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SECTION 1. IDENTIFICATION

Product identifier used on the label
: **Steel Wire Nails, Zinc Coated**

Product Code(s) : Not available.

Recommended use of the chemical and restrictions on use
: Various.

Restriction on use: None known

Chemical family : Mixture.

Name, address, and telephone number of the supplier:

Tree Island Industries Ltd.

3933 Boundary Road
Richmond, BC , Canada
V6V 1T8

Supplier's Telephone # : 604-524-3744

Name, address, and telephone number of the manufacturer:

Refer to supplier

24 Hr. Emergency Tel # : INFOTRAC: (800) 535-5053 (Within Continental US and Canada); (352)323-3500 (International)

SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

This material is not classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Label elements

Signal Word

Not required

Hazard statement(s)

Not required

Precautionary statement(s)

None required.

Other hazards

Other hazards which do not result in classification :
Dust may irritate eyes and the respiratory system. Iron particles in the eye may leave a "rust ring" or brownish stain on the cornea. This product contains Manganese compounds. Chronic manganese exposures can lead to neurological problems such as apathy, drowsiness, weakness, spastic gait, paralysis, and other neurological problems resembling Parkinsonism. These symptoms can become progressive and permanent if not treated.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	Common name and synonyms	CAS #	Concentration (% by weight)
Iron	Iron, Elemental; Iron Dust	7439-89-6	**90.0 - 99.0**
Zinc	Elemental zinc	7440-66-6	**1.0 - 8.0**
Manganese	Manganese, Elemental	7439-96-5	**0.1 - 1.0**
Chromium	Chromium, Elemental	7440-47-3	**<0.40**
Nickel	Elemental nickel	7440-02-0	**<0.15**
Copper	Copper, Elemental	7440-50-8	**<0.35**
Zinc oxide fume may be present at high temperatures (i.e welding). It does not exist under normal conditions.			
Zinc oxide	Zinc monoxide	1314-13-2	**<0.1**

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SECTION 4. FIRST-AID MEASURES

Description of first aid measures

Ingestion : Not generally needed. However, if the article is damaged and/or material is released: Do not induce vomiting. Get medical advice/attention if you feel unwell.

Inhalation : Not normally required. However, if the article is damaged and/or material is released: Move to fresh air. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration.Seek immediate medical attention/advice.

Skin contact : Not normally required. However, if the article is damaged and/or material is released: Wash affected areas with soap and water. When symptoms persist or in all cases of doubt, seek medical advice.

Eye contact : Not normally required. However, if the article is damaged and/or material is released: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if needed.

Most important symptoms and effects, both acute and delayed

: Dust may irritate eyes and the respiratory system. Symptoms may include stinging and tearing. Inhalation of fumes may result in metal fume fever, a flu-like illness.Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of breath.

Indication of any immediate medical attention and special treatment needed

: Treatment symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

: Use media appropriate for surrounding material.

Unsuitable extinguishing media

: Do not use water jet as extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture / Conditions of flammability

: No unusual fire or explosion hazards noted.

Flammability classification (OSHA 29 CFR 1910.106)

: Not flammable.

Hazardous combustion products

: Metal oxides - zinc oxide fumes may be generated from welding or heating zinc metal.

Special protective equipment and precautions for firefighters

Protective equipment for fire-fighters

: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire-fighting procedures

: Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

: Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Avoid inhalation of dust. Avoid inhalation of fumes from molten product.

Environmental precautions : Avoid discharge into drains, water courses or onto the ground.

Methods and material for containment and cleaning up

: Undamaged articles can usually be reclaimed. Wear appropriate protective equipment and clothing during clean-up. Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see Section 13. Avoid dust formation. Do not flush spill to drain.

Special spill response procedures

: If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): None reportable.

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SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

: Wear personal protective equipment. Wash hands after handling and before eating. Keep away from acids and other incompatibles.Keep away from extreme heat and direct flame.

Conditions for safe storage : Store in closed original container in a dry place. Store away from incompatible materials (see Section 10 of the SDS).Protect against physical damage.

Incompatible materials : Acids; Strong oxidizing agents; Bases; Reducing agents .

