ALUMINUM SHEET - 1XXX SERIES ALLOY

Safety Data Sheet

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture (Sheet)
Trade name : Aluminum Sheet – 1XXX Series Alloy

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Raw material and the production of aluminum containing products

1.3. Details of the supplier of the safety data sheet

Manufacturer : Aleris International, Inc.
25825 Science Park Drive, Suite 400
Beachwood, OH 44122

1.4. Emergency telephone number

Emergency number : CHEMTREC 1 800 424 9300
(24 Hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Aluminum sheet alloys are considered “articles” and not hazardous in solid form. However, the formation of dust, fines or fumes from the processing of aluminium sheet by cutting, milling, grinding, heating and welding could result in the following hazards as identified in OHSA's hazard communication (HazCom 2012):

Combustible Dust : H232
Water Reactive 3 : H261
Flammable Solid 1 : H228

Full text of H-statements: see Section 16

2.2. Label elements

No labelling is applicable.

2.3. Other hazards

According to OSHA’s hazard communication (HazCom 2012), this product as supplied is not classified as hazardous.

2.4. Unknown acute toxicity

Not applicable.

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable.

3.2. Mixture

Name	Product identifier	% Wt. composition
Aluminum	(CAS No) 7429-90-5	99.00 - 99.99
Antimony	(CAS No) 7440-36-0	<= 0.05
Beryllium	(CAS No) 7440-41-7	<= 0.05
Boron	(CAS No) 7440-42-8	<= 0.05
Bismuth	(CAS No) 7440-69-9	<= 0.05
Cadmium	(CAS No) 7440-43-9	<= 0.05
Chromium	(CAS No) 7440-47-3	<= 0.10
Copper	(CAS No) 7440-50-8	<= 0.35
Iron	(CAS No) 7439-89-6	<= 1.0
Gallium	(CAS No) 7440-55-3	<= 0.03
Lead	(CAS No) 7439-92-1	<= 0.05
Magnesium	(CAS No) 7439-95-4	<= 0.30
Manganese	(CAS No) 7439-96-5	<= 0.05
Nickel	(CAS No) 7440-02-0	<= 0.05
Silicon	(CAS No) 7440-21-3	<= 1.0
Tin	(CAS No) 7440-31-5	<= 0.05
Titanium	(CAS No) 7440-32-6	<= 0.20
Zinc	(CAS No) 7440-66-6	<= 0.50
Zirconium	(CAS No) 7440-67-7	<= 0.05

Name	Product identifier	% Wt. composition
Vanadium	(CAS No) 7440-62-2	<= 0.05

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice.

First-aid measures after inhalation : Unlikely route of exposure.
Dust from processing: Allow victim to breathe fresh air. Allow the victim to rest. If feel unwell, seek medical attention.

First-aid measures after skin contact : Wash hands with water and soap.
Dust from processing: Wash all exposed skin area with mild soap and water, followed by warm water rinse. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Unlikely route of exposure.
Dust from processing: Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists.

First-aid measures after ingestion : Unlikely route of exposure.
Dust from processing: Ingestion is not considered a potential route of exposure. In case of accidential intake, rinse mouth

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after eye contact : Dust from processing: May cause physical reversible eye irritation. Redness, watering.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : This product does not present fire or explosion hazards as shipped. Fine turnings, fine dust from processing may be readily ignitable. Use dry chemical extinguisher.

Unsuitable extinguishing media : Do not use water or foam.

5.2. Special hazards arising from the substance or mixture

Fire hazard : This product does not present fire or explosion hazards as shipped.
Dust from processing: May be readily ignitable or combustible.

Explosion hazard : This product does not present fire or explosion hazards as shipped. Avoid generation of dust; fine dust dispersed in air in sufficient concentration, and in the presence of an ignition source is a potential dust explosion hazards.

Reactivity : This product is not reactive as supplied. Dust or fine particles are violently reactive to strong oxidizers with considerable heat generation.

5.3. Advice for firefighters

Protective equipment for firefighters : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Dust and fumes from processing: Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

6.1.1. For non-emergency personnel

No additional information available.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to Section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Contain for re-use.

Methods for cleaning up	:	Recover mechanically the product. No special precautions for large product fragments. For dust cleanup use protective equipment. Pick up and transfer to properly labeled containers. Clean contaminated surface thoroughly. Avoid dispersal of dust in the air (i.e. cleaning dust surfaces with compressed air). In case of formation of dust during processing, non-sparking tools should be used.
Other information	:	Dispose of materials or solid residues at an authorized site. Clean up spilled material and place in dry containers.

6.4. Reference to other sections

For further information refer to Section 8 : Exposure-controls/personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	:	Wear appropriate personal protective equipment. In case of formation of dust during processing, routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Dry powders can build statics electricity charges when subjected to the friction of transfer and mixture operations. Provide adequate precautions, such as electrical grounding and bonding or inert atmospheres.
Hygiene measures	:	Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	:	Store in a dry area.
Incompatible materials	:	Strong acids and alkalies. Strong oxidizers.

