



ArcelorMittal

Material Safety Data Sheet

PRE-PAINTED SHEET STEEL

Section 1 - PRODUCT IDENTIFICATION

Material	PRE-PAINTED SHEET STEEL		WHMIS Class D2A, D2B
Synonyms	Pre-Paint, Precoated Steel		
Manufacturer	ArcelorMittal Dofasco Inc., P.O. Box 2460, Hamilton, Ontario, Canada L8N 3J5		
General Information:	1-905-548-7200 x 6073	Material Use Manufacture of steel articles	
Emergency Contact:	1-760-476-3962		
	Company Code: 333211		

Section 2 - HAZARDOUS INGREDIENTS

Hazardous Ingredients	Weight %	CAS No.	LD50	Exposure Limit (mg/m³)
Steel:				
Iron (Fe)	~ 95	7439-89-6	30 g/kg (rat-oral)	5 (Fume)
Manganese (Mn)	≤ 2.225	7439-96-5	9 g/kg (rat-oral)	0.2
Chromium (Cr)	≤ 0.65	7440-47-3	Unknown	0.5
Nickel (Ni)	≤ 0.25	7440-02-0	Unknown	1.0
(Hazardous Ingredients – lists components which meet the reporting requirements of the Hazardous Products Act.)				

SUBSTRATE

- Galvanized Sheet Steel

Zinc (Zn)	99	7440-66-6	Unknown	2 (Fume)
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 (Zn coating: Coating weights range from 15 to 500 g/m² per side or up to 20% total steel weight)
- Galvanneal Sheet Steel

Zinc (Zn)	88	7440-66-6	Unknown	2 (Fume)
Iron (Fe)	11	7439-89-6	Unknown	5 (Fume)

 (Annealed Zn-Fe coating: Coating weights range from 20 to 100 g/m² per side or up to 10% total steel weight)
- Galvalume

Aluminum (Al)	55	7429-90-5	Unknown	1
Zinc (Zn)	43	7440-66-6	Unknown	2 (Fume)

 (Al-Zn coating: Coating weights range from 50 to 150 g/m² per side or up to 15% total steel weight)
- Cold Rolled Sheet Steel
(No Coating applied)

PRE-PAINT COATINGS:

(Constitutes less than 0.5% of total weight. Paint coating ranges from 0.2 to 12 mils per side. Color as customer specified)

- Polyester Base Resin 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. smoldering type fire).
- Polyvinyl Chloride Resin Polymer (Plastisol)** - 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.
- Polyvinylidene Fluoride Resin Polymer (Kynar[®])** - Dusts generated during mechanical abrasion (grinding, buffing, etc.) of the cured coating would be considered nuisance particulate. Thermal decomposition products of the cured coating will yield small quantities of hydrogen fluoride, carbon monoxide, carbon dioxide and mixed hydrocarbons.
- Polyurethane Resin Polymer Coatings** - Dusts generated during mechanical abrasion (grinding, buffing, etc.) of the cured Urethane coating would be considered nuisance particulate. Thermal decomposition products of the cured coating will yield small quantities of hydrogen cyanide, carbon monoxide, carbon dioxide and nitrogen oxides.
- Epoxy Phenolic Resin Coatings** – Dusts generated during mechanical abrasion (grinding, buffing, etc.) of the cured coating would be considered nuisance particulate. Thermal decomposition products of the cured coating will yield small quantities of carbon monoxide, carbon dioxide, formaldehyde, aromatic hydrocarbons and aliphatic hydrocarbons.



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<i>Section 3 - PHYSICAL DATA</i>	<i>Section 4 - FIRE AND EXPLOSION DATA</i>
Metallic Solid – Color as Customer Specified Boiling Pt. (°C) – Not applicable Melting Pt. (°C) - 1530 Specific Gravity - 7 to 9	Non – Flammable. Will not support combustion
	<i>Section 5 - REACTIVITY DATA</i>
	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.

EFFECTS OF ACUTE EXPOSURE
 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).

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. The health hazards associated with exposure to chromium are dependent upon its oxidation state. The metal form of chromium as it exists in this product is of very low toxicity. The hexavalent form is very toxic. Repeated or prolonged exposure to hexavalent chromium compounds may cause respiratory irritation, nosebleed, ulceration and perforation of the nasal septum. Industrial exposure to certain forms of hexavalent chromium has been related to an increased incidence of cancer.

IRRITANCY None	Carcinogenicity- Chromium and Nickel (See Additional Information) Reproductive, Teratogenicity, Mutagenicity – no known effects	SYNERGISTIC MATERIALS Unknown
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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.

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. Paint coatings should be removed prior to welding or grinding to minimize smoke generation. ArcelorMittal Dofasco Steel products do not contain and are not manufactured with any Class I or Class II ozone depleting substances.

Section 9 - PREPARATION DATE

PREPARED BY Health and Safety Department	PHONE (905) 548-7200 Ext. 6073	DATE PREPARED March 27, 2013
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STEEL

ACIER

REFER TO MATERIAL SAFETY DATA SHEET



CONSULTER LA FICHE SIGNALÉTIQUE

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 ou brûlure des aciers, en particulier ceux contenant du chrome ou de nickel, pourrait causer 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.

Un contact prolongé avec de l'acier revêtu pourrait provoquer une irritation cutanée chez les personnes sensibles.

LIMITER l'inhalation des poussières ou des fumées générées pendant le traitement.

LIMITER Le contact avec la peau.

Si l'individu est surexposé aux fumées venant des métaux, emmenez la personne au grand air. Demandez des soins médicaux si nécessaire.

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

Lire la fiche signalétique pour plus d'information.



ArcelorMittal

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