MATERIAL SAFETY DATA SHEET

Abbreviations used on this Material Safety Data Sheet:
N/av. = Not available, N/ap. = Not applicable, ppm = parts per million, TWA = Time weighted average.

WHMIS CLASS: NOT A CONTROLLED PRODUCT

SECTION 1 - PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER:	**STEEL WIRE NAILS, ZINC COATED**
PRODUCT USE:	Various applications.
SUPPLIER:	**Tree Island Industries Ltd.** P.O. Box 50, New Westminster, BC, Canada, V3L 4Y1
TELEPHONE:	(604) 524-3744, Business hours. (604) 524-3756, 24-hour Emergency Number

SECTION 2 – HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	%	CAS NUMBER	LETHAL DOSE (50%) (SPECIES, ROUTE)	LETHAL CONCENTRATION (50%) (SPECIES, ROUTE)
Iron	95	7439-89-6	N/av.	N/av.
Zinc	1-5	7440-66-5	N/av.	N/av.
Chromium	0.1	7440-47-3	N/av.	N/av.
Manganese	.2-1	7439-96-5	N/av.	N/av.
Nickel	0.1	7440-02-0	N/av.	N/av.

SECTION 3 – PHYSICAL DATA

PHYSICAL STATE:	Solid	ODOUR , APPEARANCE:	Odourless. Massive grey metal.					ODOUR THRESHOLD :	N/ap.
VAPOUR PRESSURE:	N/ap.	VAPOUR DENSITY:	N/ap.	EVAPORATION RATE:	N/ap.	BOILING POINT:	3000 C steel 907 C zinc	MELTING POINT:	1300 C -steel 420 c - Zinc
pH:	N/ap.	SPECIFIC GRAVITY:	7.85 -steel	COEFFICIENT OF WATER/OIL DISTRIBUTION:		Not soluble in water.			

SECTION 4 - FIRE AND EXPLOSION DATA

FLAMMABILITY: YES NO X	Massive metal is not flammable. Dust can form explosive mixtures with air.				
MEANS OF EXTINCTION:	Smother fire with dry powder extinguisher.				
SPECIAL PROCEDURES:	Fire fighters should wear self-contained breathing apparatus. Water may be used to keep exposed containers cool.				
FLASHPOINT:	N/ap.	UPPER FLAMMABILITY LIMIT: (% BY VOLUME)	N/av.	LOWER FLAMMABILITY LIMIT: (% BY VOLUME)	N/av.
AUTOIGNITION TEMPERATURE:	680 °C (dust cloud)	HAZARDOUS COMBUSTION PRODUCTS:	Oxides of zinc.		
SENSITIVITY TO IMPACT:	Not sensitive. Stable material.	SENSITIVITY TO STATIC DISCHARGE:	Massive metal not sensitive.		

SECTION 5 – REACTIVITY DATA

CHEMICAL STABILITY : YES X NO	Massive metal is stable under normal conditions. Heating may generate zinc oxide fumes. Damp dust or powder may heat spontaneously and ignite on exposure to air.
INCOMPATIBILITY : YES X NO	Avoid contact with strong acids and alkali hydroxides which may react vigorously with the product to form flammable hydrogen gas. Avoid contact with halogenated hydrocarbons, oxidizing materials, ammonium nitrate, sulphur, and halogens – all of which can react dangerously with the product.

REACTIVITY:

Hazarous polymerization will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS:

None.

PRODUCT IDENTIFIER: **STEEL WIRE NAILS, ZINK COATED**

SECTION 6 –TOXICOLOGICAL PROPERTIES

ROUTES OF ENTRY:

Inhalation: Major only when heated. Skin: Minor Eyes: Minor Ingestion: Minor

EFFECTS OF ACUTE EXPOSURE TO PRODUCT:

Metal fume fever can be caused by inhalation of zinc oxide fumes formed from welding or heating zinc metal. Symptoms resemble the flu and usually occur 4 to 12 hours after exposure and usually last 24 hours. Recovery is complete with no apparent permanent effects. Skin irritation is unlikely. Eye contact causes irritation due to the presence of a 'foreign object' only. Ingestion is unlikley to produce toxic effects.

EFFECTS OF CHRONIC EXPOSURE TO PRODUCT:

Prolonged or repeated contact with skin can cause dermatitis. Nickel is listed by IARC in Group 2B (possible human carcinogen). The NTP lists Nickel as a chemical which 'may reasonably be anticipated to be a carcinogen'. The ACGIH lists Nickel with carcinogenicity designation A5 – Not Suspected as a Human Carcinogen. Chromium is listed by IARC in Group 3 (Not Classifiable).

EXPOSURE LIMITS:	IRRITANCY :	SENSITIZATION:	CARCINOGENICITY:
For Zinc oxide fumes: ACGIH TLV-TWA : 5 mg/m3 ACGIH TLV-STEL : 10 mg/m3	As above.	Not reported.	Nickel component is possible human carcinogen.
TERATOGENICITY:	REPRODUCTIVE TOXICITY:	MUTAGENICITY:	SYNERGISTIC PRODUCTS:
Not reported.	Not reported.	Not reported.	Not reported.

SECTION 7 – PREVENTIVE MEASURES

GLOVES:	RESPIRATOR :	EYE:
General protective gloves.	Respiratory protection normally not required. If fumes or dust are generated, use approved respiratory protection.	Avoid use of contact lenses if fumes are generated.
FOOTWEAR:	CLOTHING :	OTHER:
Safety boots.	Coveralls or other work clothes.	Eye wash station must be available.

ENGINEERING CONTROLS:

A combination of general dilution ventilation and local exhaust should be used when fumes or dusts are generated.

LEAK AND SPILL PROCEDURE:

N/ap.

WASTE DISPOSAL:

Follow all national, provincial, and local regulations.

HANDLING PROCEDURES AND EQUIPMENT:

Use adequate ventilation and personal protective equipment when welding, brazing, burning, sawing, grinding or machining Zinc Coated Wire.

STORAGE REQUIREMENTS:

Store away from incompatible materials. See Section 5 of this MSDS.

SPECIAL SHIPPING INFORMATION:

Not dangerous goods.

SECTION 8 – FIRST AID MEASURES

EYE CONTACT: Immediately flush eyes with water for 15 minutes while retracting eyelids. Seek medical attention.

SKIN CONTACT: Wash affected area of body with soap and water. Seek medical attention if irritation persists.

INHALATION: Remove victim to fresh air. Give artificial respiration if breathing has stopped. Seek immediate medical attention.

INGESTION: Not generally expected. Seek medical attention if necessary.

SECTION 9 - PREPARATION DATE OF MSDS

PREPARED BY:	PHONE NUMBER:	DATE:
Sofya Solodkin, P.Eng, Tree Island Industries	(604)-524-3744	December 18, 2001, reapproved Jan.23/2004