ECONSTEEL
ERIE CONCRETE & STEEL SUPPLY

Safety Data Sheet (SDS)

SECTION I: PRODUCT AND SUPPLIER IDENTIFICATION

Distributor: Erie Concrete & Steel Supply Co. (Econsteel Supply)
Address: 1301 Cranberry Street
Erie, PA 16501

Emergency Telephone: (814) 453-4969

Manufacturer: Various
Product Name: Steel
Chemical Family: Metals

SECTION II: HAZARD IDENTIFICATION

Note: Steel products, under normal conditions, poses little or no immediate health or fire hazard. When the product is exposed to operations such as burning, welding, grinding, sawing, brazing or other similar processes, fumes and/or dusts may release which could present health hazards.

Effects of Overexposure:

Irritant (skin and eyes)

Carcinogen

Acute: Dust or fume may cause irritation to the eyes, nose or throat; leave a metallic taste in the mouth; may result in metal fume fever; or produce flu-like symptoms.

Chronic:

Aluminum:	May initiate fibrotic changes to lung tissue
Bismuth:	No chronic debilitating symptoms indicated from metal
Boron:	No chronic debilitating symptoms indicated
Chromium:	Skin ulceration, irritative dermatitis, allergic reaction, ulceration of the mucous membranes, perforation of the nasal septum, bronchial carcinoma, adenocarcinoma, mutagen Listed NTPARC and IARC Monographs
Copper:	No chronic debilitating symptoms indicated
Iron:	Siderosis
Lead:	Anemia, urinary dysfunction, metallic taste in mouth, weakness, constipation, nausea, nervous disorder
Manganese:	Bronchitis, pneumonitis, lack of coordination
Molybdenum:	Morphological changes in the liver, kidneys, and spleen, anemia, diarrhea, bone deformity and growth retardation
Nickel:	Inflammation of respiratory tract, pneumoconiosis. Skin sensitizer. Certain nickel compounds can cause cancer. Listed NTPARC and IARC Monographs.
Phosphorous:	Necrosis of the mandible
Sulfur (as sulfur dioxide):	Edema of the lungs
Tellurium:	Garlic odor of breath and perspiration, metallic taste in mouth, dryness of the mouth, inhibition of sweat function, anorexia, nausea
Titanium:	No chronic debilitating symptoms indicated
Vanadium:	Emphysema, pneumonia
Zinc:	Chromosomal anomalies in leukocytes reported. Arthritis, lameness and inflammation of the gastrointestinal tract reported from animal studies

SECTION III: COMPOSITION/INFORMATION ON INGREDIENTS

See chart for listing

SECTION IV: FIRST-AID MEASURES

In the event of acute exposure:

Inhalation: Remove person to fresh air and seek physician's assistance.
Eye contact: Flush thoroughly with water. If irritation persists, seek physician's assistance.
Skin contact: Wash thoroughly with plenty of water. If skin irritation or rash persists, seek physician's assistance.
Ingestion: Rinse mouth. If a significant amount was swallowed and person feels unwell, call poison center/doctor.

SECTION V: FIRE-FIGHTING MEASURES

Flash Point F (C): Not applicable
Flammable Limits: Not applicable
Extinguishing Media: Use methods applicable to surrounding area
Unusual Fire & Explosion Hazards: None
Special Fire Fighting Procedures: Use self-contained breathing apparatus for protection against degradation products and fire fighting technique or agent(s) applicable to surrounding materials.

SECTION VI: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Not applicable for material as sold/shipped.
For dust or fine chip clean-up, material should be vacuumed or use wet-sweeping method to contain any dust particles. Personnel should wear safety gear to protect skin and eyes from exposure to particulates. (see section vii for personal protection gear)
Methods for containment and clean-up: Material should be collected in appropriate containers and reclaimed for reuse or disposed of in accordance with federal, state and local regulations.

SECTION VII: HANDLING AND STORAGE

Precautions for Safe Handling: Not applicable for material as sold/shipped: However, further processing may cause potential hazards. Avoid sharp edges and touching heated material without protective gear. Avoid inhaling high concentrations of airborne particles or metal fumes. Do not eat, drink or smoke when using this product.
Conditions for Safe Storage, Including any Incompatibilities: Store away from acids and incompatible materials.