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:

Chemical Name	ACGIH TLV		OSHA PEL	
	TWA	STEL	PEL	STEL
Iron	N/Av	N/Av	N/Av	N/Av
Zinc	N/Av	N/Av	N/Av	N/Av
Manganese	0.02 mg/m³ (respirable); 0.1 mg/m³ (inhalable)	N/Av	5 mg/m³ (fume) (Ceiling)	N/Av
Chromium	0.5 mg/m³	N/Av	1 mg/m³	N/Av
Nickel	1.5 mg/m³ (inhalable)	N/Av	1 mg/m³	N/Av
Zinc oxide	2 mg/m³ (respirable)	10 mg/m³ (respirable)	5 mg/m³ (fume); 15 mg/m³ (total dust); 5 mg/m³ (respirable)	N/Av
Copper	0.2 mg/m³ (fume); 1 mg/m³ (Dust and mist)	N/Av	0.1 mg/m³ (fume); 1 mg/m³ (Dust and mist)	N/Av

Exposure controls

Ventilation and engineering measures

: No special ventilation requirements.Ventilation should be sufficient to effectively remove and prevent buildup of any dusts or fumes that may be generated during handling or thermal processing.

Respiratory protection : No personal respiratory protective equipment normally required. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Advice should be sought from respiratory protection specialists.

Skin protection : Wear gloves impervious to this material.Advice should be sought from glove suppliers.

Eye / face protection : Wear safety goggles or glasses as appropriate for the job. Provide an emergency eye wash fountain and quick dench shower in the immediate work area.

Other protective equipment : Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

: Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Solid

Odour : Odorless.

Odour threshold : Not applicable.

pH : Not applicable.

Melting/Freezing point : 2498 °F (1370 °C) (Steel) 791.6°F (422°C) (Zinc Coating)

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Initial boiling point and boiling range
: 5432 °F (3000 °C) (Steel)
1664.6°F (907°C) (Zinc Coating)

Flash point : Not flammable
Flashpoint (Method) : Not applicable.
Evaporation rate (BuAe = 1) : Not applicable.
Flammability (solid, gas) : Not applicable.
Lower flammable limit (% by vol.)
: Not applicable.
Upper flammable limit (% by vol.)
: Not applicable.
Oxidizing properties : None.
Explosive properties : Not explosive
Vapour pressure : Not available.
Vapour density : Not available.
Relative density / Specific gravity
: 7.85
Solubility in water : insoluble
Other solubility(ies) : None known.
Partition coefficient: n-octanol/water or Coefficient of water/oil distribution
: Not available.
Auto-ignition temperature : 1256 °F (680 °C) (Dust cloud)
Decomposition temperature : Not available.
Viscosity : Not applicable.
Volatiles (% by weight) : Not available.
Volatile organic Compounds (VOC's)
: None.
Absolute pressure of container
: Not applicable.
Flame projection length : Not available.
Other physical/chemical comments
: No additional information.

SECTION 10. STABILITY AND REACTIVITY

Reactivity : The product is stable and non-reactive under normal conditions of use, storage and transport. Contact with most acids will generate flammable hydrogen gas.
Chemical stability : Material is stable under normal conditions.
Possibility of hazardous reactions
: No dangerous reaction known under conditions of normal use.
Conditions to avoid : Contact with incompatible materials.
Incompatible materials : Strong acids. Halogenated materials. Oxidizing agents Halogens. Ammonia nitrate Sulfur.
Hazardous decomposition products
: None known, refer to hazardous combustion products in Section 5.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure:

Routes of entry inhalation : YES
Routes of entry skin & eye : YES
Routes of entry Ingestion : YES
Routes of exposure skin absorption
: NO

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Potential Health Effects:

Signs and symptoms of short-term (acute) exposure

Sign and symptoms Inhalation

: Inhalation of dusts may cause respiratory irritation. Inhalation of fumes may result in metal fume fever, a flu-like illness. Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of breath.

Sign and symptoms ingestion

: Expected to be low ingestion hazard.

Sign and symptoms skin : No adverse effects due to skin contact are expected. Prolonged skin contact may cause temporary irritation.

Sign and symptoms eyes : Dust in the eyes will cause irritation. Iron particles in the eye may leave a "rust ring" or brownish stain on the cornea.

Potential Chronic Health Effects

: Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis.

This product has no known adverse effect on human health.

Mutagenicity : No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity : No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.

Reproductive effects & Teratogenicity

: This product is not expected to cause reproductive or developmental effects.

