

# Material Safety Data Sheet

## Section 1

### Product Identification & Use

Material Name	<b>ALUMINUM ALLOYS (Series 1,2,3,5,6,7 thousand)</b>	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 (OF=oxide fumes/DF=dust and fume/TD=Ti dioxide)

ELEMENT	C.A.S.#	% weight	OSHA PEL (mg/m)	TLV (mg/m3)
Aluminum	7429-90-5	90-99.7	N/A	10.0 OF/5.0 DF
Chromium	7440-47-3	<0.01-0.4	1.0 chrome metal	0.2 fume, 0.1 dust
Metal Copper	7440-50-8	<0.05-6.0	0.1 fume 1.0 dust	0.2 fume 1.0 dust
Iron	1309-37-1	<0.35-1.0	10 OF	5 OF
Magnesium	1309-48A	<0.03A.9	15 OF	10 OF
Manganese	7439-96-5	<0.02-1.5	5c dust 5c fume	5c dust 1 fume
Silicon	7440-21-3	<0.25-0.2	N/A	10 total dust
Titanium	7440-32-6	<0.02-0.2	15 TD	10 TD
Zinc	1314-13-2	,0.05-6.1	15 OF	10 dust 5 fume
Bismuth	7440-69-9	<0.40-0.7	N/A	N/A
Boron	7440A2-8	.06 max	15 oxide fume	10 oxide fume
Lead	7439-92-1	<0.40-0.7	0.05 DF	0.15 DF
Vanadium	7440-62-2	0.05 max	0.05c dust, 0.1c fume	0.05 dust & 0.05 fume

### Note:

Aluminum alloys will be comprised of various combinations of the elements shown above. In addition, other alloying elements may be present in minute quantities. No permissible exposure limits (PEL) or threshold limit values (TLV) exist for aluminum alloys. Values shown are applicable to component elements.

## 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: N/a Coefficient wtr/oil distribution: N/a Ph: N/a  
Odour threshold: N/a Boiling point: N/a Appearance: slvr gry Specific Gravity:H2O=1(approx. 2.5-2.9)

## Section 4

### Fire & Explosion Data

Means of extinction: Dry Powder or Sand \*NOTE: do not use water or Halogen on molten Aluminum Flash

## Section 5

### Reactivity Data

Not applicable Chemical Stability: yes Incompatibility to other substances: yes  
Reactivity & under what condition: Sodium Hydroxide & Halogen ACIDS in contact with Aluminum may generate explosive Hydrogen Mixtures. Hazardous Decomposition Products: extreme heat may produce toxic or irritating airborne particulate, including Alloy Oxide

## Section 6

### Toxicological Properties of Material

Route of entry: Prolonged skin contact with coated products may cause skin irritation in sensitive individuals  
Inhalation of alloy 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 alloy fume may cause a benign pneumonconiosis (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:** welding fume may also contain  
contaminants from fluxes or welding consumables.

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**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

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**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 alloy fumes remove to fresh air.

Seek medical attention for adverse symptoms

Ingestion: N/a

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**Section 9** **Preparation Date of MSDS**

Prepared by Samuel, Son & Co. Ltd.

Phone Number 1-800-267-2683

Date January 2012

The information contained is based on the data considered accurate, however, no warranty is expressed or implied regarding the accuracy of these data or the results obtained from the use thereof.



# SAFETY DATA SHEET

## Section 1: IDENTIFICATION

### 1.1 PRODUCT IDENTIFIER

**Product Name:** TPO Direct Weld  
**Product Code:** Not available.

### 1.2 RECOMMENDED USE OF CHEMICAL AND RESTRICTIONS ON USE

**Use:** Coating.

### 1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

**Name/Address:** Menzies Enterprises Ltd.  
 19370 60th Avenue  
 Surrey, BC V3S 3M2  
**Telephone Number:** 604-530-0712  
 Toll free: 1-800-665-8840

### 1.4 EMERGENCY TELEPHONE NUMBER

**Emergency Telephone Number:** 1-800-665-8840 (Monday to Friday, 7:00 a.m. - 4:00 p.m. PST, excluding Federal and Provincial holidays.)  
**Date of Preparation:** October 17, 2012

## Section 2: HAZARD(S) IDENTIFICATION

### 2.1 CLASSIFICATION OF THE CHEMICAL

**Hazard class**

This preparation is classified as not hazardous according to OSHA HazCom 2012.