SECTION VIII: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits (OELs): No Threshold Limit Value (TLV) or Permissible Exposure Limit (PEL) exists for steel. See chart for listing of the individual constituents. However, operations such as burning, welding, grinding, sawing and grinding may produce fumes and/or particulates.
Appropriate Engineering Controls: Adequate ventilation practices are required to disperse high concentrations of airborne dust particles.
Individual Protection Measures:
Eye/Face Protection: Eye protection, such as goggles, is recommended for operations that cause the release of dust particulates or fumes.
Skin/Hand Protection: Cut resistant gloves and sleeves should be worn when working with steel.
Respiratory Protection: Use a NIOSH-approved respirator based on its suitability to provide adequate protection given the working conditions, concentration of airborne particulates, and ventilation.

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Grayish or silvery in color	**Vapor pressure:**	N/A
Odor:	Odorless	**Vapor density:**	N/A
Odor threshold level:	N/A	**Solubility in water:**	Insoluble
Physical state:	Solid	**Flammability (solid/gas):**	Non-flammable/ non-combustible
pH:	N/A	**Partition coefficient n/octanol/water:**	ND
Melting point F (C):	Greater than 2800 (1540) /	**Decomposition Temperature:**	ND
Boiling point:	N/A	**Viscosity:**	N/A

N/A - Not applicable **ND -** Not determined for product

SECTION X: STABILITY AND REACTIVITY

Reactivity:	Not Determined
Chemical Stability:	Considered stable
Possibility of Hazardous Reaction:	None known
Conditions to Avoid:	Storage with strong acids or calcium hypochlorite
Incompatible Materials:	Will react with strong acids to form hydrogen gas. Avoid contact with strong oxidizers.
Hazardous Decomposition Products:	May liberate metal fumes, metal oxides, or other oxides if exposed to elevated temperatures.

SECTION XI: TOXICOLOGICAL INFORMATION

Steel products in its solid state, does not present an inhalation, ingestion or skin hazard. However, see section 2 for possible results from certain operations such as welding, burning, sawing, grinding or machining.

SECTION XII: ECOLOGICAL INFORMATION

This material is not considered hazardous to the environment as sold/shipped.

SECTION XIII: DISPOSAL CONSIDERATIONS

This material should be recycled whenever possible.

Steel products are not listed as hazardous waste. The generator of waste is always responsible for disposing of material in accordance with federal, state and local regulations.

SECTION XIV: TRANSPORT INFORMATION

US Department of Transportation (DOT) **does not** regulate steel products as a hazardous material.
All federal, state and local regulations must be adhered to for the transport of this type of material.

SECTION XV: REGULATORY INFORMATION

OSHA (Occupational Safety and Health Administration) does not consider steel to be a hazardous material. However, dusts and fumes from this product may be hazardous as identified in Sections III and XI.

DISCLAIMER

ERIE CONCRETE & STEEL SUPPLY CO (ECONSTEEL SUPPLY) MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

The information contained in this Safety Data Sheet (SDS) is believed to be correct, but no representations, guarantees or warranties of any kind are made as to its accuracy, suitability for particular applications, hazards connected with the use of the material or the results to be obtained from the use thereof. User assumes all risk and liability of any use, processing or handling of any material. Variations in methods, conditions, equipment used to store, handle or process the material and hazards connected with the use of the material are solely the responsibility of the user and remain at its sole discretion.

As sold, the product described in this SDS is considered by Econsteel Supply to be an "article" within the meaning of Title 29 of the Code of Federal Regulations, Section 1910. 1200 *et seq* . This SDS is intended to be used solely for the purpose of satisfying informational requests made pursuant to that requirement. It is not intended to preempt, replace or expand the terms contained in Econsteel Supply Conditions of Sale. Compliance with all applicable federal, state and local laws and regulations remains the responsibility of the user, and the user has the responsibility to provide a safe workplace, to examine all aspects of its operation, and to determine if or where precautions, in addition to those described herein, are required.

