

# MATERIAL SAFETY DATA SHEET

## STEEL PRODUCTS

CODE NO.: na	
ORIGINAL ISSUE DATE: 11/2/10	REVISED:

<b>I. IDENTIFICATION</b>		INFORMATION AND EMERGENCY TELEPHONE NUMBERS (708) 339-1610	
PRODUCT NAME: Barbed tape		<b>MANUFACTURER:</b> Allied Tube & Conduit Corp 16100 South Lathrop Avenue Harvey, IL 60426	
COMMON NAME (S): Razor wire, Silent Swordsman, Concertina wire, Barbed tape			
<b>II. INGREDIENTS AND RECOMMENDED OCCUPATIONAL EXPOSURE LIMITS</b>			
Note: Steel Products under normal conditions do not present an inhalation, ingestion, or contact health hazard (See Section VI).			
BASE METAL, ALLOYING ELEMENTS AND METALLIC COATINGS	% WEIGHT	EXPOSURE LIMITS*	
		OSHA PEL	ACGIH TLV (1992-1993)
Base Metal: Iron CAS 7439-89-6	>70%	10 mg/M <sup>3</sup> for total particulate as iron oxide – total dust 5 mg/M <sup>3</sup> for total particulate-respirable fraction	5 mg/M <sup>3</sup> for iron oxide fumes
Alloying Elements: Carbon CAS 7440-44-0	<0.2%	10 mg/M <sup>3</sup> for total dust (pnor) <sup>d</sup> 5mg/M <sup>3</sup> for respirable fraction (pnor) <sup>d</sup>	10 mg/M <sup>3</sup> for total dust (pnos) <sup>e</sup> 3 mg/M <sup>3</sup> for respirable fraction (pnos) <sup>e</sup>
*Manganese CAS 7439-96-5	<2%	(c) 5 mg/M <sup>3</sup> – compounds (b) 3 mg/M <sup>3</sup> – fume 1 mg/M <sup>3</sup> – fume	5 mg/M <sup>3</sup> – dust & compounds 1 mg/M <sup>3</sup> – fume (b) 3 mg/M <sup>3</sup> - fume
*Phosphorus CAS 7723-14-0	<0.1%	0.1 mg/M <sup>3</sup> for total dust (pnor) <sup>d</sup> 5mg/M <sup>3</sup> for respirable fraction (pnor) <sup>d</sup>	0.1 mg/M <sup>3</sup> for total dust (pnos) <sup>e</sup> 3 mg/M <sup>3</sup> for respirable fraction (pnos) <sup>e</sup>
Sulfur CAS 774-34-9	<0.1%	2 mg/M <sup>3</sup> as sulfur dioxide (b) 10 mg/M <sup>3</sup> – as sulfur dioxide	2 mg/M <sup>3</sup> as sulfur dioxide (b) 13 mg/M <sup>3</sup> – as sulfur dioxide
Silicon CAS 7440-21-3	<1%	15 mg/M <sup>3</sup> for total dust (pnor) <sup>d</sup>	10 mg/M <sup>3</sup> for respirable fraction (pnor) <sup>d</sup>
Chromium CAS 7440-47-3	<18%	1 mg/M <sup>3</sup> as metal	0.5 mg/M <sup>3</sup> as metal
Nickel CAS 7440-02-0	<8%	1 mg/M <sup>3</sup> for total dust (pnor) <sup>d</sup>	1 mg/M <sup>3</sup> for total dust (pnor) <sup>d</sup>
Molybdenum CAS 7439-98-7	<0.5%	15 mg/M <sup>3</sup> for total dust (pnor) <sup>d</sup>	10 mg/M <sup>3</sup> for total dust (pnos)
Copper CAS 7440-50-8	<2.3%	1 mg/M <sup>3</sup> – dust 0.1 mg/M <sup>3</sup> – fume	0.2 mg/M <sup>3</sup> – fume
(b) Denotes short term exposure limit (STEL). (c) Denotes “ceiling limit” which is not to be exceeded at any time. * Subject to Section EPCRA 313 reporting. (d) Particulates not otherwise			

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## STEEL PRODUCTS

regulated- nuisance or inert dusts not listed as a specific name (e) Particulates not otherwise specified- nuisance or inert dusts not containing silica or asbestos			
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### III. PHYSICAL DATA

Melting Point  
 Base Material: 2750° F  
 Appearance Gray-silvery Metallic,  
 Odor: none

### IV. FIRE AND EXPLOSION DATA

Steel Products in the Solid State present no fire or explosion hazard.

### V. REACTIVITY DATA

Stable under normal conditions of use, storage, and transport. Will react with strong acid to liberate hydrogen.

### VI. HEALTH HAZARD DATA

Note: Steel products under normal conditions do not present an inhalation, ingestion, or contact health hazard. However, operations such as burning, welding, sawing, brazing, grinding, and possibly machining, etc, which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, may present health hazards.

EFFECTS OF OVEREXPOSURE:

Major Exposure Hazard			
INHALATION	SKIN CONTACT	EYE CONTACT	INGESTION
<b>X</b>			

Chronic inhalation of high concentrations of iron oxide fumes or dusts may lead to a benign pneumoconiosis (siderosis). Inhalation of high concentrations of ferric oxide may possibly enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens.