### 2.2 LABEL ELEMENTS

**Hazard Pictogram:** Not applicable.  
**Signal Word:** Not applicable.  
**Hazard Statement:** Not applicable.  
**Prevention:** Not applicable.  
**Response:** Not applicable.  
**Storage:** Not applicable.  
**Disposal:** Not applicable.

### 2.3 ADDITIONAL INFORMATION

**Hazards not otherwise classified:** Not applicable.  
 100 % of the mixture consists of ingredient(s) of unknown acute toxicity.

## Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 MIXTURES

Ingredient	CAS No	Wt. %
None by WHMIS/OSHA criteria.		

## SAFETY DATA SHEET

### Section 4: FIRST-AID MEASURES

#### 4.1 DESCRIPTION OF THE FIRST AID MEASURE

**Eye:** None required.  
**Skin:** None required.  
**Inhalation:** None required.  
**Ingestion:** None required.

#### 4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

**Eye:** No known adverse effects  
**Skin:** No known adverse effects  
**Inhalation:** No known adverse effects  
**Ingestion:** No known adverse effects

#### 4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENTS NEEDED

**Note to Physicians:** No specific treatment. Treat symptomatically.  
**Specific Treatments:** In case of accident or if you feel unwell, seek medical advice.

### Section 5: FIRE-FIGHTING MEASURES

#### 5.1 FLAMMABILITY

**Flammability:** This product is not flammable by WHMIS/OSHA criteria.

#### 5.2 EXTINGUISHING MEDIA

**Suitable Extinguishing Media:** Treat for surrounding material.  
**Unsuitable Extinguishing Media:** Not applicable.

#### 5.3 SPECIAL HAZARDS ARISING FROM THE CHEMICAL

**Products of Combustion:** May include, and are not limited to: oxides of carbon.

#### Explosion Data:

**Sensitivity to Mechanical Impact:** Not available.  
**Sensitivity to Static Discharge:** Not available.

#### 5.4 SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE FIGHTERS

Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

### Section 6: ACCIDENTAL RELEASE MEASURES

#### 6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Not applicable.

#### 6.2 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING - UP

**Methods for Containment:** Pick up large pieces, then place in a suitable container. Use appropriate Personal Protective Equipment (PPE).

# SAFETY DATA SHEET

**Methods for Cleaning-Up:** Place material in suitable container for disposal in accordance with local and national regulations.

## Section 7: HANDLING AND STORAGE

### 7.1 PRECAUTIONS FOR SAFE HANDLING

**Handling:** This product is safe under normal conditions of use. There are no specific handling precautions.

**General Hygiene Advice:** Handle according to established industrial hygiene and safety practices. Wash exposed skin prior to eating, drinking or smoking and at the end of each shift.

### 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

**Storage:** This product is safe under normal conditions of use. There are no specific storage conditions. (See section 10)

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 CONTROL PARAMETERS

#### Exposure Guidelines

Occupational Exposure Limits		
Ingredient	OSHA-PEL	ACGIH-TLV
Not applicable.		

### 8.2 EXPOSURE CONTROLS

**Engineering Controls:** Ventilation is not normally required.

### 8.3 INDIVIDUAL PROTECTIVE MEASSURES

#### Personal Protective Equipment:

**Eye/Face Protection:** None necessary under normal conditions of use.

#### Skin Protection:

**Hand Protection:** None necessary under normal conditions of use.

**Body Protection:** Use personal protective equipment as required.

**Respiratory Protection:** Not normally required.

#### General Health AND Safety

**Measures:** This product is safe under normal conditions of use.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

**Appearance:** Not available.  
**Color:** Various.  
**Odour:** Not available.  
**Odour Threshold:** Not available.  
**Physical State:** Solid.  
**pH:** Not available.