		METAL	ALLOYING ELEMENTS															METALLIC COATINGS		
	CAS Number	7439-89-6	7439-96-5	7440-44-0	7429-90-5	7440-47-3	7440-50-8	7439-98-7	7440-02-0	7723-14-0	7440-21-3	7704-34-9	7440-42-8	7440-69-9	13494-80-9	7439-92-1	7440-62-2	7440-32-6	7440-66-6	7439-89-6	7429-90-5
Product Description	AISI GRADE/TRADE NAME	Iron	Manganese	Carbon	Aluminum	Chromium	Copper	Molybdenum	Nickel	Phosphorous	Silicon	Sulfur	Boron	Bismuth	Tellurium	Lead	Vanadium	Titanium	Zinc	Iron	Aluminum
Nonresulfurized Carbon Steel	1005-1095	> 95	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5									
Nonresulfurized Carbon Steel: Vanadium Bearing	1005-1095	> 95	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5					< 0.5				
Nonresulfurized Carbon Steel: Lead Bearing	10L05-10L95	> 95	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5				< 0.5					
Nonresulfurized Carbon Steel: Titanium Bearing	1006	> 95	< 1.0	< 0.5	< 0.1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.3	< 0.3						< 0.7			
Nonresulfurized Carbon Steel: Bismuth Bearing	1016	> 95	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		< 0.5							
Nonresulfurized Carbon Steel: Tellurium Bearing	1016	> 95	< 1.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5			< 0.5						
Nonresulfurized Carbon Steel: Bismuth Bearing	1045	> 95	< 1.2	< 0.5	< 0.1	< 0.4	< 0.2	< 0.1	< 0.2	< 0.3	< 0.3	< 0.3		< 0.3							
Nonresulfurized Carbon Steel: Boron Treated	10B38	> 95	< 1.0	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.2	< 0.5	< 0.1	< 0.1								
Nonresulfurized Carbon Steel: Boron Treated	10B42	> 95	< 1.0	< 0.5	< 0.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.2	< 0.5	< 0.1	< 0.1								
Resulfurized Carbon Steel	1106	> 95	< 1.0	< 0.5	< 0.5	< 0.1	< 0.2	< 0.1	< 0.1	< 0.1	< 0.5	< 0.2									
Resulfurized Carbon Steel	1110-1151	> 95	< 1.7	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.2									
Resulfurized Carbon Steel: Bismuth Bearing	1110-1151	> 95	< 1.7	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.2		< 0.5							
Resulfurized Carbon Steel: Tellurium Bearing	1110-1151	> 95	< 1.7	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.2			< 0.2						
Resulfurized Carbon Steel: Vanadium Bearing	1110-1151	> 95	< 1.7	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.2					< 0.5				
Rephosphorized and Resulfurized Carbon Steel: Lead Bearing	11L10-11L51	> 95	< 1.7	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.2				< 0.5					
Resulfurized Carbon Steel: Lead Bearing	11L10-11L51	> 95	< 1.7	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.2				< 0.5					
Resulfurized Carbon Steel: Lead and Tellurium Bearing	11L10-11L51	> 95	< 1.7	< 0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.2			< 0.2	< 0.5					
Rephosphorized and Resulfurized Carbon Steel: Bismuth Bearing	1211-1215	> 95	< 1.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.2	< 0.5	< 0.4		< 0.5							
Rephosphorized and Resulfurized Carbon Steel: Tellurium Bearing	1211-1215	> 95	< 1.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.2	< 0.5	< 0.4			< 0.2						
Rephosphorized and Resulfurized Carbon Steel	1211-1215	> 95	< 1.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.2	< 0.5	< 0.4									
Rephosphorized and Resulfurized Carbon Steel: Lead Bearing	12L11-12L15	> 95	< 1.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.2	< 0.5	< 0.4				< 0.5					
Nonresulfurized Carbon Steel	1513-1566	> 95	< 2.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.1									
Nonresulfurized Carbon Steel: Vanadium Bearing	1513-1566	> 95	< 2.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.1					< 0.5				