The inhalation of high concentrations of freshly formed oxide fumes and dusts of Manganese, Copper, Chromium, Nickel, Molybdenum and/or Zinc in the respirable particle size range can cause an influenza-like illness termed metal fume fever. Typical symptoms last 12 to 48 hours and are characterized by metallic taste in the mouth, dryness and irritation of the throat, followed by weakness, muscle pain, and chills. No long term effects of metal fume fever have been noted.

# MATERIAL SAFETY DATA SHEET

## STEEL PRODUCTS

### EMERGENCY AND FIRST AID PROCEDURES

For overexposure to airborne fumes and particulates, remove exposed person to fresh air. If breathing is difficult or has stopped, administer artificial respiration or oxygen as indicated. Seek medical attention promptly.

Treat metal fume fever by bed rest and administer a pain and fever reducing medication.

### VII. SPILL OR LEAK PROCEDURES

Not applicable to steel in the solid state.

### VIII. SPECIAL PROTECTION INFORMATION

**RESPIRATORY:** For welding or burning – NIOSH/MSHA approved dust and fume respirators should be used to avoid excessive inhalation of particulates. Appropriate respirator selection depends on the magnitude of exposure.

**SKIN:** Protective gloves should be worn as required for welding, burning, or handling operations.

**EYE:** Use safety glasses or goggles as required for welding, burning or handling operations.

**VENTILATION:** Local exhaust ventilation should be provided when sawing, grinding or machining to prevent excessive dust or fume exposure. During welding, burning or brazing please follow the ANSI Standard Z49.1 "Safety in Welding and Cutting".

**OTHER PROTECTIVE EQUIPMENT:** Depending upon the conditions of use and specific work situations, additional protective equipment and/or clothing may be required to control exposures.

### IX. SPECIAL PRECAUTIONS

**PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:** Operations with the potential for generating high concentrations of airborne particulates should be evaluated and controlled as necessary. Avoid breathing metal fumes and/or dusts.

**OTHER COMMENTS:**

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** Individuals with chronic respiratory disorders (ie asthma, chronic bronchitis, emphysema, etc) may be adversely affected by any fume or airborne particulate matter exposure.

THIS INFORMATION IS TAKEN FROM SOURCES OR BASED UPON DATA BELIEVED TO BE RELIABLE; HOWEVER ALLIED TUBE & CONDUIT CORPORATION MAKES NO WARRANTY AS TO THE ABSOLUTE CORRECTNESS OR SUFFICIENCY OF ANY OF THE FOREGOING OR THAT

ADDITIONAL OR OTHER MEASURES MAY NOT BE REQUIRED UNDER PARTICULAR CONDITIONS.

# MATERIAL SAFETY DATA SHEET

## STEEL PRODUCTS

JOSEPH T RYERSON & SON INC -- STAINLESS STEELS 301 -- 9510-00N032583  
===== Product Identification =====

Product ID:STAINLESS STEELS 301

MSDS Date:11/08/1985

FSC:9510

NIIN:00N032583

MSDS Number: BNSSS

=== Responsible Party ===

Company Name:JOSEPH T RYERSON & SON INC

Address:2621 W 15TH PLACE

City:CHICAGO

State:IL

ZIP:60608

Country:US

Info Phone Num:312-762-2121

Emergency Phone Num:312-762-2121

CAGE:52660

=== Contractor Identification ===

Company Name:JOSEPH T RYERSON AND SONS INC.;SUB INLAND STEEL

Address:2558 W 16TH ST

Box:City:CHICAGO

State:IL

ZIP:60608

Country:US

Phone:312-762-2121

CAGE:52660

Company Name:JOSEPH T. RYERSON & SON, INC. SUB OF INLAND STEEL

Address:2621 W. 15TH PLACE

Box:City:CHICAGO

State:IL

ZIP:60608

Country:US

Phone:312-762-2121

CAGE:9Y791

# MATERIAL SAFETY DATA SHEET

## STEEL PRODUCTS

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Composition/Information on Ingredients  
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Ingred Name:IRON  
CAS:7439-89-6  
RTECS #:NO4565500  
Fraction by Wt: >70%  
OSHA PEL:10 MG/M3 (FE\*20\*3)  
ACGIH TLV:5 MG/M3 (FE\*20\*3)

Ingred Name:MANGANESE (SARA III)  
CAS:7439-96-5  
RTECS #:OO9275000  
Fraction by Wt: <2%  
OSHA PEL:(C) 5 MG/M3 DUST  
ACGIH TLV:5 MG/M3 DUST 9293

Ingred Name:CARBON  
CAS:7440-44-0  
RTECS #:FF5250100  
Fraction by Wt: <0.2%  
OSHA PEL:15 MG/M3 TDUST  
ACGIH TLV:2 MG/M3 TDUST; 9293

