



Material Safety Data Sheet

Material Name: Galvanized Sheet - Carbon Steel

*** SECTION 1 - CHEMICAL PRODUCT and COMPANY IDENTIFICATION ***

Chemical Name: Galvanized Sheet - Carbon Steel

Product Use: Slab, Roll and Sheet Products

Manufacturer Information

Winner Steel, Inc.

277 Sharpville Avenue

Sharon, PA 16146

Phone # : 724-981-3545

Emergency # : 724-981-3545

(After 5:00 p.m., weekends and holidays) # 724-981-2638

*** SECTION 2 COMPOSITION / INFORMATION ON INGREDIENTS ***

CAS #	Components	Percent
7439-89-6	Iron	97-99
7440-44-0	Carbon	<0.25
7439-96-5	Manganese	<1.0
7440-02-0	Nickel	<0.10
7440-47-3	Chromium	<0.10
7440-21-3	Silicon	<0.05
7429-90-5	Aluminum	<1.0
7440-50-8	Copper	<1.0
7440-36-0	Antimony	<1.0
7440-66-6	Zinc	<14
7440-31-5	Tin	<1.0

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Nickel compounds.

Component Information/Information on Non-Hazardous Components

As supplied, this product is considered non-hazardous under 29 CFR 1910.1200 (Hazard Communication), however, dusts, particulates or fumes generated in the processing of this product are hazardous.

*** SECTION 3 - HAZARD IDENTIFICATION ***

Emergency Overview:

Product is a solid iron alloy. As supplied, this product does not present a physical or health hazard. Processing of the product for some final uses can include formation of dusts, particulates, or fumes which may present certain health hazards. Dusts from this product may pose a dust explosion hazard. Contact of molten product with water poses an explosion hazard. Firefighters should wear a positive pressure self-contained breathing apparatus with full facepiece. DO NOT use water or foam in firefighting. Apply dry chemical, sand or special powder extinguishing media. Galvanized sheet is relatively nontoxic and poses little immediate health hazard to personnel or the environment in an emergency situation.

Potential Health Effects:

Galvanized Sheet dust is relatively nontoxic to humans by inhalation. However, inhalation of high concentrations of dust or fume from further processing, such as welding, burning, melting, cutting, brazing, grinding, or machining may result in respiratory distress, central nervous system effects, or possibly affect other organs. These products may be coated with an oil film which upon prolonged or repeated skin contact may result in skin irritation. Ingestion may cause abdominal irritation resulting in nausea and vomiting. Prolonged or repeated skin contact with dust may cause a mild dermatitis in some individuals. Zinc is not listed as a carcinogen by OSHA, NTP, IAR, CACGIH, or the EU.

*** SECTION 4 - FIRST AID MEASURES ***

Eye Contact: Flush with warm running water, including under the eyelids, for at least 15 minutes. If irritation persists, seek medical attention.

Skin Contact: *Dust:* Remove contaminated clothing and wash affected area with soap and water. Seek medical attention if irritation develops or persists.

Inhalation: Remove victim from exposed area to fresh air immediately. If breathing has stopped, give artificial respiration. Keep affected person warm and at rest. Medical oxygen may be administered, if available, where breathing is difficult. Seek medical attention immediately.

Ingestion: If victim is conscious, dilute stomach contents with 24 cupfuls of water or milk. Do not induce vomiting. Seek medical attention immediately and bring a copy of this MSDS. Never give anything by mouth to an unconscious person.

*** SECTION 5 FIREFIGHTING MEASURES ***

Fire and Explosion Hazards: Massive metal is not considered a fire or explosion hazard; however, zinc metal dust or powder may be flammable or explosive. Bulk metallic dust in a damp state may heat spontaneously and ignite on exposure to air. Contact with acids and alkali hydroxides results in evolution of hydrogen gas which is potentially explosive mixtures with potassium chlorate or ammonium nitrate may explode on contact.

Extinguishing Media: DO NOT use water or foam. Apply dry chemical, sand, or special powder extinguishing media.