Sensitization to material : Not expected to be a respiratory sensitizer.
This product is not expected to cause skin sensitization.

Specific target organ effects : Not classified as a specific target organ toxicity-single exposure.

Not classified as specific target organ toxicity-repeated exposure.

Medical conditions aggravated by overexposure

: None known or reported by the manufacturer.

Synergistic materials : Not available.

Toxicological data : See below for individual ingredient acute toxicity data. No data is available on the product itself.

Chemical name	LC_{50}(4hr) inh, rat	LD_{50} (Oral, rat)	LD_{50} (Rabbit, dermal)
Iron	N/Av	98600 mg/kg	N/Av
Zinc	> 5.4 mg/L (dust) (No mortality)	> 2000 mg/kg (No mortality)	n/av
Manganese	> 5.14 mg/L (dust) (No mortality)	> 2000 mg/kg (No mortality)	N/Av
Chromium	>5.41 mg/L/4H (dust)	>5000 mg/kg	N/Av
Nickel	> 2.55 mg/L (dust) (no deaths)	> 9000 mg/kg	N/Av
Copper	> 5.11 mg/L (dust) (No mortality)	> 2500 mg/kg	> 2000 mg/kg
Zinc oxide fume may be present at high temperatures (i.e welding). It does not exist under normal conditions.			
Zinc oxide	> 5.7 mg/L (dust) (No mortality)	> 5000 mg/kg	> 2000 mg/kg (No mortality)

Other important toxicological hazards

: None known or reported by the manufacturer.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity : The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

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Ecotoxicity data:

Ingredients	CAS No	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Iron	7439-89-6	>10000 mg/L (Zebra fish)	N/Av	N/Av
Zinc	7440-66-6	N/Av	N/Av	N/Av
Manganese	7439-96-5	> 3.6 mg/L (Rainbow trout)	N/Av	N/Av
Chromium	7440-47-3	120 mg/L (Japanese ricefish)	0.017 mg/L/28days	10
Nickel	7440-02-0	15.3 mg/L (Rainbow trout)	N/Av	N/Av
Zinc oxide	1314-13-2	1.1 mg/L (Rainbow trout)	N/Av	None.
Copper	7440-50-8	N/Av	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Iron	7439-89-6	>100 mg/L Water flea	5.9 mg/L Water flea	N/Av
Zinc	7440-66-6	0.07 mg/L Water flea	0.12 mg/L/29-day Water flea	10
Manganese	7439-96-5	> 1.6 mg/L Water flea	1.7 mg/L/8days Water flea	N/Av
Chromium	7440-47-3	0.07 mg/L Water flea	N/Av	10
Nickel	7440-02-0	1 mg/L Water flea	N/Av	N/Av
Zinc oxide	1314-13-2	0.098 mg/L (Daphnia magna)	N/Av	10
Copper	7440-50-8	N/Av	N/Av	None.

Ingredients	CAS No	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Iron	7439-89-6	N/Av	N/Av	N/Av
Zinc	7440-66-6	0.15 mg/L/72hr (Green algae)	0.05 mg/L/72hr (Green algae)	1
Manganese	7439-96-5	4.5 mg/L/72hr (Green algae)	N/Av	N/Av
Chromium	7440-47-3	N/Av	N/Av	N/Av
Nickel	7440-02-0	N/Av	N/Av	N/Av
Zinc oxide	1314-13-2	0.044 mg/L/72hr (Green algae)	N/Av	10
Copper	7440-50-8	N/Av	N/Av	None.

Persistence and degradability : No data is available on the degradability of this product.

Bioaccumulation potential : No data is available on the product itself.

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Components	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)
Iron (CAS 7439-89-6)	N/Av	N/Av
Zinc (CAS 7440-66-6)	N/Av	N/Av
Manganese (CAS 7439-96-5)	N/Av	N/Av
Chromium (CAS 7440-47-3)	N/Av	N/Av
Nickel (CAS 7440-02-0)	N/Av	N/Av
Zinc oxide (CAS 1314-13-2)	1.53 (estimated)	N/Av
Copper (CAS 7440-50-8)	N/Ap	N/Ap

Mobility in soil : No data is available on the product itself.

Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13. DISPOSAL CONSIDERATIONS

Handling for Disposal : Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Methods of Disposal : Dispose in accordance with all applicable regulations.

