



# SAFETY DATA SHEET

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Tie wire Rebar 16G, Tie Wire Green and black annealed wire 9G & 12G products produced using various grades of hot rolled carbon steel rod coil production facilities located at:

QIAN AN JIUJIANG WIRE CO, LTD  
 Add: South of Song ting Village, Muchangkou Town, Qian An City, Hebei Province, China  
 Technical contact: 0315-7056114

All information presented here in supplied in good faith by:

**Supplier Name:** Vanguard Steel Ltd.  
**Head Office Address:** 2160 Meadowpine Blvd.  
 Mississauga, Ontario  
 L5N 6H6  
 Canada

**Telephone:** 905-821-1100  
 800-268-2169

## 2. HAZARD IDENTIFICATION

**Important:** This section covers the materials from which the product is manufactured.

Primary Metals	General Chemical Formula	C.A.S. Number	% Wt.
Iron	Fe	7435-89-6	>99%
Manganese	Mn	7439-96-5	<1%

**Coating:** A surface coating consisting of one or more of soluble oil, borax (<0.5% total weight of product) or zinc (<2.4% total weight of product) may be added to the surface as a corrosion or oxidation preventative.

## 3. PHYSICAL DATA

Boling Point (f)	N/A	Evaporation Rate
Vapor Pressure (mm Hg s 20C)	N/A	(ethyl Ether =1) N/A
Vapor Density (Air=1)	N/A	Specific Gravity
Solubility in Water	N/A	(H2O=1.00) Approx. 0.0
Percent volatile by volume	N/A	

Appearance and odor: odorless solid with Metallic Luster



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## 4. FIRE AND EXPLOSION HAZARD DATA

Flash Point		N/A
Firefighting Instructions	N/A	
LEL/UEL		N/A
Explosion Hazards		None
Flammability Limits (% vol.)		N/A

Product is non-combustible

## 5. REACTIVITY DATA

Stability	Stable
Hazardous polymerization	will not occur

Comments: Metal fumes and certain noxious gases such as carbon monoxide may be produced during welding or flame cutting of steel.

Refer to section VI and VII for additional information.

## 6 HEALTH HAZARD INFORMATION

Primary route(s) of Entry:	Inhalation and or prolonged skin contact
Effects of Exposure:	No toxic effects would be expected from exposure in its inert solid form Prolonged repeated exposure to fumes or dust generated by grinding, welding, flame cutting and or brazing may cause the following adverse health effects:
Inhalation:	
Iron (Fe):	Siderosis or fibrosis
Manganese (Mn):	Pneumonitis central nervous system involvement resulting irritability, difficulty in walking, speech disorders, compulsive behavior, mask like face and Parkinson like syndrome
Zinc (Zn):	Inhalation of zinc dust or zinc oxide fumes can cause flu like illness called metallic fever.
Soluble oil:	Inhalation of smoke resulting from beating may result in pulmonary irritation.
Borax:	Ingestion may cause nausea, vomiting, diarrhea and erythematous flush.
Skin contact:	Prolonged exposure may cause irritation
Eye Contact:	Prolonged exposure may cause irritation to mouth and throat.

### OSHA PEL

Ingredient	mg/cm <sup>3</sup>	TLV(ACGIH)
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IRON (Fe)	10(as Fe <sub>2</sub> O <sub>3</sub> )	S(as Fe <sub>2</sub> O <sub>3</sub> )
Manganese (Mn)	5	1.0(as fume)
Zinc (Zn)	5(fume)	5
Borax (Na <sub>2</sub> B <sub>4</sub> O <sub>7</sub> -5H <sub>2</sub> O)	not listed	1

## 7. EMERGENCY AND FIRST AID PROCEDURES:



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Inhalation: Move to fresh air. Seek Medical attention deemed necessary.

Skin Contact: If irritation develops, remove contaminate clothing, wash areas of contamination with soap and water or mild detergent for five minutes. Seek medical attention if deemed necessary.

Eye Contact: Immediately wash eyes with large amounts of water for five minutes, occasionally lifting upper and lower eye lids. Seek medical attention if deemed necessary.

Ingestion: Seek Medical attention if deemed necessary.

**Emergency and First Aid Procedures:** Call for medical assistance. Use first aid procedures recommended by the American Red Cross. If breathing is difficult give oxygen. If not breathing use CPR (cardiopulmonary resuscitation).  
**Carcinogenicity:** Thorium dioxide has been identified as a carcinogen by NTP, IARC and others. Evidence for its ability to cause cancer has come solely from its internal medical use.

## 8. SPILLS, LEAK and DISPOSAL PROCEDURES

Action to take for spills: N/A  
Waste disposal methods: N/A

## 9. SPECIAL HANDLING INFORMATION

Ventilation: Provide adequate ventilation as described in the Industrial Ventilation Manual produced by the American Conference of Industrial Hygienist in those areas or application of product use that result in exposure limits greater than the permissible.

Respiratory protection: When performing metal working operations that may produce dust smoke and or fume properly fitted, NIOSH approve, dust and fume respirator should be worn.

Protective Clothing: The use of appropriate protective clothing such as welder's aprons and gloves for burning and cutting operations are recommended.

Eye protection: Use protective goggles, face shields and or hoods when performing hot working operations such as grinding ,welding, brazing and or cutting.

## 10. ADDITIONAL SPECIAL PRECAUTIONARY INFORMATION

Precautions to be taken in handling and storage: None

DOT information:  
Hazardous Material Shipping requirements: N/A  
EPA Hazardous Waste Number: N/A