Nonresulfurized Carbon Steel: Vanadium, Titanium and Boron	15B13-15B36	> 95	< 2.0	< 0.5	< 0.2	< 0.3	< 0.6		< 0.3	< 0.1	< 0.5	< 0.1	< 0.1				< 0.1	< 0.1			
Standard Alloy Steel: Manganese	1330-1345	> 95	< 2.0	< 0.5	< 0.5	< 0.2	< 0.5	< 0.2	< 0.3	< 0.1	< 0.5	< 0.1									
Standard Alloy Steel: Molybdenum Bearing	4023-4047	> 95	< 1.0	< 0.5	< 0.5		< 0.5	< 0.3		< 0.1	< 0.3	< 0.1									
Standard Alloy Steel: Molybdenum and Chromium	4118-4161	> 95	< 1.0	< 0.7	< 0.5	< 1.1	< 0.5	< 0.5		< 0.1	< 0.3	< 0.1									
Standard Alloy Steel: Tellurium Bearing	4118-4161	> 95	< 1.0	< 0.7	< 0.5	< 1.1	< 0.5	< 0.5		< 0.1	< 0.3	< 0.1			< 0.2						
Standard Alloy Steel: Boron Treated	41B18-41B61	> 95	< 1.0	< 0.7	< 0.5	< 1.1	< 0.5	< 0.5		< 0.1	< 0.3	< 0.1	< 0.1								
Standard Alloy Steel: Vanadium, Titanium and Boron	41B18-41B61	> 95	< 1.0	< 0.7	< 0.5	< 1.1	< 0.5	< 0.5		< 0.1	< 0.3	< 0.1	<0.1				< 0.5	< 0.5			
Standard Alloy Steel: Molybdenum, Chromium and Lead	41L18-41L61	> 95	< 1.0	< 0.7	< 0.5	< 1.1	< 0.5	< 0.5		< 0.1	< 0.3	< 0.1				< 0.5					
Standard Alloy Steel: Molybdenum, Chromium and Nickel	4320-4340	> 95	< 1.0	< 0.5	< 0.5	< 1.0	< 0.5	< 0.3	< 2.0	< 0.1	< 0.3	< 0.1									
Standard Alloy Steel: Molybdenum and Nickel	4617-4626	> 95	< 0.7	< 0.3	< 0.5		< 0.5	< 0.3	< 2.0	< 0.1	< 0.3	< 0.1									
Standard Alloy Steel: Boron Treated	50B40-50B60	> 95	< 1.0	< 0.7	< 0.5	< 1.0	< 0.5			< 0.1	< 0.3	< 0.1	< 0.1								
Standard Alloy Steel: Chromium Bearing	5115-5160	> 95	< 1.0	< 0.6	< 0.5	< 1.1				< 0.1	< 0.3	< 0.1									
Standard Alloy Steel: Boron Treated	51B60	> 95	< 1.0	< 0.7	< 0.5	< 1.0	< 0.5			< 0.1	< 0.3	< 0.1	< 0.1								
Standard Alloy Steel: Chromium	50100	> 95	< 0.5	< 1.2	< 0.5	< 0.7	< 0.5	< 0.2	< 0.3	< 0.1	< 0.5	< 0.1									
Standard Alloy Steel: Chromium	51100	> 95	< 0.5	< 1.2	< 0.5	< 0.7	< 0.5	< 0.2	< 0.3	< 0.1	< 0.5	< 0.1									
Standard Alloy Steel: Chromium	52100	> 95	< 0.5	< 1.2	< 0.5	< 0.7	< 0.5	< 0.2	< 0.3	< 0.1	< 0.5	< 0.1									
Standard Alloy Steel: Chromium & Vanadium	6118-6150	> 95	< 1.0	< 0.6	< 0.5	< 1.2	< 0.5	< 0.2	< 0.3	< 0.1	< 0.5	< 0.1					< 0.3				
Standard Alloy Steel: Molybdenum, Chromium and Nickel	8615-8822	> 95	< 1.0	< 0.6	< 0.5	< 0.6	< 0.5	< 0.5	< 0.7	< 0.1	< 0.3	< 0.1									
Standard Alloy Steel: Molybdenum, Chromium, Nickel and Lead	86L15-86L55	> 95	< 1.0	< 0.6	< 0.5	< 0.6	< 0.5	< 0.5	< 0.7	< 0.1	< 0.3	< 0.1				< 0.5					
Standard Alloy Steel: Nickel, Chrome & Molybdenum	9310	> 92	< 0.7	< 0.2	< 0.5	< 1.5	< 0.5	< 0.2	< 3.6	< 0.1	< 0.5	< 0.1									
Standard Alloy Steel: Boron Treated	94B15-94B30	> 93	< 1.1	< 0.4	< 0.5	< 0.6	< 0.5	< 0.2	< 0.7	< 0.1	< 0.5	< 0.1									
Inland ALUMA-TI	ALUMA-TI	> 95	< 0.7	< 0.3	< 0.1	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.3	< 0.2						< 0.7			> 98
ALUMINIZED STEEL	ALUMINIZED STEEL	> 95	< 1.2	< 0.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5									> 98
Inland CAL DI-FORM	CAL DI-FORM	> 95	< 1.0	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 0.1	< 0.3	< 0.4					< 0.2	< 0.1			
Inland CAL HI-FORM	CAL HI-FORM	> 97	< 1.0	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 0.1	< 0.3	< 0.4					< 0.2	< 0.1			
Inland CORTEN A	CORTEN A	> 95	< 0.7	< 0.2	< 0.1	< 2.0	< 1.0	< 0.5	< 0.7	< 0.2	< 1.0	< 0.1					< 0.2				
Inland CORTEN B	CORTEN B	> 95	< 1.5	< 0.2	< 0.1	< 1.0	< 0.5	< 0.1	< 0.5	< 0.2	< 1.0	< 0.1					< 0.3				
Inland CORTEN C	CORTEN C	> 95	< 1.5	< 0.2	< 0.1	< 1.0	< 0.5	< 0.1	< 0.5	< 0.2	< 1.0	< 0.1					< 1.0				
Inland CORTEN W	CORTEN W	> 95	< 1.0	< 0.4	< 0.1	< 1.0	< 0.5	< 0.1	< 0.4	< 0.2	< 0.5	< 0.2					< 0.2				
