



## MATERIAL SAFETY DATA SHEET

SECTION I PRODUCT INFORMATION		
<b>Product Name:</b>	Hot Rolled Plate, Welded Wide Flange, Slabs, Hot and Cold Rolled Sheet	
<b>Material Type:</b>	Semi-finished Steel Products	
<b>Product Use:</b>	Steel fabrication	
<b>Manufacture's Name &amp; Address:</b>	<b>ESSAR Steel Algoma Inc.</b> 105 West Street Sault Ste. Marie Ontario, Canada P6A 7B4	
<b>Emergency Phone Numbers:</b>	(705) 945-4058 (8:00 am – 4:00 pm) (705) 945-2271 (after hours)	<b>Revision Date:</b> July 3, 2007
<b>WHMIS Class:</b>	N/A	
<b>TDG Information:</b>	N/A	

SECTION II INGREDIENT LISTING					
			*TWAEV Ontario Regulation (833)	Toxicity	
Ingredient:	CAS. No.	%	(*PPM/mg/m <sup>3</sup> )	LD50	LC50
<b>Iron</b>	7439-89-6	96-99	5.0 mg/m <sup>3</sup>	30 gm/kg	NA
<b>Manganese</b>	7439-96-5	0-2	0.2 mg/m <sup>3</sup>	9000 mg/kg	1750 mg/l
<b>Chromium</b>	7447-47-3	0-1	0.5 mg/m <sup>3</sup>	NA	250 mg/kg
<b>Nickel</b>	7440-02-0	0-1	1.0 mg/m <sup>3</sup>	NA	NA
<b>Carbon</b>	7440-44-0	0-0.6	3.5 mg/m <sup>3</sup>	1.5 gm/kg	NA
<b>Molybdenum</b>	7439-98-7	0-0.6	10 mg/m <sup>3</sup>	9000 mg/kg	2.8 mg/l
<b>Copper</b>	7440-50-8	0-0.6	1.0 mg/m <sup>3</sup>	NA	0.4 mg/l
<b>Silicon</b>	7440-21-3	0-0.6	10 mg/m <sup>3</sup>	NA	NA
<b>Phosphorous</b>	7723-14-0	0-0.15	0.1 mg/m <sup>3</sup>	5 gm/kg	6.0 gm/kg
<b>Vanadium</b>	1314-62-1	0-0.15	0.05 mg/m <sup>3</sup>	10 mg/kg	63 mg/m <sup>3</sup>
<b>Aluminium</b>	7429-90-5	0-0.1	10 mg/m <sup>3</sup>	NA	NA
<b>Columbium</b>	7440-25-7	0-0.1	NA	NA	3.5 mg/m <sup>3</sup>
<b>Titanium</b>	13463-67-3	0-0.1	10 mg/m <sup>3</sup>	NA	5000 PPM

\* TWAEV = Time Weighted Average Exposure Value

\*PPM = Parts Per Million

\*mg/m<sup>3</sup> = Milligrams Per Cubic Metre

# ESSAR<sup>+</sup>

## STEEL

SECTION III PHYSICAL DATA			
Physical State:	Solid	PH:	N/A
Boiling Point: (°C)	N/A	Specific Gravity(H <sub>2</sub> O =1):	7-8
Melting Point: (°C)	1500	% Volatile by Volume:	N/A
Vapour Pressure: (mmHg)	N/A	Evaporation Rate:	N/A
Vapour Density: (Air =1)	N/A	Appearance & Odour:	Grey to Black No odour
Solubility in H <sub>2</sub> O:	insoluble	Coefficient Water/Oil Distribution	

SECTION IV FIRE AND EXPLOSION HAZARD DATA						
Flammable:	YES:		NO:	X	Flash Point: (°C) Closed Cup:	N/A
Flammable Limits:	LEL:	N/A	UEL:	N/A		
Extinguishing Media:	N/A					
Susceptibility to Mechanical Impact: or Static Discharge:	N/A					
Fire Fighting Procedures:	N/A					

SECTION V REACTIVITY DATA	
Stability:	Stable
Incompatible Materials:	Mineral acid contact may release Hydrogen gas.
Decomposition Products:	Oxides of carbon, metal oxide fume.

SECTION VI TOXICOLOGICAL INFORMATION
<b>Acute Effects:</b>
Steel products as supplied do not pose inhalation, ingestion or contact hazards. Operations such as welding, burning, brazing, cutting, grinding, etc may result in generation of decomposition products which may cause irritation to the eyes, nose, and throat. Metal fume may cause flue-like symptoms, headache, chills, dizziness or nausea.
<b>Chronic Effects:</b>
Prolonged or repeated overexposure to dust or fume may cause chronic obstructive pulmonary disease, (Siderosis). Certain chrome and nickel compounds are listed by I.A.R.C. and the A.C.G.I.H. as lung or skin carcinogens. Steel anti-corrosion compounds may cause irritation or dermatitis with repeated or prolonged contact.

# ESSAR

## STEEL

SECTION VII FIRST AID MEASURES	
<b>Inhalation:</b>	Remove to fresh air, seek medical attention if irritation persists.
<b>Skin Contact:</b>	Wash effected area with soap and water, launder contaminated clothing.
<b>Eye Contact:</b>	Flush with clean water for 15 minutes, seek medial attention if irritation persists.
<b>Ingestion:</b>	Seek medical attention is irritation persists.

SECTION VIII PREVENTIVE MEASURES	
<b>Respiratory Protection:</b>	Use NIOSH approved respiratory protection for fume or dust hazards.
<b>Protective Gloves/Clothing:</b>	Use impervious gloves for corrosion coated steel or work gloves.
<b>Eye Protection:</b>	Use safety glasses or specific protection appropriate for the process.
<b>Ventilation:</b>	Use with adequate ventilation to prevent over exposure to decomposition products.
<b>Spill Cleanup:</b>	Place in appropriate container for re-use.
<b>Waste Disposal:</b>	Dispose of waste per applicable environmental legislation.
<b>Handling/Storage:</b>	No special requirements.

SECTION IX SPECIAL PRECAUTIONS
Avoid inhalation of combustion products during welding, burning or brazing.

SECTION X PREPARATION INFORMATION	
<b>Prepared by:</b> ESSAR Steel Algoma Inc. Occupational Health and Safety Department	<b>MSDS Inquiries</b> <b>Phone: (705) 945-4058</b>

NA = Not available  
 N/A = Not applicable