



ArcelorMittal

SDS ID No.: 9993

Safety Data Sheet (SDS)

Section 1 – Identification

1(a) Product Identifier used on Label: Metal Coated Sheet Steel

1(b) Other means of identification: Galvanized, Galvanneal, Galvalume™, Galvalume Plus™, AluSi®

1(c) Recommended use of the chemical and restrictions on use: These products are sold to all steel-consuming industries including automotive, heavy machinery, pipes and tubes, construction, packaging and appliances. The main markets for these products are construction and mechanical engineering, as well as energy and automotive applications.

1(d) Name, address, and telephone number:

ArcelorMittal Dofasco, G.P.
P.O Box 2460
Hamilton, Ontario, Canada L8N 3J5

Phone number: 1-905-548-7200 x 6073

1(e) Emergency phone number: 1-760-476-3962 (3E Company Code: 333211)

Section 2 – Hazard(s) Identification

2(a) Classification of the chemical: Metal Coated Sheet Steel is considered a controlled product under the Hazardous Product Regulations (HPR). Therefore, the categories of Health Hazards as defined in “GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION AND LABELLING OF CHEMICALS (GHS), Fifth revised edition ST/SG/AC.10/30/Rev. 5” United Nations, New York and Geneva, 2013 have been evaluated. Refer to Section 3, 8 and 11 for additional information.

2(b) Signal word, hazard statement(s), symbols and precautionary statement(s):

Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement(s)
	Carcinogenicity - 2 Reproductive Toxicity - 2 Single Target Organ Toxicity (STOT) Repeat Exposure - 1		<p>Suspected of causing cancer.</p> <p>Suspected of damaging fertility or the unborn child.</p> <p>Causes damage to lungs and central nervous system through prolonged or repeated inhalation exposure.</p>
	Skin Sensitization - 1 STOT Single Exposure - 3	DANGER	<p>May cause an allergic skin reaction.</p> <p>May cause respiratory irritation.</p> <p>Causes eye irritation.</p>
NA	Eye Irritation - 2B		

Precautionary Statement(s):

Prevention	Response	Storage/Disposal
<p>Do not breathe dusts / fume / gas / mist / vapor.</p> <p>Wear protective gloves / protective clothing / eye protection / face protection.</p> <p>Contaminated work clothing must not be allowed out of the workplace.</p> <p>Use only outdoors or in well-ventilated areas.</p> <p>Wash thoroughly after handling.</p> <p>Obtain special instructions before use.</p> <p>Do not handle until all safety precautions have been read and understood.</p> <p>Do not eat, drink or smoke when using this product.</p>	<p>If inhaled: Remove person to fresh air and keep comfortable for breathing.</p> <p>If exposed, concerned or feel unwell: Get medical advice/attention.</p> <p>If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>If on skin: Wash with plenty of water. If irritation or rash occurs: Get medical advice/attention. Take off and wash contaminated clothing before reuse.</p> <p>Call a poison center/doctor if you feel unwell.</p>	<p>Dispose of contents in accordance with federal, provincial/state and local regulations.</p>

2(c) Hazards not otherwise classified: None Known

2(d) Unknown acute toxicity statement (mixture): None Known

Section 3 – Composition/Information on Ingredients

3(a-c) Chemical name, common name (synonyms), CAS number and other identifiers, and concentration:

Chemical Name	CAS Number	EC Number	% weight
Iron	7439-89-6	231-096-4	~95
Manganese	7439-96-5	231-105-1	≤ 1.3
Chromium	7440-47-3	231-157-5	≤ 0.4
Nickel	7440-02-0	231-111-4	≤ 0.45

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Section 3 – Composition/Information on Ingredients (continued)

3(a-c) Chemical name, common name (synonyms), CAS number and other identifiers, and concentration (continued):

Metallic Coating(s)

Chemical Name	CAS Number	EC Number	% weight
Galvanized Coating			
Zinc	7440-66-6	231-175-3	99
Zn coating: Coating weights range from 15 to 500 g/m ² per side or up to 20% total steel weight.			
Galvanneal Coating			
Zinc	7440-66-6	231-175-3	88
Iron	7439-89-6	231-096-4	11
Annealed Zn-Fe coating: Coating weights range from 20 to 100 g/m ² per side or up to 10% total steel weight.			
Galvalume, Galvalume Plus Coating			
Aluminum	7429-90-5	231-072-3	55
Zinc	7440-66-6	231-175-3	43
Al-Zn coating: Coating weights range from 50 to 150 g/m ² per side or up to 15% total steel weight.			
AluSi Coating			
Aluminum	7429-90-5	231-072-3	88
Silicon	7440-21-3	231-130-8	10
Iron	7439-89-6	231-096-4	2
Al-Zn coating: Coating weights range from 50 to 150 g/m ² per side or up to 15% total steel weight.			
Surface Treatments:			
Constitutes less than 0.5% of total weight.			
1. Passivation – Trivalent Chromium phosphate/nitrate solution leaving a protective coating containing total chromium residual of 20 to 45 mg/m ² per side. Passivation does not contain hexavalent chromium for these products.			
2. Slushing Oil - (Quaker Ferrocote 61 MAL HCL-1G, Quaker Ferrocote 61-AUS, PL-7105-A). Hydrotreated naphthenic oils or petroleum based lubricating oils containing sulphonates and antioxidants.			
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 - (Quaker Qwerl 291DH, Tempershield 66D) White petroleum mineral oil.			
5. LustreLok TM and Galvalume Plus TM - (Chemetall Gardobond [®] PC4610/1 or Henkel Bonderite [®] 3000B1). Acrylic resin – polystyrene-acrylate co-polymer containing hexavalent chromium 6-27 mg/m ² per side.			

