accurate, but do not declare to be all inclusive and should be used solely as a guide. KOSWIRE shall not be held liable for any damages resulting from handling or from contact with the above product.