

MATERIAL SAFETY DATA SHEET

Abbreviations used on this Material Safety Data Sheet:

N/av. = Not available, N/ap. = Not applicable, ppm = parts per million, ACGIH: American Conference of Governmental Hygeinists
TWA = Time weighted average

WHMIS CLASS: NOT A CONTROLLED PRODUCT

SECTION 1 - PRODUCT IDENTIFICATION AND USE

PRODUCT IDENTIFIER:	STEEL WIRE NAILS, BRIGHT (Phosphated or Vinyl)
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. +1 (604) 524-3756, 24-hour Emergency Number

SECTION 2 - HAZARDOUS INGREDIENTS

HAZARDOUS INGREDIENTS	CONCENTRATION %	CAS NUMBER	LETHAL DOSE (50%) (SPECIES, ROUTE)	LETHAL CONCENTRATION (50%) (SPECIES, ROUTE)
Iron	~95	7439-89-6	98600 mg/kg (oral/rat)	N/av.
Manganese	.2 to 1	7439-96-5	>9000 mg/kg (oral/rat)	N/av.
Chromium	Up to 0.1	7440-47-3	N/av.	N/av.
Nickel	Up to 0.1	7440-02-0	>9000 mg/kg (oral/rat)	2550 mg/m3 (rat/4hr)
Zinc phosphate (Phosphated nails only)	Appr. 0.03-0.1	7779-90-0	>5000 mg/kg (oral/rat)	N/av.
During burning zinc oxide is generated	unknown	1314-13-2	2950 mg/kg (oral/rat)	2500 mg/m ³ (mouse/4hr)
Vinyl resins (vinyl coated nails only)	Appr. 0.03-0.1	9005-09-8	N/av	N/av

SECTION 3 - PHYSICAL DATA

PHYSICAL STATE: Solid	ODOUR, APPEARANCE: Odourless.	ODOUR THRESHOLD : N/ap.
VAPOUR PRESSURE: N/a.	VAPOUR DENSITY: N/ap.	EVAPORATION RATE: N/ap.
	BOILING POINT: 3000 ° C	MELTING POINT: 1300 ° C
pH: N/ap.	SPECIFIC GRAVITY: 7.85	COEFFICIENT OF WATER/OIL DISTRIBUTION: Not soluble in water.

SECTION 4 - FIRE AND EXPLOSION DATA

FLAMMABILITY:		Massive metal is not flammable.		
YES	NO	X		
MEANS OF EXTINGUISHMENT:		No fire or explosion hazard – not combustible		
SPECIAL PROCEDURES:		N/a		
FLASHPOINT:		N/ap.	UPPER FLAMMABILITY LIMIT: (% BY VOLUME) N/a.	LOWER FLAMMABILITY LIMIT: (% BY VOLUME) N/a.
AUTOIGNITION TEMPERATURE:		N/a	HAZARDOUS COMBUSTION PRODUCTS: N/a	
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.
INCOMPATIBILITY : YES X NO	Avoid contact with strong acids which will react with the product to form flammable hydrogen gas.
REACTIVITY:	Hazarous polymerization will not occur.
HAZARDOUS DECOMPOSITION PRODUCTS:	None

PRODUCT IDENTIFIER: STEEL WIRE NAILS, BRIGHT			
SECTION 6 –TOXICOLOGICAL PROPERTIES			
ROUTES OF ENTRY: Inhalation: Only when heated. Skin: Minor Eyes: Minor Ingestion: minor			
EFFECTS OF ACUTE EXPOSURE TO PRODUCT: Metal fume formed from welding or heating of metal may cause respiratory irritation. Skin irritation is unlikely. Eye contact causes irritation due to the presence of a "foreign object" only. Ingestion is unlikely 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 metal is listed by IARC in Group 3 (Not Classifiable).			
EXPOSURE LIMITS: ACGIH TLV-TWA Iron fume : 5 mg/m ³ Manganese fume : 1 mg/m ³ Chromium: 0.5 mg/m ³ Nickel: 1.5 mg/m ³ (inhalable fraction) Zinc oxide dust(Phosphated nails only): 2 mg/m ³	IRRITANCY : As above.	SENSITIZATION: Not reported.	CARCINOGENICITY: Nickel component is possible human carcinogen.
TERATOGENICITY: Not reported.	REPRODUCTIVE TOXICITY: Not reported.	MUTAGENICITY: Not reported.	SYNERGISTIC PRODUCTS: Not reported.
SECTION 7 - PREVENTIVE MEASURES			
GLOVES: General protective gloves.	RESPIRATOR : Respiratory protection normally not required. If fumes or dust are generated, use approved respiratory protection.	EYE: Safety glasses	
FOOTWEAR: Safety boots.	CLOTHING : Coveralls or other work clothes.	OTHER: 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.			
STORAGE REQUIREMENTS: Store away from incompatible materials. See Section 5 of this MSDS.			
SPECIAL SHIPPING INFORMATION: Not regulated as 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: Maintain good personal hygiene, wash with soap and water. Seek medical attention if necessary. INHALATION: Remove victim to fresh air. Seek immediate medical attention. INGESTION: Not generally expected. Seek medical attention if necessary.			
SECTION 9 – PREPARATION DATE OF MSDS			
PREPARED BY: Sofya Solodkin, P.Eng, Tree Island Industries Reviewed by: Kel-Ex Agencies, A Division of ICC, The Compliance Center	PHONE NUMBER: (604)-524-3744	DATE: Original Preparataion Date: December 18, 2001, Reviewed and re-issued March 29, 2012	