Section 4 – First-aid Measures

4(a) Description of necessary measures:

- Inhalation:** Metal Coated Sheet Steel as sold/shipped is not a likely form of exposure. However, during further processing (welding, grinding, burning, etc.), if inhaled: Remove person to fresh air and keep comfortable for breathing. If exposed, concerned or feel unwell: Get medical advice/attention.
- Eye Contact:** Metal Coated Sheet Steel as sold/shipped is not a likely form of exposure. However, during further processing (welding, grinding, burning, etc.), if in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If exposed, concerned or feel unwell: Get medical advice/attention.
- Skin Contact:** If on skin: Wash thoroughly after handling. Wash with plenty of water. If irritation or rash occurs: Get medical advice/attention. Take off and wash contaminated clothing before reuse. If exposed, concerned or feel unwell: Get medical advice/attention.
- Ingestion:** Metal Coated Sheet Steel as sold/shipped is not a likely form of exposure. However, during further processing (welding, grinding, burning, etc.), if exposed, concerned or feel unwell: Get medical advice/attention.

4(b) Most important symptoms/effects, acute and delayed (chronic):

- Inhalation:** Metal Coated Sheet Steel as sold/shipped is not likely to present an acute or chronic health effect.
- Eye:** Metal Coated Sheet Steel as sold/shipped is not likely to present an acute or chronic health effect.
- Skin:** Metal Coated Sheet Steel as sold/shipped is not likely to present an acute or chronic health effect.
- Ingestion:** Metal Coated Sheet Steel as sold/shipped is not likely to present an acute or chronic health effect.

However, during further processing (welding, grinding, burning, etc.), individual components may illicit an acute or chronic health effect. Refer to Section 11-Toxicological Information.

4(c) Immediate Medical Attention and Special Treatment: None Known

Section 5 – Fire-fighting Measures

5(a) Suitable (and unsuitable) Extinguishing Media: Not Applicable for Metal Coated Sheet Steel as sold/shipped. Use extinguishers appropriate for surrounding materials.

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Section 5 – Fire-fighting Measures (continued)

5(b) Specific Hazards arising from the chemical: Not Applicable for Metal Coated Sheet Steel as sold/shipped. When burned, toxic smoke, fume and vapor may be emitted.

5(c) Special protective equipment and precautions for fire-fighters: Self-contained NIOSH approved respiratory protection and full protective clothing should be worn when fumes and/or smoke from fire are present. Heat and flames cause emittance of acrid smoke and fumes. Do not release runoff from fire control methods to sewers or waterways. Firefighters should wear full face self-contained breathing apparatus and chemical protective clothing with thermal protection. Direct water stream will scatter and spread flames and, therefore, should not be used.

Section 6 - Accidental Release Measures

6(a) Personal Precautions, Protective Equipment and Emergency Procedures: Not Applicable for Metal Coated Sheet Steel as sold/shipped. For spills involving finely divided particles, clean-up personnel should be protected against contact with eyes and skin. If material is in a dry state, avoid inhalation of dust.

6(b) Methods and materials for containment and clean up: Not Applicable for Metal Coated Sheet Steel as sold/shipped. Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations.

Section 7 - Handling and Storage

7(a) Precautions for Safe Handling: Not Applicable for Metal Coated Sheet Steel as sold/shipped, however further processing (welding, burning, grinding, etc.) with the potential for generating high concentrations of airborne particulates should be evaluated and controlled as necessary. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in well-ventilated areas. Practice good housekeeping. Avoid breathing metal fumes and/or dust. Do not eat, drink or smoke when using this product. Cut resistant gloves and sleeves should be worn when working with steel products.

7(b) Conditions for safe storage, including any incompatibilities: Store away from acids and incompatible materials.

Section 8 - Exposure Controls / Personal Protection

8(a) Occupational Exposure Limits (OELs): Metal Coated Sheet Steel as sold/shipped in its physical form does not present an inhalation, ingestion or contact hazard, nor would any of the following exposure data apply. However, operations such as burning, welding (high temperature), sawing, brazing, machining, grinding, etc. may produce fumes and/or particulates. The following exposure limits are offered as reference for an experienced industrial hygienist to review.

Ingredients	OSHA PEL ¹	ACGIH TLV ²	NIOSH REL ³	MLITSD ⁴
Iron	10 mg/m ³ (as iron oxide fume)	5.0 mg/m ³ (as iron oxide dust and fume)	5.0 mg/m ³ (as iron oxide dust and fume)	5.0 mg/m ³ (as iron oxide Respirable fraction)
Chromium	0.5 mg/m ³ (as Cr II & III, inorganic compounds) 1.0 mg/m ³ (as Cr, metal) 0.005 mg/m ³ (as Cr VI, inorganic compounds, water soluble & insoluble) “AL” 0.0025 mg/m ³ (as Cr VI, inorganic compounds, water soluble & insoluble)	0.003 mg/m ³ (as Cr III, inorganic compounds, inhalable fraction ⁵) “DSEN & RSEN” “water-soluble” compounds only 0.5 mg/m ³ (as Cr, metal, inhalable fraction) 0.0002 mg/m ³ (as Cr VI, inorganic compounds, water insoluble & insoluble) “STEL” 0.0005 mg/m ³ (as Cr VI, inorganic compounds, water insoluble & insoluble)	0.5 mg/m ³ (as Cr II & III, inorganic compounds & metal) 0.0002 mg/m ³ (as Cr VI, inorganic compounds, water insoluble & insoluble)	0.5 mg/m ³ (as inorganic compounds Cr ⁺ and as metal Cr III) 0.05 mg/m ³ (as inorganic compounds Cr ⁺ , water soluble compounds Cr VI) 0.01 mg/m ³ (as inorganic compounds Cr ⁺ and insoluble compounds Cr VI)
Manganese	“C” 5.0 mg/m ³ (as fume & inorganic compounds, as Mn)	0.02 mg/m ³ (as fume & inorganic compounds, as Mn, respirable fraction ⁶) 0.1 mg/m ³ (as fume & inorganic compounds, as Mn, inhalable fraction)	1.0 mg/m ³ (as fume & inorganic compounds, as Mn) “STEL” 3.0 mg/m ³ (as fume & inorganic compounds, as Mn)	0.2 mg/m ³ (as elemental and inorganic compounds, Mn)
Nickel	1.0 mg/m ³ (metal, insoluble & soluble compounds, as Ni)	1.5 mg/m ³ (metal, as Ni, as inhalable fraction) 0.2 mg/m ³ (insoluble compounds, as Ni, inhalable fraction, inorganic only) 0.1 mg/m ³ (soluble compounds, as Ni, inhalable fraction, inorganic only)	0.015 mg/m ³ (metal & insoluble and soluble compounds, as Ni)	1.0 mg/m ³ (as elemental/metal, Ni, inhalable fraction) 0.2 mg/m ³ (as insoluble compounds, Ni, inhalable fraction) 0.1 mg/m ³ (as soluble compounds, Ni, inhalable fraction)
Zinc	15 mg/m ³ (as zinc oxide, total dust) 5.0 mg/m ³ (as zinc oxide, respirable fraction & zinc oxide fume)	2.0 mg/m ³ (as zinc oxide, respirable fraction) “STEL” 10 mg/m ³ (as zinc oxide, respirable fraction)	5.0 mg/m ³ (as zinc oxide dust or fume) “STEL” 10 mg/m ³ (as zinc oxide fume) “C” 15 mg/m ³ (as zinc oxide dust)	2.0 mg/m ³ (as zinc oxide, respirable fraction) (STEL) 10 mg/m ³ (as zinc oxide, respirable fraction)