7.3. Specific end use(s)

No additional information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Aluminum (7429-90-5)		
ACGIH	ACGIH TWA (mg/m³)	1 mg/m³ (respirable fraction)
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	10 mg/m³ (dust)

Antimony (7440-36-0)		
ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³
OSHA	OSHA PEL (TWA) (mg/m³)	0.5 mg/m³
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.5 mg/m³ (dust)

Beryllium (7440-41-7)		
ACGIH	ACGIH TWA (mg/m³)	0.00005 mg/m³ (inhalable fraction)
OSHA	OSHA PEL (TWA) (mg/m³)	2 µg/m³
OSHA	OSHA PEL (Ceiling) (mg/m³)	5 µg/m³
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.002 mg/m³

Cadmium (7440-43-9)		
ACGIH	ACGIH TWA (mg/m³)	0.01 mg/m³ 0.002 mg/m³ (respirable fraction)
OSHA	OSHA PEL (TWA) (mg/m³)	0.1 mg/m³ (fume) 0.2 mg/m³ (dust) 5 µg/m³

Cadmium (7440-43-9)		
OSHA	OSHA PEL (Ceiling) (mg/m³)	0.3 mg/m³ (applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect-fume) 0.6 mg/m³ (applies to any operations or sectors for which the Cadmium standard is stayed or otherwise not in effect-dust)
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.01 mg/m³ (total dust) 0.002 mg/m³ (respirabble dust)

Chromium (7440-47-3)		
ACGIH	ACGIH TWA (mg/m³)	0.5 mg/m³
OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.5 mg/m³

Copper (7440-50-8)		
ACGIH	ACGIH TWA (mg/m³)	0.2 mg/m³ (fume)
OSHA	OSHA PEL (TWA) (mg/m³)	0.1 mg/m³ (fume) 1 mg/m³ (dust and mist)
Mexico-Occupational Exposure limits	STEL (LMPE-CT) (mg/m³)	2 mg/m³ (dust) 2 mg/m³ (fume)
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.2 mg/m³ (fume) 1 mg/m³ (dust / mist)

Lead (7439-92-1)		
ACGIH	ACGIH TWA (mg/m³)	0.05 mg/m³
OSHA	OSHA PEL (TWA) (mg/m³)	50 µg/m³
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.15 mg/m³ (dust, fume)

Manganese (7439-96-5)		
ACGIH	ACGIH TWA (mg/m³)	0.02 mg/m³ (respirable fraction) 0.1 mg/m³ (inhalable fraction)
OSHA	OSHA PEL (Ceiling) (mg/m³)	5 mg/m³ (fume)
Mexico-Occupational Exposure limits	STEL (LMPE-CT) (mg/m³)	3 mg/m³ (fume)
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	0.2 mg/m³ (fume)

Nickel (7440-02-0)		
ACGIH	ACGIH TWA (mg/m³)	1.5 mg/m³ (inhalable fraction)
OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m³
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	1 mg/m³ (dust)

Silicon (7440-21-3)		
OSHA	OSHA PEL (TWA) (mg/m³)	15 mg/m³ (total dust) 5 mg/m³ (respirable fraction)
Mexico-Occupational Exposure limits	TWA (LMPE-PPT) (mg/m³)	10 mg/m³ (dust)

Tin (7440-31-5)		
ACGIH	ACGIH TWA (mg/m³)	2 mg/m³

Vanadium (7440-62-2)		
OSHA	OSHA PEL (Ceiling) (mg/m³)	0.5 mg/m³ (respirable dust) 0.1 mg/m³ (fume)

Zirconium (7440-67-7)		
ACGIH	ACGIH TWA (mg/m³)	5 mg/m³
ACGIH	ACGIH STEL (mg/m³)	10 mg/m³

8.2. Exposure controls

Appropriate engineering controls : No special controls required.
In case of formation of dust during processing: It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen deficient environment. Ensure that dust-handling systems (such as exhaust dusts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area. Use only appropriately classifies electrical equipment and powered industrial trucks.

Personal protective equipment : Safety glasses. Gloves. Protective clothing.

Hand protection : Protective gloves.
Eye protection : Safety glasses.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : Dust from processing: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Silver/gray metal sheet
Color	: Silver/ gray
Odor	: Odorless.
Odor threshold	: Not applicable
pH	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: 970-1200 °F (520-650 °C)
Freezing point	: No data available
Boiling point	: 4550 °F (2450 °C)
Flash point	: Not applicable
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: ca. 2.7 (water=1)
Solubility	: Not soluble
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

This product is not reactive as supplied. Dust or fine particles are violently reactive to strong oxidizers with considerable heat generation.

