



**Cascadia**  
**Metals**



## Section 1 - PRODUCT IDENTIFICATION

<b>Material</b>	<b>HOT ROLLED SHEET STEEL</b>	<b>WHMIS Class</b> D2A, D2B
<b>Synonyms</b>	Carbon Sheet Steel, Hot Band, Pickled & Oiled Steel	
<b>Manufacturer</b>		
<b>Telephone No</b>	<b>Material Use</b> Manufacture of steel articles	

## Section 2 - HAZARDOUS INGREDIENTS

<b>Hazardous Ingredients</b>	<b>Weight %</b>	<b>CAS No.</b>	<b>LD50</b>	<b>Exposure Limit (mg/m<sup>3</sup>)</b>
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:

(No Coating Applied)

### Surface Treatments:

(Constitutes less than 0.1% of total steel weight)

1. Dry Lube (Gilcote 2500, Detrex 226S)  
100% mixture of Borax and carbonate soaps  
Dried material has a typical surface coating of 2.2 to 6.5 g/m<sup>2</sup>
2. Pre-lube (Montgomery DA-4300, Ferrocote 61 MAL HCL-1G, Ferrocote 61-AUS)  
Hydrotreated naphthenic mineral oils or petroleum hydrocarbon based lubricating oils containing petroleum sulphonates and anti-oxidants.  
Oil coating weights range from 1.1. to 5.4 g/m<sup>2</sup> per side.

### Note:

These Steel 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.



**Material:** HOT ROLLED SHEET STEEL

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.

<b>IRRITANCY</b> None	<b>Carcinogenicity-</b> Chromium and Nickel (See Additional Information) <b>Reproductive, Teratogenicity, Mutagenicity – no known effects</b>	<b>SYNERGISTIC MATERIALS</b> 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

<b>PREPARED BY</b> Dofasco Health and Safety Department	<b>PHONE</b> (905) 548-7200	<b>DATE PREPARED</b> Febr
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**Legend: U = Unknown NA = Not Applicable**



### Section 1 - PRODUCT IDENTIFICATION

<b>Material</b>	<b>COLD ROLLED SHEET STEEL</b>		<b>WHMIS Class</b> D2A, D2B	
<b>Synonyms</b>	Cold Rolled Carbon Sheet Steel, Dofascology			
<b>Manufacturer</b>				
<b>Telephone No.</b>	(905) 548-7200	<b>Material Use</b>		Manufacture of steel articles

### Section 2 - HAZARDOUS INGREDIENTS

<b>Hazardous Ingredients</b>	<b>Weight %</b>	<b>CAS No.</b>	<b>LD50</b>	<b>Exposure Limit (mg/m<sup>3</sup>)</b>
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:

(No Coating Applied)

#### Surface Treatments:

(Constitutes less than 0.1% of total steel weight)

- Oils ( PL-7105-A, Ferrocoate 61-AUS, Ferrocoate 61 MAL HCL-1G)  
Hydrotreated naphthenic mineral oils or petroleum based lubricating oil containing petroleum sulphonates and anti-oxidants.  
Oil Coating weights range from 1.1 to 5.4 g/m<sup>2</sup> per side.
- Pre Temper solution (Qwerl 599)  
Water based solution of sodium nitrite and surfactants. Trace quantities remain after drying.  
Pre Temper (Qwerl 266-LV)  
White petroleum mineral oil.

#### 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**



**Material:** COLD ROLLED SHEET STEEL

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.

<b>IRRITANCY</b> None	<b>Carcinogenicity-</b> Chromium and Nickel (See Additional Information) <b>Reproductive, Teratogenicity, Mutagenicity – no known effects</b>	<b>SYNERGISTIC MATERIALS</b> 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

<b>PREPARED BY</b> Dofasco Health and Safety Department	<b>PHONE</b> (905) 548-7200	<b>DATE PREPARED</b> February 10, 2003
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**Legend: U = Unknown NA = Not Applicable**



## Section 1 - PRODUCT IDENTIFICATION

<b>Material</b>	<b>TIN OR CHROMIUM PLATED SHEET STEEL</b>		<b>WHMIS Class</b> <b>D2A, D2B</b>	
<b>Synonyms</b>	Tin Plate, Tin-Free Steel, TFS, Chromium Plate, Electrolytic Chromium Coated Steel, ECCS			
<b>Manufacturer</b>				
<b>Telephone No.</b>	(905) 548-7200	<b>Material Use</b>		Manufacture of steel articles

## Section 2 - HAZARDOUS INGREDIENTS

<b>Hazardous Ingredients</b>	<b>Weight %</b>	<b>CAS No.</b>	<b>LD50</b>	<b>Exposure Limit (mg/m<sup>3</sup>)</b>
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.	Tin Plate Coating			
	Tin (Sn)	100	7440-31-5	U
	(Tin coating weights range from 0.45 to 15 g/m <sup>2</sup> per side and constitutes less than 2.5% of total steel weight)			
2.	Tin-Free or Chromium Coating			
	Chromium (Cr)		7440-47-3	U
	Chromium (III) Oxide		1308-38-9	U

(Total chromium coating weight is approximately 0.1 g/m<sup>2</sup> per side and constitutes less than 0.02% total steel weight)

### Surface Treatments:

(Constitutes less than 0.01% of total steel weight)

1. Passivation - Sodium dichromate solution leaving a chromium metal and oxide residue of 0.05 to 10.0 mg/m<sup>2</sup>.
2. DOS Oil - Edible oil coating [di-(2-ethylhexyl) sebacate] to prevent scratching and as a lubricant for forming operations.  
Typical coating is 0.1 microinches per side.