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Section 8 - Exposure Controls / Personal Protection (continued)

8(a) Occupational Exposure Limits (OELs) (continued)

Ingredients	OSHA PEL ¹	ACGIH TLV ²	NIOSH REL ³	MLITSD ⁴
Aluminum	15 mg/m ³ (as aluminum oxide, metal & insoluble compounds, total dust) 5.0 mg/m ³ (as aluminum oxide, metal & insoluble compounds, respirable fraction)	1.0 mg/m ³ (as metal & insoluble compounds, respirable fraction)	10 mg/m ³ (as metal & insoluble compounds, total dust) 5.0 mg/m ³ (as metal & insoluble compounds, respirable fraction) 5.0 mg/m ³ (as welding fumes & pyro powders)	1.0 mg/m ³ (as Al metal and insoluble compounds, respirable fraction)

NE - None Established

- OSHA PELs (Permissible Exposure Limits) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A ("C") designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Short Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday. An Action level (AL) is used by OSHA and NIOSH to express a health or physical hazard. They indicate the level of a harmful or toxic substance/activity, which requires medical surveillance, increased industrial hygiene monitoring, or biological monitoring. Action Levels are generally set at one half of the PEL but the actual level may vary from standard to standard. The intent is to identify a level at which the vast majority of randomly sampled exposures will be below the PEL.
- Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. ACGIH TLVs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes. DSEN – May cause dermal sensitization. This notation is used to indicate the potential for dermal sensitization resulting from the interaction of an absorbed agent and ultraviolet light (i.e. photosensitization). RSEN – May cause respiratory sensitization.
- The National Institute for Occupational Safety and Health Recommended Exposure Limits (NIOSH-REL)- Compendium of Policy and Statements. NIOSH, Cincinnati, OH (1992). NIOSH is the federal agency designated to conduct research relative to occupational safety and health. As is the case with ACGIH TLVs, NIOSH RELs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes.
- Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. ACGIH TLVs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes. DSEN – May cause dermal sensitization. This notation is used to indicate the potential for dermal sensitization resulting from the interaction of an absorbed agent and ultraviolet light (i.e. photosensitization). RSEN – May cause respiratory sensitization.
- Ontario Ministry of Labour, Immigration, Training and Skills Development (MLITSD) - Employers are required under section 4 of Regulation 833, Control of Exposure to Biological or Chemical Agents (the "Regulation"), to limit the exposure of workers to specified hazardous biological or chemical agents in accordance with the values set out in the "Ontario Table" (which is Table 1 in the Regulation) or, if the agent is not listed in the Ontario Table, the ACGIH Table that is incorporated by reference in the Regulation.
- Inhalable fraction. The concentration of inhalable particulate for the application of this TLV is to be determined from the fraction passing a size-selector with the characteristics defined in the ACGIH 2024 TLVs[®] and BEIs[®] (Biological Exposure Indices) Appendix D, paragraph A.
- Respirable fraction. The concentration of respirable dust for the application of this limit is to be determined from the fraction passing a size-selector with the characteristics defined in ACGIH 2024 TLVs[®] and BEIs[®] Appendix D, paragraph C.

8(b) Appropriate Engineering Controls: Use controls as appropriate to minimize exposure to metal fumes and dusts during handling operations. Provide general or local exhaust ventilation systems to minimize airborne concentrations. Local exhaust is necessary for use in enclosed or confined spaces. Provide sufficient general/local exhaust ventilation in pattern/volume to control inhalation exposures below current exposure limits.

8(c) Individual Protection Measures:

- Respiratory Protection:** Seek professional advice prior to respirator selection and use. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Concentration in air of the various contaminants determines the extent of respiratory protection needed. Half-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 10 times the exposure limit. Full-face, negative-pressure, air-purifying respirator equipped with P100 filter is acceptable for concentrations up to 50 times the exposure limit. Protection by air-purifying negative-pressure and powered air respirators is limited. Use a positive-pressure-demand, full-face, supplied air respirator or self-contained breathing apparatus (SCBA) for concentrations above 50 times the exposure limit. If exposure is above the IDLH (Immediately dangerous to life or health) for any of the constituents, or there is a possibility of an uncontrolled release or exposure levels are unknown, then use a positive-demand, full-face, supplied air respirator with escape bottle or SCBA.

Warning! Air-purifying respirators both negative-pressure and powered-air do not protect workers in oxygen-deficient atmospheres.

- Eyes:** Wear appropriate eye protection to prevent eye contact. For operations which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, use safety glasses to prevent eye contact. Contact lenses should not be worn where industrial exposure to this material are likely. Use safety glasses or goggles as required for welding, burning, sawing, brazing, grinding or machining operations.
- Skin:** Wear appropriate personal protective clothing to prevent skin contact. Cut resistant gloves and sleeves should be worn when working with steel products. For operations which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, use protective clothing, and gloves to prevent skin contact. Protective gloves should be worn as required for welding, burning or handling operations. Contaminated work clothing must not be allowed out of the workplace.
- Other protective equipment:** An eyewash fountain and deluge shower should be readily available in the work area.

