Material Safety Data Sheet

Section 1 **Product Identification & Use**

Material Name	**STEEL**	Supplier	**Samuel, Son & Co. LTD.**
Synonyms	Includes all sheet products, plate, strip, bar, slab, ingot, and tubular products	Address	2360 Dixie Road Mississauga, Ontario L4Y 1Z7
WHMIS Class	D2A, D2B	Phone	(905) 279-5460
Material Use	Manufacture of Articles	Toll Free	1-800-26SAMUEL
		Fax	(905) 279-9658

Section 2 **Hazardous Ingredients** (all values are maximum and expressed as weight percent)

ELEMENT	C.A.S.#	%	T.L.V. (as fume)mg/m	P.E.L. (as fume)mg/m	Ld50/Lc50
Iron	7439-89-6	>99	5	10	30g/kg(ld oral rat)
Manganese	7439-96-5	2.2	0.2	5 (C)	9g/kg(ld oral rat)
Nickel	7440-02-0	2.05	1	1	N/A
Chromium	7440-47-3	1.65	0.5	0.5	N/A

The above ingredient list identifies those components which meet the regulated reporting criteria. Concentrations represent a maximum for all grades within a category of steel products and must not be interpreted as a specification for a particular grade. May have oil coating (max 2.2g/m2 per side). Galvanize/Galvanneal hot dipped Zinc coating from 15 to 50g/M2 per side may be chemically passivated with a Chromium compound, which leaves a residual level of 1.1 to 40mg/m2 per side. Petroleum based rust preventative oils are applied to oiled product. Range 1.1 to 5.4g/mg per side.
Tin Plate electroplated with tin coating weights 1g/mg per side. May be coated in edible oil.
02 coating – glass film composed of magnesium Ortho-silicate formed during anneal.
03 coating-Oil modified Polyester resin varnish film.
C.5m electrical- an inorganic iron- silicate complex that is heat and oil resistant.
Dry lube-mixture of Borate and Carbonate soap lubricants for forming.
Pre-lube-Petroleum based oil coating.
Lube oil-Lubricating protective petroleum based oil.
Vanishing oil-solvent applied petroleum coating leaving a g/m2 per side, wax like coating.
Precoated- cured paint/resin film applied to sheet galvanized from 0.9 to 15 mils.
Zinccrometal-protective coating of zinc rich paint primer compound. Coating is applied to one side of product to stop scratching, oil coating range 0.215 to o.325 g/m2.
NOTE: Individual coating components are present at values below reporting requirements.

Section 3 **Physical Data**

Physical state: Solid Odour: N/a Evaporation Rate: N/a Boiling point: N/a Vapour pressure: N/a
Vapour density: N/a Freezing point: 1530 c Density: 7.86 Coefficient water/oil distribution: N/a
PH: N/a Odour threshold: N/a Boiling point: N/a Appearance: silver grey metallic/blue

Section 4 **Fire & Explosion Data**

Not applicable

Section 5 **Reactivity Data**

Not applicable Chemical Stability: yes Incompatibility to other substances: yes
Contact with acids will release Hydrogen gas. Hazardous decomposition products: N/a

Section 6 **Toxicological Properties of Material**

Route of entry: Prolonged skin contact with coated steel may cause skin irritation in sensitive individuals.
Inhalation of metal particulate or elemental oxide fumes generated during welding, burning, grinding

or machining may pose acute or chronic effects.
Acute exposure: Inhalation of overexposure may cause metal fume fever characterised by fever and chills (flu like symptoms) appears to 6 hours after exposure with no know long term effects.
Chronic exposure: Chronic inhalation of metal fume may cause a benign pneumonconconiosis (siderosis) with few or no symptoms. Chronic inhalation of fumes may affect the digestive system, nervous system, respiratory system, muscles and joints.
Sensitisation to product: **Unknown** Synergistic materials: **Unknown** Reproductive effects: **No known effect**
Teratogenicity: **No known effect** Mutagenicity: **No known effect**
Carcinogenicity of material: IARC lists Hexavalent Chromium compounds under its group 1 category. Confirmed Human Carcinogen
Note: Iron-welding fume has an exposure limit of 5mg/m3 , welding fume may also contain contaminants from fluxes or welding consumables.

Section 7 Preventive Measures

Personal Protective Equipment: Dependent upon process being performed on material.
Each operation must be addressed for suitable equipment and or engineering controls.
Gloves: Leather faced/ cut protection Eyes: Safety glasses or face shield as appropriate
Footwear: Safety shoes/ boots where required Other: Barrier cream may be used when handling
Respiratory: Approved respiratory protection where applicable.
Engineering Controls (eg. Ventilation, enclosures):General or local exhaust ventilation during welding.
Leak and spill procedures: N/a
Water disposal: N/a
Storage Requirements: Keep stored material dry to prevent corrosion.
Special Shipping Information: N/a

Section 8 First-Aid Measures

Skin: Wash affected area with soap and water. Seek medical attention if irritation persists.
Eye: For irritation from any coating material flush eyes with plenty of water.
Seek medical attention if irritation persists.
Inhalation: For overexposure to metal fumes remove to fresh air.
Seek medical attention for adverse symtons
Ingestion: N/a

Section 9 Preparation Date of MSDS

Prepared by	Samuel, Son & Co. Ltd.
Phone Number	1-800-267-2683
Date	October, 2006