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions
Hazardous polymerization does not occur.

10.4. Conditions to avoid
Avoid storage or potential contact with strong oxidizing agents.
Avoid dust formation.

10.5. Incompatible materials
Halocarbons, mercury, chlorine, chlorates, bromates, iodates, peroxides, perchlorates, nitrates, nitrites, oxides, performates, persulfates, halogens, oxides of nitrogen, melted sulfates, sulfur dioxide, propylene dichloride sodium carbide, sodium carbonate and sodium hydroxide.

10.6. Hazardous decomposition products
No additional information available.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified
(Based on available data, the classification criteria are not met.)

Antimony (7440-36-0)	
ATE US (oral)	7000 mg/kg

Bismuth (7440-69-9)	
ATE US (oral)	5000 mg/kg

Cadmium (7440-43-9)	
LD50 oral rat	1140 mg/kg
LC50 inhalation rat (mg/l)	25 mg/m³ (Exposure time: 30 min)
ATE US (oral)	2330 mg/kg
ATE US (dust,mist)	0.005 mg/l/4h

Copper (7440-50-8)	
ATE US (oral)	500 mg/kg

Iron (7439-89-6)	
LD50 oral rat	984 mg/kg
ATE US (oral)	984 mg/kg bodyweight

Lead (7439-92-1)	
ATE US (oral)	500 mg/kg

Magnesium (7439-95-4)	
LD50 oral rat	230 mg/kg

Nickel (7440-02-0)	
LD50 oral rat	> 9000 mg/kg

Silicon (7440-21-3)	
ATE US (oral)	3160 mg/kg

Tin (7440-31-5)	
LD50 oral rat	700 mg/kg

Skin corrosion/irritation : Not classified
(Based on available data, the classification criteria are not met.)

Serious eye damage/irritation : Not classified
(Based on available data, the classification criteria are not met.)

Respiratory or skin sensitisation : Not classified
(Based on available data, the classification criteria are not met.)

Germ cell mutagenicity : Not classified
(Based on available data, the classification criteria are not met.)

Carcinogenicity : Not classified
(Based on available data, the classification criteria are not met.)

Beryllium (7440-41-7)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens

Cadmium (7440-43-9)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens

Chromium (7440-47-3)	
IARC group	3 - Not classifiable

Lead (7439-92-1)	
IARC group	2A - Probably carcinogenic to humans
National Toxicology Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen

Nickel (7440-02-0)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	3 - Reasonably anticipated to be Human Carcinogen

Reproductive toxicity : Not classified
(Based on available data, the classification criteria are not met.)

Specific target organ toxicity (single exposure) : Not classified
(Based on available data, the classification criteria are not met.)

Specific target organ toxicity (repeated exposure) : Not classified
(Based on available data, the classification criteria are not met.)

Aspiration hazard : Not classified
(Based on available data, the classification criteria are not met.)

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Cadmium (7440-43-9)	
LC50 fish 1	0.003 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
EC50 Daphnia 1	0.0244 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	0.006 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [static])

Copper (7440-50-8)	
LC50 fish 1	0.0068 - 0.0156 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
EC50 Daphnia 1	0.03 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	< 0.3 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Lead (7439-92-1)	
LC50 fish 1	0.44 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 1	600 µg/l (Exposure time: 48 h - Species: water flea)
LC50 fish 2	1.17 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])

Nickel (7440-02-0)	
LC50 fish 1	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
EC50 Daphnia 1	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 Daphnia 2	1 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Zinc (7440-66-6)	
LC50 fish 1	2.16 - 3.05 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	0.139 - 0.908 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
LC50 fish 2	0.211 - 0.269 mg/l (Exposure time: 96 h - Species: Pimephales promelas [semi-static])

12.2. Persistence and degradability
No additional information available.

12.3. Bioaccumulative potential
No additional information available.

12.4. Mobility in soil
No additional information available.

12.5. Other adverse effects
Effect on ozone layer : No additional information available
Effect on the global warming : No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste disposal recommendations : Reuse or recycle material wherever possible. If reuse or recycling not possible, disposal must be made according to local or governmental regulations.
Additional Information : Waste codes must be determined at the point of waste generation. Refer to 40 CFR 261 or state equivalent in the U.S.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

14.1. US Department of Transporation (DOT) information
Not regulated for transport.

14.2. Additional information
Other information : No supplementary information available.

14.3. European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)
No additional information available.

14.4. Transport by sea
No additional information available.

14.5. Air transport
No additional information available.

SECTION 15: Regulatory information

15.1. US federal regulations

Aluminum (7429-90-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 % (dust or fume only)

Antimony (7440-36-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Beryllium (7440-41-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

Boron (7440-42-8)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Bismuth (7440-69-9)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Cadmium (7440-43-9)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