Section 9 - Physical and Chemical Properties

9(a) Appearance (physical state, color, etc.): Solid, Metallic -
Color as Customer Specified

9(j) Upper/lower Flammability or Explosive Limits: NA

9(b) Odor: Odorless

9(k) Vapor Pressure: NA

9(c) Odor Threshold: NA

9(l) Vapor Density (Air = 1): NA

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Section 9 - Physical and Chemical Properties (continued)

9(d) pH: NA	9(m) Relative Density: 7.5-8 SG
9(e) Melting Point/Freezing Point: ~1530°C	9(n) Solubility(ies): Water Insoluble
9(f) Initial Boiling Point and Boiling Range: ND	9(o) Partition Coefficient n-octanol/water: ND
9(g) Flash Point: NA	9(p) Auto-ignition Temperature: NA
9(h) Evaporation Rate: NA	9(q) Decomposition Temperature: ND
9(i) Flammability (solid, gas): Non-flammable, non-combustible	9(r) Viscosity: NA
NA - Not Applicable	
ND - Not Determined for product as a whole	

Section 10 - Stability and Reactivity

10(a) **Reactivity:** Not Determined (ND) for product in a solid form. Do not use water on molten metal.

10(b) **Chemical Stability:** Steel products are stable under normal storage and handling conditions.

10(c) **Possibility of hazardous reaction:** None Known

10(d) **Conditions to Avoid:** Storage with strong acids or calcium hypochlorite.

10(e) **Incompatible Materials:** Will react with strong acids to form hydrogen. Iron oxide dusts in contact with calcium hypochlorite evolve oxygen and may cause an explosion.

10(f) **Hazardous Decomposition Products:** Thermal oxidative decomposition of steel products can produce fumes containing oxides of iron and manganese as well as other alloying elements.

Section 11 - Toxicological Information

11 Information on toxicological effects: The following toxicity data has been determined for **Metal Coated Sheet Steel** when further processed using the information available for its components applied to the guidance on the preparation of an SDS under the GHS requirements of OSHA and the EU CPL.

Hazard Classification	Hazard Category		Hazard Symbols	Signal Word	Hazard Statement
	EU	WHMIS 2015			
Eye Damage/ Irritation (covers Categories 1, 2A and 2B)	NA*	2B ^c	No Pictogram	Warning	Causes eye irritation - Rating due to iron particulate generated from further processing (welding, grinding, burning, etc.).
Skin/Dermal Sensitization (covers Category 1)	NA*	1 ^d		Warning	May cause an allergic skin reaction - Nickel is a skin sensitizer.
Carcinogenicity (covers Categories 1A, 1B and 2)	NA*	2 ^e		Warning	Suspected of causing cancer. - Rating due to nickel particulate or fume that can enter the body generated when further processed (welding, grinding, burning, etc.).
Toxic Reproduction (covers Categories 1A, 1B and 2)	NA*	2 ^h		Warning	Suspected of damaging fertility or the unborn child. - Rating due to nickel particulate or fume that can enter the body generated when further processed (welding, grinding, burning, etc.).
Specific Target Organ Toxicity (STOT) Following Single Exposure (covers Categories 1-3)	NA*	3 ⁱ		Warning	May cause respiratory irritation. Rating due to iron particulate or fume that can enter the body generated when further processed (welding, grinding, burning, etc.).
STOT following Repeated Exposure (covers Categories 1 and 2)	NA*	1 ^j		Danger	Causes damage to lungs and central nervous system through prolonged or repeated inhalation exposure. Rating due to nickel or manganese particulate or fume that can enter the body generated when further processed (welding, grinding, burning, etc.).

* Not Applicable - Semi-formed steel products are considered articles under Reach regulation (REACH REGULATION (EC) No 1907/2006) and are not subject to classification under CLP regulation (REGULATION (EC) No 1272/2008).

Toxicological data listed below are presented regardless to classification criteria. Individual hazard classification categories where the toxicological information has met or exceeded a classification criteria threshold are listed above.

a. No LC₅₀ or LD₅₀ has been established for **Metal Coated Sheet Steel**. The following data has been determined for the components:

- **Iron:** Rat LD₅₀ = 98.6 g/kg (REACH)
Rat LD₅₀ = 1060 mg/kg (IUCLID)
Rat LD₅₀ = 984 mg/kg (IUCLID)
Rabbit LD₅₀ = 890 mg/kg (IUCLID)
Guinea Pig LD₅₀ = 20 g/kg (TOXNET)
- **Nickel:** LD₅₀ > 9000 mg/kg (Oral/Rat)
- **Manganese:** Rat LD₅₀ > 2000 mg/kg (REACH)
Rat LD₅₀ > 9000 mg/kg (NLM Toxnet)
- **Aluminum:** Rat LD₅₀ > 15.9 g/kg (REACH)

b. No Skin (Dermal) Irritation data available for **Metal Coated Sheet Steel** as a mixture or its individual components.

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Section 11 - Toxicological Information (continued)

11 Information on toxicological effects (continued):

c. No Eye Irritation data available for **Metal Coated Sheet Steel** as a mixture. The following Eye Irritation information was found for the components:

- **Iron:** Causes eye irritation.
- **Nickel:** Slight eye irritation from particulate abrasion only.

d. No Skin (Dermal) Sensitization data available for **Metal Coated Sheet Steel** as a mixture. The following Skin (Dermal) Sensitization information was found for the components:

- **Nickel:** May cause allergic skin sensitization.

e. No Respiratory Sensitization data available for **Metal Coated Sheet Steel** as a mixture or its components.

f. No Germ Cell Mutagenicity data available for **Metal Coated Sheet Steel** as a mixture. The following Mutagenicity and Genotoxicity information was found for the components:

- **Iron:** IUCLID has found some positive and negative findings in vitro.
- **Nickel:** EU RAR has found positive results in vitro and in vivo but insufficient data for classification.
- **Aluminum:** IUCLID; ATSDR have found this ingredient is not mutagenic *in vitro*; but has marginal effects *in vivo*.