Fire Fighting: If possible, move material from fire area and cool material exposed to flame. Apply dry chemical, sand, or special powder extinguishing media. Zinc oxide fumes may evolve in fires. Firefighters should be fully trained and wear full protective clothing including an approved, self-contained breathing apparatus which supplies a positive air pressure within a full facepiece mask.

Flash point and Method: Not Applicable

Upper and Lower Flammable Limit: Not Applicable

Boiling Range: 800 - 2,750 degrees F

*** SECTION 6 - SPILL AND DISPOSAL PROCEDURES ***

Procedures for Cleanup: Control source of spillage if possible to do so safely. Clean up spilled material immediately, observing precautions in section 8, Personal Protection and using methods which will minimize dust generation (e.g., vacuum solids). Return uncontaminated spilled material to the process if possible. Place contaminated material in suitable labeled containers for recovery or disposal. Treat or dispose of waste material in accordance with all local, state/provincial, and national requirements.

Personal Precautions: Protective clothing, gloves, and respirator equipment are recommended for persons exposed to potentially hazardous levels of zinc dust or fume. Where molten metal is involved, wear heat resistant gloves and suitable clothing for protection from hot metal.

Environmental Precautions: Galvanized Sheet has limited bioavailability and poses no immediate ecological risk. However, contamination of water and soil should be prevented.

***** SECTION 7 - HANDLING AND STORAGE *****

Store in a dry covered area, separate from incompatible materials. Always practice good personal hygiene. Thoroughly wash hands before eating, drinking, or smoking in appropriate designated areas. No special packaging material are required.

EU Safety Phrase: Not applicable - not listed as a dangerous substance.

***** SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION *****

Protective Clothing: Gloves and coveralls or other work clothing are recommended. Eye protection should be worn where fume or dust is generated. Respiratory protection may be required where zinc oxide fume is generated. Where hot or molten metal is handled, heat resistant gloves, goggles or face shield, and clothing to protect from hot metal. Safety type boots are recommended.

Ventilation: Use adequate local or general ventilation to maintain the concentration of zinc oxide dust and fume in the working environment well below recommended occupational exposure limits. Use a non-sparking, grounded ventilation system separate from other exhaust ventilation systems. Locate dust collectors outdoors if possible and provide dust collectors with explosion vents. Supply sufficient replacement air to make up for air removed by the exhaust system.

Respirators: Where zinc oxide dust or fume is generated and cannot be controlled to within acceptable levels, use appropriate NIOSH-approved respiratory protection equipment (a 42CFR84 Class N, R or P95 particulate filter cartridge).

***** SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES *****

Appearance: Bluish-silver lustrous metal	Odor: None	Physical State: Solid	pH: Not Applicable
Vapor Pressure: 1 mm at 487 °C (negligible)	Vapor Density: Not Applicable	Boiling Point/Range: 800 - 2750 degrees F	Freezing/Melting Point/Range: 420 °C
Coefficient of Water/Oil			
Specific Gravity: 7.1	Evaporation Rate: Not Applicable	Distribution: Not Applicable	Odor Threshold: None
Solubility: Insoluble in water			

***** SECTION 10 STABILITY AND REACTIVITY *****

Stability & Reactivity: Massive metal is stable in dry air. It slowly becomes covered in a white coating of a hydrated basic zinc carbonate on exposure to moist air. Damp zinc dust or powder may heat spontaneously and ignite on exposure to and in moisture. Zinc metal will react to acids and strong alkalis to generate hydrogen gas. A violent, explosive reaction may occur when powdered zinc is heated with sulphur. Powdered zinc will become incandescent or ignite in the presence of fluorine chlorine or ammonium nitrate may explode on impact.