RCRA : Under the RCRA, it is the responsibility of the waste generator to determine the proper waste identification and disposal method.

SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
TDG	None	Not regulated.	Not regulated	none	
TDG Additional information	None.				
49CFR/DOT	None	Not regulated.	Not regulated	none	
49CFR/DOT Additional information	None.				
ICAO/IATA	None.	Not regulated.	Not regulated	none	
ICAO/IATA Additional information	None.				

Special precautions for user : None known.

Environmental hazards : See ECOLOGICAL INFORMATION, Section 12.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

: Not applicable.

SECTION 15 - REGULATORY INFORMATION

US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

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Ingredients	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de minimus Concentration
Iron	7439-89-6	Yes	N/Ap	N/Av	No	N/Ap
Zinc	7440-66-6	Yes	1000 lbs / 454 kg	None.	Yes	1%
Manganese	7439-96-5	Yes	None.	None.	Yes	1%
Chromium	7440-47-3	Yes	5000 lb final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers); 2270 kg final RQ (no reporting of releases of this hazardous substance is required if the diameter of the pieces of the solid metal released is larger than 100 micrometers)	N/Av	Yes	1%
Nickel	7440-02-0	Yes	100 lb/45.4 kg	None.	Yes	0.1%
Zinc oxide	1314-13-2	Yes	None.	None.	No	N/Ap
Copper	7440-50-8	Yes	5000 lbs / 2270 kg	None.	Yes	1%

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Not a hazard under normal conditions of use. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds or the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Iron	7439-89-6	No	N/Ap	Yes	No	No	No	No	No
Zinc	7440-66-6	No	N/Ap	Yes	Yes	No	Yes	Yes	Yes
Manganese	7439-96-5	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes
Chromium	7440-47-3	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes
Nickel	7440-02-0	Yes	Cancer	Yes	Yes	Yes	Yes	Yes	Yes
Zinc oxide	1314-13-2	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes
Copper	7440-50-8	No	N/Ap	Yes	Yes	Yes	Yes	Yes	Yes

Canadian Information:

Canadian WHMIS Classification: Refer to Section 2 for a WHMIS Classification for this product.

Canadian Environmental Protection Act (CEPA): All components of this product are on the Canadian DSL list.

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International Information:

Components listed below are present on the following International Inventory list:

Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Iron	7439-89-6	231-096-4	Present	Present	No information available.	KE-21059	Present	No information available.
Zinc	7440-66-6	231-175-3	Present	Present	Not listed	KE-35518	Present	HSR001478, HSR001477, HSR001301, HSR001475, HSR001476
Manganese	7439-96-5	231-105-1	Present	Present	Not listed	KE-22999	Present	HSR003013
Chromium	7440-47-3	231-157-5	Present	Present	No information available.	KE-05970	Present	HSR002943
Nickel	7440-02-0	231-111-4	Present	Present	Not listed	KE-25818	Present	HSR003031
Zinc oxide	1314-13-2	215-222-5	Present	Present	(1)-561	KE-35565	Present	HSR003104
Copper	7440-50-8	231-159-6	Present	Present	Not listed	KE-08896	Present	HSR002948

SECTION 16. OTHER INFORMATION

Legend : ACGIH: American Conference of Governmental Industrial Hygienists
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
DOT: Department of Transportation
DSL: Domestic Substances List
EPA: Environmental Protection Agency
HMIS: Hazardous Materials Identification System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
N/Ap: Not Applicable
N/Av: Not Available
NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
WHMIS: Workplace Hazardous Materials Identification System

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References : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices for 2016
2. International Agency for Research on Cancer Monographs, searched 2017
3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2017(Chempendium, HSDB and RTECs).
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists - 2017 version.
6. California Proposition 65 List - 2017 version.
7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal,2017.

Preparation Date (mm/dd/yyyy) : 12/05/2017

Other special considerations for handling : Provide adequate information, instruction and training for operators.

Prepared for: Tree Island Industries Ltd. 3933 Boundary Road Richmond, BC, Canada V6V 1T8 Telephone: 604-524-3744 Direct all enquiries to: Tree Island Industries Ltd.	
Prepared by: ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) http://www.thecompliancecenter.com	icc ComplianceCenter

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