g. Carcinogenicity: IARC, NTP, and OSHA do not list **Metal Coated Sheet Steel** as carcinogens. The following Carcinogenicity information was found for the components:

- **Welding Fumes** - IARC Group 2B carcinogen, a mixture that is possibly carcinogenic to humans.
- **Iron Oxide (Fe₂O₃):** IARC-3, unclassifiable as to carcinogenicity in humans; ACGIH TLV-A4, not classifiable as a human carcinogen
- **Chromium (as metal):** IARC-3, unclassifiable as to carcinogenicity in humans; EPA-A, human carcinogen (inhalation), EPA-K, known human carcinogen (inhalation), EPA-D, not classifiable as a human carcinogen (oral), EPA-CBD, cannot be determined (oral)
- **Chromium (as trivalent chromium III, inorganic compounds):** IARC-3 (organic & inorganic compounds), unclassifiable as to carcinogenicity in humans; ACGIH TLV-A4, not classifiable as a human carcinogen; EPA-D, not classifiable as to human carcinogenicity (CBD, cannot be determined)
- **Chromium (hexavalent, VI, inorganic water-soluble & & soluble compounds):** IARC-1, carcinogen to humans; ACGIH TLV-A1, confirmed human carcinogen; NIOSH-Ca, potential occupational carcinogen; NTP-K, known to be a carcinogen; EPA-A, human carcinogen (inhalation), EPA-K, known human carcinogen (inhalation), EPA-D, not classifiable as a human carcinogen (oral), EPA-CBD, cannot be determined (oral)
- **Manganese (inorganic compounds, as Mn):** ACGIH TLV-A4, not classifiable as a human carcinogen; EPA-D, not classifiable as to human carcinogenicity
- **Manganese (fume, as Mn):** ACGIH TLV-A4, not classifiable as a human carcinogen; EPA-D, not classifiable as to human carcinogenicity
- **Nickel, alloys:** IARC-2B, possibly carcinogenic to humans
- **Nickel compounds:** IARC-1, carcinogen to humans; NIOSH-Ca, potential occupational carcinogen; NTP-K, known to be a carcinogen
- **Nickel, elemental:** IARC-2B, possibly carcinogenic to humans; NIOSH-Ca, potential occupational carcinogen; NTP-K, known to be a carcinogen; ACGIH TLV-A5, not suspected as a human carcinogen
- **Nickel, insoluble compounds (as Ni):** NIOSH-Ca, potential occupational carcinogen; NTP-K, known to be a carcinogen; ACGIH TLV-A1, confirmed human carcinogen
- **Zinc (oxide):** EPA-II, inadequate information to assess carcinogenic potential & EPA-D not classifiable as to human carcinogenicity & EPA-I, data are inadequate for assessment of human carcinogenic potential
- **Zinc (oxide, fume):** EPA-II, inadequate information to assess carcinogenic potential; EPA-D, not classifiable as to human carcinogenicity & EPA-I, Data are Inadequate for an Assessment of Human Carcinogenic Potential
- **Aluminum (metal and insoluble compounds):** IARC-1 (production), carcinogen to humans; ACGIH TLV-A4, not classifiable as a human carcinogen

h. No Toxic Reproduction data available for **Metal Coated Sheet Steel** as a mixture. The following Toxic Reproductive information was found for the components:

- **Nickel:** Effects on fertility.

i. No Specific Target Organ Toxicity (STOT) following a Single Exposure data available for **Metal Coated Sheet Steel** as a mixture. The following STOT following a Single Exposure data was found for the components:

- **Iron:** Irritating to Respiratory tract.
- **Aluminum:** Repeated exposure associated with Asthma, fibrosis in lungs and encephalopathy in humans.

j. No Specific Target Organ Toxicity (STOT) following Repeated Exposure data was available for **Metal Coated Sheet Steel** as a whole. The following STOT following Repeated Exposure data was found for the components:

- **Nickel:** Rat 4 wk inhalation LOEL 4 mg/m³ Lung and Lymph node histopathology. Rat 2 yr inhalation LOEL 0.1 mg/ m³ Pigment in kidney, effects on hematopoiesis spleen and bone marrow and adrenal tumor. Rat 13 Week Inhalation LOAEC 1.0 mg/m³ Lung weights, and Alveolar histopathology.
- **Manganese:** Inhalation of metal fumes - Degenerative changes in human Brain; Behavioral: Changes in motor activity and muscle weakness (Whitlock *et al.*, 1966).
- **Aluminum:** Reviews have found chronic exposure to aluminum flake has been reported to cause pneumoconiosis in workers. Repeat oral exposure to aluminum results in decrements in neurobehavioral function and development.

Section 11 - Toxicological Information (continued)

11 Information on toxicological effects (continued):

The above toxicity information was determined from available scientific sources to illustrate the prevailing posture of the scientific community. The scientific resources includes: The American Conference of Governmental Industrial Hygienist (ACGIH) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs) with Other Worldwide Occupational Exposure Values 2024, The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP) updated documentation, the World Health Organization (WHO) and other available resources, the International Uniform Chemical Information Database (IUCLID), European Union Risk Assessment Report (EU-RAR), Concise International Chemical Assessment Documents (CICAD), European Union Scientific Committee for Occupational Exposure Limits (EU-SCOEL), Agency for Toxic Substances and Disease Registry (ATSDR), Hazardous Substance Data Bank (HSDB), and International Programme on Chemical Safety (IPCS), European Union Classification, Labeling and Packaging (EU CPL), Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), International Uniform Chemical Information Database (IUCLID), TOXicology Data NETwork (TOXNET), European Risk Assessment Reports (EU RAR).