## SAFETY DATA SHEET

<b>Melting Point:</b>	Not available.
<b>Boiling Point:</b>	Not available.
<b>Flash Point:</b>	Not available.
<b>Evaporation Rate:</b>	Not available.
<b>Flammability:</b>	Not Flammable.
<b>Lower Flammability/Explosive Limit:</b>	Not available.
<b>Upper Flammability/Explosive Limit:</b>	Not available.
<b>Vapor Pressure:</b>	Not available.
<b>Vapor Density:</b>	Not available.
<b>Relative Density/Specific Gravity:</b>	Not available.
<b>Solubility:</b>	Not available.
<b>Partition coefficient: n-octanol/water:</b>	Not available.
<b>Auto-ignition Temperature:</b>	Not available.
<b>Decomposition Temperature:</b>	Not available.
<b>Viscosity:</b>	Not available.
<b>Explosive Properties:</b>	Not available.
<b>Oxidizing Properties:</b>	Not available.

### Section 10: STABILITY AND REACTIVITY

#### 10.1 REACTIVITY

No dangerous reaction known under conditions of normal use.

#### 10.2 CHEMICAL STABILITY

Stable under normal storage conditions.

#### 10.3 POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reaction known under conditions of normal use.

#### 10.4 CONDITIONS TO AVOID

Incompatible materials.

#### 10.5 INCOMPATIBLE MATERIALS

None known.

#### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS

May include, and are not limited to: oxides of carbon.

### Section 11: TOXICOLOGICAL INFORMATION

#### 11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

**Likely Routes of Exposure:** Skin Contact.

**Symptoms related to physical/chemical/toxicological characteristics:**

**Eye:** None under normal conditions of use.

**Skin:** None under normal conditions of use.

**Ingestion:** None under normal conditions of use.

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**Inhalation:** None under normal conditions of use.

**Acute Toxicity:**

Ingredient	IDLH	LC50	LD50
Not applicable.			
Calculated overall Chemical Acute Toxicity Values			
LC50 (inhalation)	LD50 (oral)	LD50 (dermal)	
Not available.	Not available.	Not available.	
Ingredient	Chemical Listed as Carcinogen or Potential Carcinogen (NTP, IARC, OSHA, ACGIH, CP65)*		
Not applicable.			

**11.2 DELAYED, IMMEDIATE, AND CHRONIC EFFECTS OF SHORT- AND LONG-TERM EXPOSURE**

**Skin Corrosion/Irritation:** Based on available data, the classification criteria are not met.

**Serious Eye Damage/Irritation:** Based on available data, the classification criteria are not met.

**Respiratory Sensitization:** Based on available data, the classification criteria are not met.

**Skin Sensitization:** Based on available data, the classification criteria are not met.

**STOT-Single Exposure:** Based on available data, the classification criteria are not met.

**Chronic Health Effects:**

**Carcinogenicity:** This product is not classified as a carcinogen.

**Germ Cell Mutagenicity:** This product is not classified as a mutagen.

**Reproductive Toxicity:**

**Developmental:** This product does not contain known reproductive or developmental toxins.

**Teratogenicity:** Not hazardous by WHMIS/OSHA criteria.

**Embryotoxicity:** Not hazardous by WHMIS/OSHA criteria.

**Fertility:** No known significant effects or critical hazards.

**STOT-Repeated Exposure:** Based on available data, the classification criteria are not met.

**Aspiration Hazard:** Based on available data, the classification criteria are not met.

**Toxicologically Synergistic Materials:** Not available.

**Other Information:** Not available.

**Section 12: ECOLOGICAL INFORMATION**

**12.1 ECOTOXICITY**

**Acute/Chronic Toxicity:** Not available.

**12.2 PERSISTENCE AND DEGRADABILITY**

Not available.