### 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.



**Material:** TIN OR CHROMIUM PLATED SHEET STEEL

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.

<b>IRRITANCY</b> None	<b>Carcinogenicity-</b> Chromium and Nickel (See Additional Information) <b>Reproductive, Teratogenicity, Mutagenicity – no known effects</b>	<b>SYNERGISTIC MATERIALS</b> 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

<b>PREPARED BY</b> Dofasco Health and Safety Department	<b>PHONE</b> (905) 548-7200	<b>DATE PREPARED</b> February 10, 2003
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**Legend: U = Unknown NA = Not Applicable**



### Section 1 - PRODUCT IDENTIFICATION

<b>Material</b>	<b>ZINC COATED SHEET STEEL</b>		<b>WHMIS Class</b> D2A, D2B
<b>Synonyms</b>	Galvanized, Galvanneal, Galvalume, Galvalume Plus, Zincrometal		
<b>Manufacturer</b>			
<b>Telephone No.</b>	(905) 548-7200	<b>Material Use</b>	

### Section 2 - HAZARDOUS INGREDIENTS

<b>Hazardous Ingredients</b>	<b>Weight %</b>	<b>CAS No.</b>	<b>LD50</b>	<b>Exposure Limit (mg/m<sup>3</sup>)</b>
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 <sup>2</sup> 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 <sup>2</sup> 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 <sup>2</sup> 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<sup>2</sup> per side.
2. Slushing Oil - (Ferrocote 61 MAL HCL-1G, FeroCote 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<sup>2</sup> 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**



**Material:** ZINC COATED SHEET STEEL

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.

<b>IRRITANCY</b> None	<b>Carcinogenicity-</b> Chromium and Nickel (See Additional Information) <b>Reproductive, Teratogenicity, Mutagenicity – no known effects</b>	<b>SYNERGISTIC MATERIALS</b> 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

<b>PREPARED BY</b> Dofasco Health and Safety Department	<b>PHONE</b> (905) 548-7200	<b>DATE PREPARED</b> February 10, 2003
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**Legend: U = Unknown NA = Not Applicable**



## Section 1- PRODUCT IDENTIFICATION

<b>Material</b>	<b>TUBULAR PRODUCTS</b>		<b>WHMIS Class</b> D2A, D2B
<b>Synonyms</b>	Hydroform Tube/Tubular Products – All Dimensions		
<b>Manufacturer</b>			
<b>Telephone No.</b>	(905) 548-7200	<b>Material Use</b>	

## Section 2 - HAZARDOUS INGREDIENTS

<b>Hazardous Ingredients</b>	<b>Weight %</b>	<b>CAS No.</b>	<b>LD50</b>	<b>Exposure Limit (mg/m<sup>3</sup>)</b>
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. 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 <sup>2</sup> or up to 10% total steel weight)				

Surface Treatments:				
(Constitutes less than 0.1% of total steel weight)				
1.	Forming, Cutting and Washing Emulsions Water based emulsions leaving residual quantities of amines and petroleum sulphonates.			
2.	Oiled ( Dasco Arc 206 HF) Petroleum based rust preventative oil containing barium sulphonate.			

**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.



**Material:** TUBULAR PRODUCTS

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.

<b>IRRITANCY</b> None	<b>Carcinogenicity-</b> Chromium and Nickel (See Additional Information) <b>Reproductive, Teratogenicity, Mutagenicity – no known effects</b>	<b>SYNERGISTIC MATERIALS</b> 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

<b>PREPARED BY</b> Dofasco Health and Safety Department	<b>PHONE</b> (604905) 548-7200	<b>DATE PREPARED</b> August, 2004
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**Legend: U = Unknown NA = Not Applicable**



### Section 1 - PRODUCT IDENTIFICATION

<b>Material</b>	<b>PRE-PAINTED SHEET STEEL</b>	<b>WHMIS Class</b> <b>NONE</b>
<b>Synonyms</b>	PRE-PAINT, QC COATING	
<b>Manufacturer</b>		<b>MANUFACTURED ARTICLE</b>
<b>Telephone No.</b>	<b>Material Use</b> Manufacture of steel articles	

### Section 2 - HAZARDOUS INGREDIENTS

<b>Hazardous Ingredients</b>	<b>Weight %</b>	<b>CAS No.</b>	<b>LD50</b>	<b>Exposure Limit (mg/m<sup>3</sup>)</b>
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.)				