The following health hazard information is provided regardless to classification criteria and is based on the individual component(s) and potential resultant components from further processing:

Acute Effects:

- **Inhalation:** Excessive exposure to high concentrations of metal dust may cause irritation to the eyes, skin and mucous membranes of the upper respiratory tract. Excessive inhalation of fumes of freshly formed metal oxide particles sized below 1.5 micrometer and usually between 0.02-0.05 micrometers from many metals can produce an acute reaction known as "metal fume fever". Symptoms consist of chills and fever (very similar to and easily confused with flu symptoms), metallic taste in the mouth, dryness and irritation of the throat followed by weakness and muscle pain. The symptoms come on in a few hours after excessive exposure and usually last from 12 to 48 hours. Long-term effects from metal fume fever have not been noted. Freshly formed oxide fumes of manganese has been associated with causing metal fume fever.
- **Eye:** Excessive exposure to high concentrations of metal dust may cause irritation to the eyes.
- **Skin:** Skin contact with metal dusts may cause irritation or sensitization, possibly leading to dermatitis. Skin contact with metallic fumes and dusts may cause physical abrasion.
- **Ingestion:** Ingestion of harmful amounts of this product as distributed is unlikely due to its solid insoluble form. Ingestion of metal dust may cause nausea or vomiting.

Acute Effects by component:

- **Iron and iron oxides:** Iron is harmful if swallowed, causes skin irritation, and causes eye irritation. Contact with iron oxide has been reported to cause skin irritation and serious eye damage. Particles of iron or iron compounds, which become imbedded in the eye, may cause rust stains unless removed fairly promptly.
- **Chromium, chromium oxides and hexavalent chrome:** Hexavalent chrome causes damage to gastrointestinal tract, lung, severe skin burns and eye damage, serious eye damage, skin contact may cause an allergic skin reaction. Inhalation may cause allergic or asthmatic symptoms or breathing difficulties.
- **Manganese and manganese oxides:** Manganese and Manganese oxide are harmful if swallowed.
- **Nickel and nickel oxides:** Nickel may cause allergic skin sensitization. Nickel oxide may cause an allergic skin.
- **Zinc and zinc oxides:** Not Reported/ Not Classified
- **Aluminum and aluminum oxides:** Not Reported/ Not Classified

Delayed (chronic) Effects by component:

- **Iron and iron oxides:** Chronic inhalation of excessive concentrations of iron oxide fumes or dusts may result in the development of a benign pneumoconiosis, called siderosis, which is observable as an X-ray change. No physical impairment of lung function has been associated with siderosis. Inhalation of excessive concentrations of ferric oxide may enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens.
- **Chromium, chromium oxides and hexavalent chromium:** The health hazards associated with exposure to chromium are dependent upon its oxidation state. The metal form (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. Hexavalent chromium may cause genetic defects and is suspected of damaging the unborn child. Developmental toxicity in the mouse, suspected of damaging fertility or the unborn child.
- **Manganese and manganese oxides:** Chronic exposure to high concentrations of manganese fumes and dusts may adversely affect the central nervous system with symptoms including languor, sleepiness, weakness, emotional disturbances, spastic gait, mask-like facial expression and paralysis. Animal studies indicate that manganese exposure may increase susceptibility to bacterial and viral infections. Occupational overexposure (Manganese) is a progressive, disabling neurological syndrome that typically begins with relatively mild symptoms and evolves to include altered gait, fine tremor, and sometimes, psychiatric disturbances. May cause damage to lungs with repeated or prolonged exposure. Neurobehavioral alterations in worker populations exposed to manganese oxides include: speed and coordination of motor function are especially impaired.
- **Nickel and nickel oxides:** Exposure to nickel dusts and fumes can cause sensitization dermatitis, respiratory irritation, asthma, pulmonary fibrosis, edema, and may cause nasal or lung cancer in humans. Nickel causes damage to lungs through prolonged or repeated inhalation exposure. Nickel is suspected of damaging the unborn child.
- **Zinc and zinc oxides:** Zinc dusts are a low health risk by inhalation and should be treated as a nuisance dust. Inhalation of zinc oxide fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count.
- **Aluminum and Aluminum oxides:** Chronic inhalation of finely divided powder has been reported to cause pulmonary fibrosis and emphysema. Repeated skin contact has been associated with bleeding into the tissue, delayed hypersensitivity and granulomas. Chronic exposure to aluminum flake has been reported to cause pneumoconiosis in workers. Repeat oral exposure to aluminum results in decrements in neurobehavioral function and development.

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Section 12 - Ecological Information

12(a) Ecotoxicity (aquatic & terrestrial): No Data Available for Metal Coated Sheet Steel as sold/shipped. However, individual components of the product when processed have been found to be toxic to the environment. Metal dusts may migrate into soil and groundwater and be ingested by wildlife as follows:

- **Iron Oxide:** LC₅₀: >1000 mg/L; Fish 48 h-EC₅₀ > 100 mg/L (Currenta, 2008k); 96 h-LC₀ ≥ 50,000 mg/L Test substance: Bayferrox 130 red (95 – 97% Fe₂O₃; < 4% SiO₂ and Al₂O₃) (Bayer, 1989a).
- **Hexavalent Chrome:** EU RAR listed as category 1, found acute EC₅₀ and LD₅₀ to algae and invertebrates < 1 mg.
- **Nickel Oxide:** IUCLID found LC₅₀ in fish, invertebrates and algae > 100 mg/l.
- **Zinc Oxide:** EU RAR lists as Category 1 Very toxic to aquatic life with long lasting effects.

12(b) Persistence & Degradability: No Data Available for Metal Coated Sheet Steel as sold/shipped or individual components.

12(c) Bioaccumulative Potential: No Data Available for Metal Coated Sheet Steel as sold/shipped or individual components.

12(d) Mobility (in soil): No data available for Metal Coated Sheet Steel as sold/shipped. However, individual components of the product have been found to be absorbed by plants from soil.

12(e) Other adverse effects: None Known

Additional Information:

Hazard Category: Category 1

Signal Word: Warning

Hazard Symbol:



Hazard Statement: Very Toxic to aquatic life with long lasting effects.

Section 13 - Disposal Considerations

Disposal: Steel scrap should be recycled whenever possible. Product dusts and fumes from processing operations should also be recycled, or classified by a competent environmental professional and disposed of in accordance with applicable federal, provincial/state or local regulations.