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### 12.3 BIOACCUMULATIVE POTENTIAL

**Bioaccumulation:** Not available.

### 12.4 MOBILITY IN SOIL

Not available.

### 12.5 OTHER ADVERSE EFFECTS

Not available.

## Section 13: DISPOSAL CONSIDERATIONS

### 13.1 WASTE TREATMENT METHODS

**Disposal Method:** This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

**Other disposal recommendations:** Not available.

## Section 14: TRANSPORT INFORMATION

### 14.1 UN NUMBER

**DOT**

Not regulated.

**TDG**

Not regulated.

### 14.2 UN PROPER SHIPPING NAME

**DOT**

Not applicable.

**TDG**

Not applicable.

### 14.3 TRANSPORT HAZARD CLASS (ES)

**DOT**

Not applicable.

**TDG**

Not applicable.

### 14.4 PACKING GROUP

**DOT**

Not applicable.

**TDG**

Not applicable.

### 14.5 ENVIRONMENTAL HAZARDS

Not applicable.

### 14.6 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE

Not applicable.

### 14.7 SPECIAL PRECAUTIONS FOR USER

Not applicable.

## Section 15: REGULATORY INFORMATION

### 15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/ LEGISLATIONS SPECIFIC FOR THE CHEMICAL

**Canadian:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.



# SAFETY DATA SHEET

**US:** MSDS prepared pursuant to the Hazard Communication Standard (CFR29 1910.1200) HazCom 2012

SARA Title III				
Ingredient	Section 302 (EHS) TPQ (lbs.)	Section 304 EHS RQ (lbs.)	CERCLA RQ (lbs.)	Section 313
Not applicable.				

### State Regulations

**California Proposition 65:**

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

**Global Inventories**

Ingredient	Canada DSL/NDSL	USA TSCA
All ingredients are on DSL/NDSL & TSCA inventories.		

NFPA - National Fire Protection Association:	
Health:	0
Fire:	1
Reactivity:	0

HMIS - Hazardous Materials Identification System	
Health:	0
Fire:	1
Reactivity:	0

**Hazard Rating:** 0 = minimal, 1 = slight, 2 = moderate, 3 = severe, 4 = extreme

**WHMIS Classification(s):**

Not controlled.

**SOURCE AGENCY CARCINOGEN CLASSIFICATIONS:**

**CP65 California Proposition 65**

**OSHA (O) Occupational Safety and Health Administration.**

**ACGIH (G) American Conference of Governmental Industrial Hygienists.**

- A1 - Confirmed human carcinogen.
- A2 - Suspected human carcinogen.
- A3 - Animal carcinogen.
- A4 - Not classifiable as a human carcinogen.
- A5 - Not suspected as a human carcinogen.

**IARC (I) International Agency for Research on Cancer.**

- 1 - The agent (mixture) is carcinogenic to humans.
- 2A - The agent (mixture) is probably carcinogenic to humans; there is limited evidence of carcinogenicity in humans and sufficient evidence of carcinogenicity in experimental animals.
- 2B - The agent (mixture) is possibly carcinogenic to humans; there is limited evidence of carcinogenicity in humans in the absence of sufficient evidence of carcinogenicity in experimental animals.
- 3 - The agent (mixture, exposure circumstance) is not classifiable as to its carcinogenicity to humans.
- 4 - The agent (mixture, exposure circumstance) is probably not carcinogenic to humans.

**NTP (N) National Toxicology Program.**

- 1 - Known to be carcinogens.
- 2 - Reasonably anticipated to be carcinogens.

## SAFETY DATA SHEET

### Section 16: OTHER INFORMATION

**Date of Preparation:** October 17, 2012

**Expiry Date:** October 17, 2015

**Version:** 1.0

**Revision Date:** October 17, 2012

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**End of Safety Data Sheet**