Incompatibilities: Zinc is incompatible with oxidizing agents, acids, alkalis, and halogenated hydrocarbons, as well as ammonium nitrate, barium peroxide, barium nitrate, chlorates, chlorine, chlorine trifluoride, chromium trioxide, ethyl acetoacetate + tribromoneopentyl alcohol, fluorine, hydrazine mononitrate, hydroxylamine, lead nitrate, manganese + barium nitrate + barium peroxide, manganese chloride, nitric acid, performic acid, potassium chlorate, potassium nitrate, potassium peroxide, selenium, sodium chlorate, sodium peroxide, sulfur, telluride, water, ammonium sulphide, arsenic trioxide, carbon disulphide, calcium chloride, sodium hydroxide, chlorinated rubber, catalytic metals, halocarbons, onitroanisole, nitrobenzene, oxidants, paint primer base, pentacarbonyliron, transition metal halides, and seleninyl bromide. Acidic arsenic compounds in contact with zinc metal may evolve highly toxic ARSINE gas. Contact with acids and alkalis will generate hydrogen gas.

Hazardous Decomposition Products: Thermal oxidation of zinc metal powder or dust will generate zinc oxide fume which, on inhalation in sufficient quantity, can produce metal fume fever, a transient, influenzalike illness.

***** SECTION 11 - TOXICOLOGICAL INFORMATION *****

General: Zinc, especially in the metal form, is relatively nontoxic. However, it can react with other materials, such as oxygen or acids, to form compounds that can be potentially toxic. The major routes of exposure are from eye or skin contact and the inhalation or ingestion of dust or fume.

Acute:

Skin/Eye: Contact with zinc powder or dust or zinc oxide fume may cause local irritation.

Inhalation: If excessive quantities of zinc oxide fume are inhaled, it could result in a condition called metal fume fever. The symptoms of metal fume fever will occur within 3 to 10 hours, and include immediate dryness and irritation of the throat, tightness of the chest, and coughing which may later be followed by flu-like symptoms of fever, malaise, perspiration, frontal headache, muscle cramps, low back pain, occasionally blurred vision, nausea, and vomiting. The symptoms are temporary and generally disappear, without medical intervention, within 24 to 48 hours of onset. There are no recognized complications, after effects, or chronic effects that result from this condition.

Ingestion: When ingested in excessive quantities, zinc can irritate the stomach resulting in nausea and vomiting.

Chronic: There is no chronic form of metal fume fever.

***** SECTION 12 - ECOLOGICAL INFORMATION *****

Zinc in the metallic form has limited bioavailability and poses no immediate ecological risk.

***** SECTION 13 - DISPOSAL CONSIDERATIONS *****

If material cannot be returned to process or salvage, dispose of accordance with applicable regulations.

***** SECTION 14 - REGULATORY INFORMATION *****

U.S.

INGREDIENT LISTED ON TSCA INVENTORY.....Yes

HAZARDOUS UNDER HAZARD COMMUNICATION STANDARD...No

CERCLA SECTION 103 HAZARDOUS SUBSTANCE.....Zinc.....Yes.....RQ: N/A*

*reporting not required when diameter of the pieces of solid metal is equal to or exceeds 100 micrometers.

EPCRA SECTION 302

EXTREMELY HAZARDOUS SUBSTANCE.....No

EPCRA SECTION 311/312 HAZARD CATEGORIES.....No Hazard Categories Apply

EPCRA SECTION 313 Toxic Release Inventory.....This product does not contain any toxic chemicals subject to the Toxic Release reporting requirements. However, potential by-products from working with this product, "Zinc (Dust or Fume)" CAS 7440-66-6 are reportable.

CANADIAN:

INGREDIENTS LISTED ON DOMESTIC SUBSTANCE LIST.....Yes

WHMIS CLASSIFICATION.....N/A. Not a controlled product under CFR

EUROPEAN UNION:

LISTED ON THE EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCE (EINECS).....Yes

EU CLASSIFICATION.....N/A Not listed as a dangerous substance.

Notice to Reader

Although reasonable precautions have been taken in the preparation of the data contained herein, it is offered solely for your information, consideration and investigation. Winner Steel, Inc. extends no warranty and assumes no responsibility for the accuracy of the content and expressly disclaims all liability for reliance thereon. This material safety data sheet provides guidelines for the safe handling and processing of this product; it does not and cannot advise on all possible situations, therefore, your specific use of this product should be evaluated to determine if additional precautions are required. Individuals exposed to this product should read and understand this information and be provided pertinent training prior to working with this product.