Container Cleaning and Disposal: Follow applicable federal, provincial/state and local regulations. Observe safe handling precautions. European Waste Catalogue (EWC): 16-01-17 (ferrous metals), 12-01-99 (wastes not otherwise specified), 16-03-04 (off specification batches and unused products), or 15-01-04 (metallic packaging).

Please note this information is for Metal Coated Sheet Steel in its original form. Any alterations can void this information.

Section 14 - Transport Information

14 (a-g) Transportation Information:

Transport Dangerous Goods (TDG) Classification: Metal Coated Sheet Steel does not have a TDG classification.

US Department of Transportation (DOT) under 49 CFR 172.101 **does not regulate Metal Coated Sheet Steel** as a hazardous material. All federal, state, and local laws and regulations that apply to the transport of this type of material must be adhered to.

Shipping Name: Not Applicable (NA)	Packaging Authorizations	Quantity Limitations
Shipping Symbols: NA	a) Exceptions: NA	a) Passenger, Aircraft, or Railcar: NA
Hazard Class: NA	b) Group: NA	b) Cargo Aircraft Only: NA
UN No.: NA	c) Authorization: NA	Vessel Stowage Requirements
Packing Group: NA		a) Vessel Stowage: NA
DOT/ IMO Label: NA		b) Other: NA
Special Provisions (172.102): NA		DOT Reportable Quantities: NA

International Maritime Dangerous Goods (IMDG) and the Regulations Concerning the International Carriage of Dangerous Goods by Rail (RID) classification, packaging and shipping requirements follow the US DOT Hazardous Materials Regulation.

Regulations Concerning the International Carriage of Dangerous Goods by Road (ADR) does not regulate Metal Coated Sheet Steel as a hazardous material.

Shipping Name: Not Applicable (NA)	Packaging	Portable Tanks & Bulk Containers
Classification Code: NA	a) Packing Instructions: NA	a) Instructions: NA
UN No.: NA	b) Special Packing Provisions: NA	b) Special Provisions: NA
Packing Group: NA	c) Mixed Packing Provisions: NA	
ADR Label: NA		
Special Provisions: NA		
Limited Quantities: NA		

Metal Coated Sheet Steel

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Section 14 - Transport Information

14 (a-g) Transportation Information:

International Air Transport Association (IATA) does not regulate Metal Coated Sheet Steel as a hazardous material.

Shipping Name: Not Applicable (NA) Class/Division: NA Hazard Label (s): NA UN No.: NA Packing Group: NA Excepted Quantities (EQ): NA	Passenger & Cargo Aircraft Limited Quantity (EQ) Pkg Inst: NA		Cargo Aircraft Only Pkg Inst: NA Max Net Qty/Pkg: NA	Special Provisions: NA ERG Code: NA
	Max Net Qty/Pkg: NA	Max Net Qty/Pkg: NA		

Pkg Inst – Packing Instructions

Max Net Qty/Pkg – Maximum Net Quantity per Package

ERG – Emergency Response Drill Code

Section 15 - Regulatory Information

Regulatory Information: The following listing of regulations relating to an ArcelorMittal Dofasco, Inc product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.

This product and/or its constituents are subject to the following regulations:

OSHA Regulations: Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-2, Z-3): The product, **Metal Coated Sheet Steel** as a whole is not listed. However, individual components of the product are listed: Refer to Section 8, Exposure Controls and Personal Protection.

EPA Regulations: The product, **Metal Coated Sheet Steel** is not listed as a whole. However, individual components of the product are listed:

Components	Regulations
Chromium (Cr compounds, or metal)	CERCLA, CWA, SARA 313, TSCA, SDWA
Iron	TSCA, SDWA
Manganese	SARA 313, TSCA
Nickel	CERCLA, CWA, SARA 313, TSCA
Zinc Oxide (Zn compounds)	CERCLA, CWA, SARA 313, TSCA
Aluminum (as dust or fume)	SARA 313

SARA Potential Hazard Categories: Immediate Acute Health Hazard; Delayed Chronic Health Hazard.

Regulations Key:

CAA	Clean Air Act (42 USC Sec. 7412; 40 CFR Part 61 [As of: 8/18/06])
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act (42 USC Secs. 9601(14), 9603(a); 40 CFR Sec. 302.4, Table 302.4, Table 302.4 and App. A)
CWA	Clean Water Act (33 USC Secs. 1311; 1314(b), (c), (e), (g); 136(b), (c); 137(b), (c) [as of 8/2/06])
RCRA	Resource Conservation Recovery Act (42 USC Sec. 6921; 40 CFR Part 261 App VIII)
SARA	Superfund Amendments and Reauthorization Act of 1986 Title III Section 302 Extremely Hazardous Substances (42 USC Secs. 11023, 13106; 40 CFR sec. 372.65) and Section 313 Toxic Chemicals (42 USC secs. 11023, 13106; 40 CFR Sec. 372.65 [as of 6/30/05])
TSCA	Toxic Substance Control Act (15 U.S.C. s/s 2601 et seq. [1976])
SDWA	Safe Drinking Water Act (42 U.S.C. s/s 300f et seq. [1974])

Section 313 Supplier Notification: The product, **Metal Coated Sheet Steel** contains the following toxic chemicals subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-to-Know Act and 40 CFR part 372:

CAS #	Chemical Name	Percent by Weight
7439-89-6	Iron	≈95
7440-47-3	Chromium	<0.4
7439-96-5	Manganese	<1.3
7440-02-0	Nickel	<0.45
7440-66-6	Zinc (coating)	99
7429-90-5	Aluminum (coating)	88

State Regulations: The product, **Metal Coated Sheet Steel** as a whole is not listed in any state regulations. However, individual components of the product are listed in various state regulations:

California Prop.



65: The product, **Metal Coated Sheet Steel** can expose you to chemicals including, chromium (hexavalent chromium compounds), nickel (metallic) which is known to the State of California to cause cancer; and chromium (hexavalent chromium compounds) which is known to the State of California to cause reproductive toxicity. For more information go to www.P65Warnings.ca.gov.