Inland DÉCOR	DÉCOR	> 95	< 2.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5							> 98		
Inland EZ CUT	EZ CUT	> 95	< 2.0	< 0.3	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.4				< 0.5					
Inland 4-WAY	4 WAY	> 95	< 1.0	< 0.5	< 0.5	< 0.1	< 0.2	< 0.1	< 0.2	< 0.2	< 0.5	< 0.1									
Inland HI-FORM	HI-FORM	> 95	< 2.0	< 0.2	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 0.1	< 0.3	< 0.1					< 0.2	< 0.1			
Inland INAMEL	INAMEL	> 95	> 0.7	< 0.5	< 0.1	< 0.2	< 0.2	< 0.3	< 0.2	< 0.1	< 0.5	< 0.1									
Inland INCUT	INCUT	> 95	< 2.0	< 0.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5		< 0.5							
Inland INX	INX	> 95	< 2.0	< 0.4	< 0.1	< 0.5	< 0.3	< 0.5	< 0.5	< 0.1	< 0.4	< 0.1					< 0.2	< 0.1			
Inland INX BISMUTH	INX BISMUTH	> 95	< 2.0	< 0.4	< 0.1	< 0.5	< 0.3	< 0.5	< 0.5	< 0.1	< 0.4	< 0.1		< 0.2			< 0.2	< 0.1			
Inland INX LEDLOY	INX LEDLOY	> 95	< 2.0	< 0.4	< 0.1	< 0.5	< 0.3	< 0.5	< 0.5	< 0.1	< 0.4	< 0.1				< 0.4	< 0.2	< 0.1			
Inland LEDLOY	LEDLOY	> 95	< 2.0	< 0.7	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.4				< 0.5					
Inland LEDLOY A	LEDLOY A	> 95	< 1.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.2	< 0.5	< 0.4				< 0.5					
Inland LEDLOY AN	LEDLOY AN	> 95	< 1.2	< 0.2	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.2	< 0.5	< 0.4				< 0.5					
Inland LEDLOY AX	LEDLOY AX	> 95	< 1.7	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.2	< 0.1	< 0.5	< 0.4			< 0.2	< 0.5					
Inland MartINsite	MartINsite	> 95	< 0.7	< 0.5	< 0.1	< 0.1	< 0.2	< 0.1	< 0.2	< 0.1	< 0.5	< 0.1	< 0.1					< 0.1			
PAINT-TITE	PAINT-TITE	> 95	< 2.0	< 0.5	< 0.5	< 0.5	< 0.3	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5							> 89	> 10	
Inland TI-CO Galvanized	TI-CO	> 95	< 2.0	< 1.0	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5							> 98		
Inland TI-NAMAL	TI-NAMEL	> 95	< 1.0	< 0.2	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.2	< 0.1						< 0.5			
Inland TRI-STEEL	TRI-STEEL	> 95	< 1.5	< 0.5	< 0.1	< 0.1	< 0.4	< 0.5	< 0.2	< 0.2	< 0.4	< 0.1					< 0.2				
Nonresulfurized Carbon Steel	ASTM A36	> 95	< 1.2	< 0.3	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.2	< 0.5	< 0.1									
Standard Alloy Steel: Chromium Molybdenum	ASTM A182	> 87	< 1.0	< 0.2	< 0.5	< 10.1	< 0.5	< 1.2	< 0.5	< 0.1	< 1.1	< 0.1									
Standard Alloy Steel: Chromium Molybdenum	ASTM A182 GR F11	> 93	< 1.0	< 0.2	< 0.5	< 1.6	< 0.5	< 0.7	< 0.5	< 0.1	< 1.1	< 0.1									
Nonresulfurized Carbon Steel	ASTMI A283	> 95	< 1.2	< 0.3	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.2	< 0.5	< 0.1									
Nonresulfurized Carbon Steel	ASTM A285	> 95	< 1.0	< 0.3	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.2	< 0.5	< 0.1									
Standard Alloy Steel: Chromium Molybdenum	ASTM A387 GR 11	> 94	< 1.0	< 0.2	< 0.5	< 1.6	< 0.5	< 0.7	< 0.5	< 0.1	< 1.0	< 0.1									
Standard Alloy Steel: Chromium Molybdenum	ASTM A387 GR 22	> 93	< 1.0	< 0.2	< 0.5	< 3.0	< 0.5	< 1.5	< 0.5	< 0.1	< 1.0	< 0.1									
Nonresulfurized Carbon Steel	ASTM A455	> 95	< 1.5	< 0.4	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.1	< 0.5	< 0.1									
Standard Alloy Steel: Nickel, Chromium, Boron	ASTM A514	> 94	< 1.6	< 0.3	< 0.5	< 1.7	< 0.7	< 0.7	< 2.0	< 0.1	< 1.0	< 0.1	0.1				0.1	0.2			
Nonresulfurized Carbon Steel	ASTM A515	> 95	< 1.4	< 0.4	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.1	< 0.5	< 0.1									
Nonresulfurized Carbon Steel	ASTM A515	> 95	< 1.4	< 0.4	< 0.5	< 0.5	< 0.5	< 0.1	< 0.5	< 0.1	< 0.5	< 0.1									
Standard Alloy Steel: Nickel Chromium Boron	ASTM A517	> 94	< 1.6	< 0.3	< 0.5	< 1.7	< 0.7	< 0.7	< 2.0	< 0.1	< 1.0	< 0.1	0.1				0.1	0.2			

