


Material Safety Data Sheet

Section 1 - PRODUCT IDENTIFICATION				
Material	ZINC COATED SHEET STEEL			WHMIS Class D2A, D2B
Synonyms	Galvanized, Galvanneal, Galvalume, Galvalume Plus, Zincrometal			
Manufacturer				
Telephone No.	(604) 946 - 3890	Material Use	Manufacture of steel articles	

Section 2 - HAZARDOUS INGREDIENTS				
Hazardous Ingredients	Weight %	CAS No.	LD50	Exposure Limit (mg/m ³)

Steel:				
Iron (Fe)	~ 95	7439-89-6	30 g/kg (rat-oral)	5 (Fume)
Manganese (Mn)	≤ 1.65	7439-96-5	9 g/kg (rat-oral)	0.2
Chromium (Cr)	≤ 1.1	7440-47-3	U	0.5
Nickel (Ni)	≤ 0.12	7440-02-0	U	1.5
(Hazardous Ingredients - lists components which meet the reporting requirements of the Hazardous Products Act.)				

Coating:				
1. Galvanized				
Zinc (Zn)	99	7440-66-6	U	5 (Fume)
(Z-coating. Coating weights range from 15 to 500 g/m ² or up to 20% total steel weight)				
2. Galvanneal				
Zinc (Zn)	88	7440-66-6	U	5 (Fume)
Iron (Fe)	11	7439-89-6	U	5 (Fume)
(Annealed Z-coating. Coating weights range from 20 to 100 g/m ² or up to 10% total steel weight)				
3. Galvalume, Galvalume Plus				
Aluminum (Al)	55	7429-90-5	U	10
Zinc (Zn)	43	7440-66-6	U	5 (Fume)
(AZ-coating. Coating weights range from 50 to 150 g/m ² or up to 15% total steel)				

Surface Treatments:				
(Constitutes less than 0.5% of total steel weight)				
1. Passivation - Chromic acid solution leaving a chromium residual of 11 to 40mg/m ² per side.				
2. Slushing Oil - (Ferrocote 61 MAL HCL-1G, Ferrocode 61-AUS, PL-7105-A) Hydrotreated naphthenic oils or petroleum based lubricating oils containing sulphonates and anti-oxidants.				
3. Vanishing Oil - (Rustilo DW 924) Mineral oil and isoparaffin petroleum distillate. Oil Coating weights range from 1.1 to 5.4 g/m ² per side.				
4. Pre Temper - (Qwerl 266-LV) White petroleum mineral oil. Galvalume Plus - (Oakite PC4610) Acrylic coating of polystyrene-acrylate copolymers.				

Note: These products do not contain and are not manufactured with any Class I or Class II ozone depleting substances. These products meet the Coalition of North Eastern governors' (CONEG) requirements for combined heavy metal content of less than 100 ppm.

Legend: U = Unknown NA = Not Applicable

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Section 3 - PHYSICAL DATA	Section 4 - FIRE AND EXPLOSION DATA
Silver Grey Metallic Solid Boiling Pt. (°C) - N.A. Melting Pt. (°C) - 1530 Specific Gravity - 7.5 to 8	Non - Flammable. Will not support combustion
	Section 5 - REACTIVITY DATA
	Stable: Contact with strong mineral acids will release flammable hydrogen gas

Section 6 - TOXICOLOGICAL PROPERTIES

ROUTE OF ENTRY

None in its natural state. Operations such as welding, burning, grinding or machining may pose acute or chronic inhalation health effects. Skin or eye contact with coating oils may cause irritation with prolonged or repeated contact.

EFFECTS OF ACUTE EXPOSURE

None to sheet steel. Welding, burning, grinding or machining can generate metal particulate or elemental oxide fumes. Inhalation overexposure to manganese fume has been reported to cause "metal fume fever" characterized by fever and chills (i.e., flu-like symptoms). Such an overexposure is unlikely due to the small amount of manganese available. Fumes or mists of surface treatment oils may irritate the eyes and upper respiratory tract, and cause headache, dizziness and / or nausea if exposure is excessive.

EFFECTS OF CHRONIC EXPOSURE

None to sheet steel. Chronic inhalation overexposure to metal fume (i.e., iron oxide fume) may cause a benign pneumoconiosis (i.e., siderosis) with few or no symptoms. Repeated or prolonged contact to coating oils may cause skin irritation and dermatitis.

IRRITANCY None	Carcinogenicity- Chromium and Nickel (See Additional Information) Reproductive, Teratogenicity, Mutagenicity - no known effects	SYNERGISTIC MATERIALS U
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Section 7 - PREVENTATIVE MEASURES

Dependent upon the process being performed on the sheet steel material. Each operation must be addressed for suitable personal protective equipment required. General ventilation is normally adequate. Welding requires local exhaust ventilation or fume filter respirator, gloves and eyewear. Avoid prolonged or repeated skin contact, launder oil-contaminated clothing. Use oil impervious gloves if required to prevent contact. Avoid eye contact with oil contaminated hands.

Section 8 - FIRST AID MEASURES

Eyes - Flush with water
 Skin - Wash contact areas with soap and water
 Inhalation - For overexposure to metal fume, remove person to fresh air. Seek medical attention.

ADDITIONAL INFORMATION

IARC lists certain hexavalent chromium compounds under its Group 1 - "Confirmed Human Carcinogen". IARC lists certain nickel compounds under its Group 2A - "Suspected Human Carcinogen". Welding fume may also contain contaminants from fluxes and / or other welding consumables. Oil coatings should be removed prior to welding or grinding to minimize smoke generation.

Section 9 - PREPARATION DATE

PREPARED BY Cascadia Metals	PHONE (604) 946 - 3890	DATE PREPARED June 1, 2010
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