WHMIS Classification (Canadian): The product, **Metal Coated Sheet Steel** is not listed as a whole. However individual components are listed.

Ingredients	WHMIS Classification
Chromium	Combustible dusts*
Iron	Combustible dusts - Category 1 (may form combustible dust concentrations in air)
Manganese	Reproductive toxicity - Category 2; Specific target organ toxicity - repeated exposure - Category 1; Combustible dusts*
Nickel	Skin sensitization - Category 1; Carcinogenicity - Category 2; Specific target organ toxicity - repeated exposure - Category 1

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Section 15 - Regulatory Information (continued)

WHMIS Classification (Canadian) (continued)

Ingredients	WHMIS Classification
Chromium III	Oxidizing solids - Undefined category1; Acute toxicity - oral - Category 2; Acute toxicity - dermal - Category 2; Acute toxicity - inhalation - Category 2; Skin corrosion/irritation - Category 1 (Strong acid: pH of a 1% solution = 1,1); Serious eye damage/eye irritation - Category 1; Respiratory sensitization - Category 1; Skin sensitization - Category 1A; Germ cell mutagenicity - Category 2; Carcinogenicity - Category 1A; Reproductive toxicity - Category 1B (Toxic to the development (Category 1B) Toxic to the reproductive function (Category 2); Health hazards not otherwise classified (corrosion) - Category 1

*This product could belong to the hazard class "Combustible dust", based on various factors related to the combustibility and explosiveness of its dust, including composition, shape and size of the particles

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

Section 16 - Other Information

Prepared By: ArcelorMittal Dofasco, Inc.

Original Issue Date: 5/14/2024

Revised Date: Not Applicable

4/22/2024 - Original

Additional Information:

Hazardous Material Identification System (HMIS) Classification

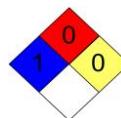
Health Hazard	1
Fire Hazard	0
Physical Hazard	0

HEALTH= **1**, Denotes possible chronic hazard if airborne dusts or fumes are generated Irritation or minor reversible injury possible.

FIRE= **0**, Materials that will not burn.

PHYSICAL HAZARD= **0**, Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.

National Fire Protection Association (NFPA)



HEALTH = **1**, Exposure could cause irritation but only minor residual injury even if no treatment is given.

FLAMMABILITY = **0**, Materials that will not burn.

INSTABILITY = **0**, Normally stable, even under fire exposure conditions, and are not reactive with water.

ABBREVIATIONS/ACRONYMS:

ACGIH	American Conference of Governmental Industrial Hygienists	NIF	No Information Found
BEIs	Biological Exposure Indices	NIOSH	National Institute for Occupational Safety and Health
CAS	Chemical Abstracts Service	NTP	National Toxicology Program
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	ORC	Organization Resources Counselors
CLP	Classification, Labelling and Packaging	OSHA	Occupational Safety and Health Administration
CFR	Code of Federal Regulations	PEL	Permissible Exposure Limit
CNS	Central Nervous System	PNOR	Particulate Not Otherwise Regulated
GI, GIT	Gastro-Intestinal, Gastro-Intestinal Tract	PNOC	Particulate Not Otherwise Classified
HMIS	Hazardous Materials Identification System	PPE	Personal Protective Equipment
IARC	International Agency for Research on Cancer	ppm	parts per million
LC50	Median Lethal Concentration	RCRA	Resource Conservation and Recovery Act
LD50	Median Lethal Dose	REACH	Regulation on Registration, Evaluation, Authorization and Restriction of Chemicals
LD _{Lo}	Lowest Dose to have killed animals or humans	RTECS	Registry of Toxic Effects of Chemical Substances
LEL	Lower Explosive Limit	SARA	Superfund Amendment and Reauthorization Act
LOEL	Lowest Observed Effect Level	SCBA	Self-contained Breathing Apparatus
LOAEC	Lowest Observable Adverse Effect Concentration	SDS	Safety Data Sheet
µg/m ³	microgram per cubic meter of air	STEL	Short-term Exposure Limit
mg/m ³	milligram per cubic meter of air	TLV	Threshold Limit Value
mpcf	million particles per cubic foot	TWA	Time-weighted Average
MSHA	Mine Safety and Health Administration	UEL	Upper Explosive Limit
NFPA	National Fire Protection Association		

Disclaimer: The information contained in this Safety Data Sheet is taken from sources and/or based upon data believed to be reliable as of the date of issue. Neither the above-named supplier nor any of its subsidiaries assumes any liability whatsoever in connection with the information contained herein. NO WARRANTIES ARE MADE, WHETHER EXPRESS OR IMPLIED, INCLUDING WITH RESPECT TO THE COMPLETENESS, ACCURACY OR SUFFICIENCY OF THE FOREGOING, OR ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR ANY IMPLIED WARRANTIES OTHERWISE ARISING FROM COURSE OF DEALING OR TRADE. The user is responsible for determining whether the product is fit for a particular purpose and suitable for user's method of use or application.

Metal Coated Sheet Steel

Signal Word: **DANGER**

Symbols:



HAZARD STATEMENTS:

Suspected of causing cancer.

Suspected of damaging fertility or the unborn child.

Causes damage to lungs and central nervous system through prolonged or repeated inhalation exposure.

May cause an allergic skin reaction.

May cause respiratory irritation.

Causes eye irritation.

PRECAUTIONARY STATEMENTS

Do not breathe dusts / fume / gas / mist / vapor.

Wear protective gloves / protective clothing / eye protection / face protection.

Contaminated work clothing must not be allowed out of the workplace.

Use only outdoors or in well-ventilated areas.

Wash thoroughly after handling.

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Do not eat, drink or smoke when using this product.

If inhaled: Remove person to fresh air and keep comfortable for breathing.

If exposed, concerned or feel unwell: Get medical advice/attention.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing.

If on skin: Wash with plenty of water. If irritation or rash occurs: Get medical advice/attention. Take off and wash contaminated clothing before reuse.

Call a poison center/doctor if you feel unwell.

Dispose of contents in accordance with federal, provincial/state and local regulations.

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