Contaminant and Exposure Limits		Aluminum	Bismuth	Boron	Carbon	Chromium	Copper	Iron	Lead	Manganese	Molybdenum	Nickel	Phosphorus	Silicon	Sulfur	Tellurium	Titanium	Vanadium	Zinc
		As Welding	Not Listed	As Boron	Not Listed	As Soluble	As Copper	As Iron Oxide	As Inorganic Pb	As Manganese	As Soluble	As Metal	As Phosphorus	As Nuisance	As Sulfur	As Te	As Ti, Titanium	As Vanadium	As Zinc
		Fume		Oxide		Cr Salts	Dust	Fume	Dust & Fume	Dust	Mo Compounds	Ni	(yellow)	Dust	Dioxide	Compounds	Dioxide	Pentoxide Dust	Oxide Dust
	(mg/m^3)	- 5		15 10		0.5 0.5(VI)	1 1	10 -	0.05 0.15	5(c) 5(c)	5 5	1 1	0.1 0.1	15 10	13 5	0.1 0.1	15 10	0.5(c) 0.05 resp	- 10
	PEL TLV					As Metal and	As Copper	As Fe		As Manganese	As Insoluble	As Soluble						As Vanadium	As Zinc
						Insoluble Cr Salts	Fume	- 5		Fume	Mo Compounds	Ni Compounds						Pentoxide Fume	Oxide Fume
						1 0.5	0.1 0.2			5(c) 1	15 10	1 1						0.1(c) 0.05	5 5