#### SUBSTRATE

1.	Galvanized Sheet Steel				
	Zinc (Zn)	99	7440-66-6	U	5 (Fume)
	(Z-coating. Coating weights range from 15 to 500 g/m <sup>2</sup> or up to 20% total steel weight)				
2.	Galvanneal Sheet Steel				
	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 <sup>2</sup> or up to 10% total steel weight)				
3.	Galvalume				
	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 <sup>2</sup> or up to 15% total steel weight)				
4.	Cold Rolled Sheet Steel				
	(No Coating applied)				

#### PRE-PAINT COATINGS:

(Constitutes less than 0.5% of total weight. Coating 1 to 8 mil thick. Color as Customer Specified )

- Polyester Paint Coatings** – Dusts generated during mechanical abrasion (grinding, buffing, etc.) of the cured polyester coating would be considered nuisance particulate. Thermal decomposition products of the cured coating will yield small quantities of carbon monoxide, carbon dioxide and acetaldehyde at temperatures above 1000 °C (i.e. welding or thermal cutting operations). Prolonged exposure to temperatures of about 300 °C will yield mainly acetaldehyde and smaller quantities of carbon oxides (i.e. smouldering type fire).
- Polyvinyl Chloride Resin Polymer (Plasitisol)** - Dusts generated during mechanical abrasion (grinding, buffing, etc.) of the cured PVC coating would be considered nuisance particulate. Thermal decomposition products of the cured PVC coating will yield small quantities of hydrogen chloride, carbon monoxide, carbon dioxide and mixed hydrocarbons at temperatures of 300 to 600 °C. At temperatures above 600 °C thermal decomposition products will include small quantities of the above compounds and large quantities of smoke and/or soot.

**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.



**Material:** PRE-PAINTED SHEET STEEL

Section 3 - PHYSICAL DATA	Section 4 - FIRE AND EXPLOSION DATA
Metallic Solid – Color as Customer Specified 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

<p><b>ROUTE OF ENTRY</b> None in its natural state. Operations such as welding, burning, grinding or machining may pose acute or chronic inhalation health effects.</p>		
<p><b>EFFECTS OF ACUTE EXPOSURE</b>  None to sheet steel. Grinding or machining can generate paint dusts, metal particulate or elemental oxide fumes. Welding or thermal cutting operations may generate metal particulate, elemental metal oxides and paint coating decomposition products listed in Section 2. May cause irritation of the nose, throat and lungs. Inhalation overexposure to zinc oxide fume may cause "metal fume fever" characterized by fever and chills (i.e., flu-like symptoms).</p>		
<p><b>EFFECTS OF CHRONIC EXPOSURE</b> 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.</p>		
<p><b>IRRITANCY</b> None</p>	<p><b>Carcinogenicity-</b> Chromium and Nickel (See Additional Information) <b>Reproductive, Teratogenicity, Mutagenicity – no known effects</b></p>	<p><b>SYNERGISTIC MATERIALS</b> U</p>

## Section 7 - PREVENTATIVE MEASURES

<p>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.</p>
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## Section 8 - FIRST AID MEASURES

<p>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.</p>
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<p><b>ADDITIONAL INFORMATION</b> 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. Paint coatings should be removed prior to welding or grinding to minimize smoke generation.</p>
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## Section 9 - PREPARATION DATE

<p><b>PREPARED BY</b> Dofasco Health and Safety Department</p>	<p><b>PHONE</b> (905) 548-7200</p>	<p><b>DATE PREPARED</b> February 10, 2003</p>
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**Legend: U = Unknown NA = Not Applicable**

# STEEL

# ACIER

REFER TO MATERIAL  
SAFETY DATA SHEET



CONSULTER LA FICHE  
SIGNALETIQUE

Overexposure to dusts or fumes generated during welding or burning steels, particularly those containing chromium or nickel, may cause respiratory disease.

High exposure to fumes during welding or burning of zinc coated products can cause reversible short-term flu-like symptoms.

Prolonged skin contact with coated steel may cause skin irritation in sensitive individuals.

LIMIT inhalation of dusts or fumes generated during processing.

LIMIT skin contact.

Overexposure to metal fumes: Move to fresh air. Seek medical attention if necessary

Skin contact: Wash with soap and water.

Read the relevant Material Safety Data Sheet for more information

La surexposition aux poussières ou aux fumées générées lors du soudage, surtout des aciers contenant du chrome ou du nickel, pourrait provoquer des maladies respiratoires.

Une exposition intensive aux fumées lors du soudage des produits revêtus de zinc pourrait provoquer à court terme des symptômes réversibles de grippe.

Le contact avec la peau et les aciers revêtus pourrait provoquer une irritation de la peau chez certains individus.

LIMITER L'inhalation des poussières ou des fumées générées pendant la transformation.

LIMITER Le contact avec la peau

Si l'individu est surexposé aux fumées venant des métaux, emmenez la personne pour qu'elle puisse avoir de l'air frais. Demandez des soins médicaux si nécessaire.

S'il y a contact avec la peau, lavez la peau à l'eau et au savon.

Veillez consulter la fiche signalétique pertinente pour plus de renseignements.

**DOFASCO**

Our Product Is Steel Our Strength Is People

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