Ingred Name:PHOSPHOROUS (YELLOW) (SARA III)  
CAS:7723-14-0  
RTECS #:TH3500000  
Fraction by Wt: <0.1%  
OSHA PEL:0.1 MG/M3  
ACGIH TLV:0.1 MG/M3  
EPA Rpt Qty:1 LB  
DOT Rpt Qty:1 LB

Ingred Name:SULFUR  
CAS:7704-34-9  
RTECS #:WS4250000  
Fraction by Wt: <0.1%  
OSHA PEL:2 PPM (SO\*2)  
ACGIH TLV:2 PPM (SO\*2)

Ingred Name:SILICON  
CAS:7440-21-3  
RTECS #:VW0400000  
Fraction by Wt: <1%  
OSHA PEL:15 MG/M3 TDUST  
ACGIH TLV:10 MG/M3 TDUST; 9293

Ingred Name:CHROMIUM (SARA III)  
CAS:7440-47-3  
RTECS #:GB4200000  
Fraction by Wt: <18%  
OSHA PEL:1 MG/M3  
ACGIH TLV:0.5 MG/M3  
EPA Rpt Qty:1 LB  
DOT Rpt Qty:1 LB

Ingred Name:NICKEL (SARA III)  
CAS:7440-02-0  
RTECS #:QR5950000

# MATERIAL SAFETY DATA SHEET

## STEEL PRODUCTS

Fraction by Wt: <8%  
OSHA PEL:1 MG/M3  
ACGIH TLV:1 MG/M3

Ingred Name:COPPER (SARA III)  
CAS:7440-50-8  
RTECS #:GL5325000  
Fraction by Wt: <2.3%  
OSHA PEL:0.1MG/M3 FUME;1 DUST  
ACGIH TLV:0.2MG/M3 FUME  
EPA Rpt Qty:5000 LBS  
DOT Rpt Qty:5000 LBS

Ingred Name:MOLYBDENUM  
CAS:7439-98-7  
RTECS #:QA4680000  
Fraction by Wt: <0.5%  
OSHA PEL:15 MG/M3 TDUST  
ACGIH TLV:10 MG/M3; 9293

PERFORMANCE ALLOYS -- STAINLESS STEEL BARE WELDING WIRE, 430

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Cas: 7440-47-3  
RTECS #: GB4200000  
Name: CHROMIUM; (CR) (LIMITS FOR CHROMIUM (VI) BY MFR - OSHA PEL: 0.1 MG/M3;  
ACGIH TLV: 0.05 MG/M3.  
% low Wt: 15.5  
% high Wt: 17.  
OSHA PEL: 1 MG/M3  
ACGIH TLV: 0.5 MG/M3  
ACGIH STEL: NOT ESTABLISHED  
EPA Rpt Qty: 1 LB  
DOT Rpt Qty: 1 LB

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Cas: 7440-02-0  
RTECS #: QR5950000  
Name: NICKEL; (NI) (SOLUBLE) (ACGIH TLV MG/M3: 0.10 (MFR))  
Percent by Wt: .6  
Other REC Limits: TLV:0.1 MG/M3 (M)  
OSHA PEL: 1 MG/M3  
ACGIH TLV: 1 MG/M3  
ACGIH STEL: NOT ESTABLISHED

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Cas: 7439-98-7  
RTECS #: QA4680000  
Name: MOLYBDENUM; (MO) (SOLUBLE) (ACGIH TLV MG/M3: 5.00 (MFR))  
Percent by Wt: .75  
Other REC Limits: TLV:5 MG/M3 (MFR)  
OSHA PEL: 5 MG/M3  
ACGIH TLV: 10 MG/M3  
ACGIH STEL: NOT ESTABLISHED

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Cas: 7439-96-5  
RTECS #: OO9275000  
Name: MANGANESE; (MN) (ACGIH TLV MG/M3: 1.00(FUME) (MFR))  
Percent by Wt: .6  
Other REC Limits: TLV:1 MG/M3 (M)  
OSHA PEL: C5 MG/M3

# MATERIAL SAFETY DATA SHEET

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ACGIH TLV: 5 MG/M3  
ACGIH STEL: 3 MG/M3

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Cas: 60676-86-0  
RTECS #: VV7328000  
Name: SILICA, CRYSTALLINE-FUSED; (SI) (SILICON (SIO\*2 AMPHOROUS RESPIRABLE))  
Percent by Wt: .5  
OSHA PEL: 0.08 MG/M3  
ACGIH TLV: 0.1 MG/M3  
ACGIH STEL: NOT ESTABLISHED

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Cas: 7440-50-8  
RTECS #: GL5325000  
Name: COPPER; (CU) (COPPER (FUME)) (LIMITS FOR COPPER (FUME) BY MFR - OSHA  
PEL:0.1 MG/M3; ACGIH TLV: 0.2 MG/M3.  
Percent by Wt: .75  
OSHA PEL: 1 MG/M3  
ACGIH TLV: 1 MG/M3  
ACGIH STEL: NOT ESTABLISHED  
EPA Rpt Qty: 5000 LBS  
DOT Rpt Qty: 5000 LBS

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Cas: 7439-89-6  
RTECS #: NO4565500  
Name: IRON; (FE)  
% Wt: BALANCE