Chromium (7440-47-3)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Copper (7440-50-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Iron (7439-89-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Gallium (7440-55-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Lead (7439-92-1)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

Magnesium (7439-95-4)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Manganese (7439-96-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 %

Nickel (7440-02-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	0.1 %

Silicon (7440-21-3)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Tin (7440-31-5)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Titanium (7440-32-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

Zinc (7440-66-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 % (dust or fume only)

Vanadium (7440-62-2)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 % (except when contained in an alloy)

Zirconium (7440-67-7)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. US state regulations

Beryllium (7440-41-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	No	No	No	0.1 µg/day

Cadmium (7440-43-9)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	Yes	No	Yes	0.05 µg/day

Lead (7439-92-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	Yes	Yes	Yes	15 µg/day

Nickel (7440-02-0)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significance risk level (NSRL)
Yes	No	No	No	

15.3. International regulations

15.3.1. Canada

Aluminum-metal (7429-90-5)	
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Class B Division 6 - Reactive Flammable Material

Antimony (7440-36-0)	
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Beryllium (7440-41-7)	
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Boron (7440-42-8)
Listed on the Canadian DSL (Domestic Sustances List)

Bismuth (7440-69-9)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Cadmium (7440-43-9)	
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Chromium (7440-47-3)	
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Copper (7440-50-8)	
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Iron (7439-89-6)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Gallium (7440-55-3)
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)

Lead (7439-92-1)	
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Magnesium (7439-95-4)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class B Division 4 - Flammable Solid Class B Division 6 - Reactive Flammable Material

Manganese (7439-96-5)	
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects

Nickel (7440-02-0)	
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Class D Division 2 Subdivision A - Very toxic material causing other toxic effects Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Silicon (7440-21-3)	
Listed on the Canadian DSL (Domestic Sustances List)	
WHMIS Classification	Class B Division 4 - Flammable Solid

Tin (7440-31-5)	
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Titanium (7440-32-6)
Listed on the Canadian DSL (Domestic Sustances List)

Zinc (7440-66-6)
Listed on the Canadian DSL (Domestic Sustances List)

Vanadium (7440-62-2)
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)

Zirconium (7440-67-7)	
Listed on the Canadian DSL (Domestic Sustances List) and the Canadian IDL (Ingredient Disclosure List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

15.3.2. European Union

Aluminum-metal (7429-90-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Antimony (7440-36-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Beryllium (7440-41-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Boron (7440-42-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Bismuth (7440-69-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Cadmium (7440-43-9)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Chromium (7440-47-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Copper (7440-50-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Iron (7439-89-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Gallium (7440-55-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Lead (7439-92-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Magnesium (7439-95-4)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Manganese (7439-96-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Nickel (7440-02-0)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Silicon (7440-21-3)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Tin (7440-31-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Titanium (7440-32-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Zinc (7440-66-6)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Vanadium (7440-62-2)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Zirconium (7440-67-7)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.3.3. Classification according to Regulation (EC) No. 1272/2008 [CLP]

No additional information available

15.3.4. Classification according to Directive 67/548/EEC [DSD] or 1999/45EC [DPD]

No additional information available

15.4. Other nations

Aluminum-metal (7429-90-5)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Antimony (7440-36-0)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Beryllium (7440-41-7)
Listed on IARC (International Agency for Research on Cancer) Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Boron (7440-42-8)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Bismuth (7440-69-9)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Cadmium (7440-43-9)
Listed on IARC (International Agency for Research on Cancer)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Chromium (7440-47-3)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Copper (7440-50-8)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Iron (7439-89-6)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Gallium (7440-55-3)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Lead (7439-92-1)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Magnesium (7439-95-4)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Manganese (7439-96-5)
Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)
Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Nickel (7440-02-0)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Japanese Pollutant Release and Transfer Register Law (PRTR Law)

Silicon (7440-21-3)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Tin (7440-31-5)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Titanium (7440-32-6)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Zinc (7440-66-6)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Vanadium (7440-62-2)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Zirconium (7440-67-7)
Listed on the AICS (Australian Inventory of Chemical Substances) Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

SECTION 16: Other information

Other information : None.

Abbreviations and acronyms : ACGIH (American Conference of Governement Industrial Hygienists).
ATE - acute toxicity estimate.
CAS - Chemical Abstracts Service.
GHS - Globally Harmonised System.
TWA- Time Weighted Average.
PEL- Permissible Exposure Level.
STEL- Short-Term Exposure Limit.
OSHA - Occupational Safety and Health Administration.
IARC-International Agency for Research on Cancer.

Full text of H-statements:

Flammable Solid 1	Flammable solids, Category 1
Water-react. 3	Substances and Mixtures which, in contact with water, emit flammable gases, Category 3
H228	Flammable solid
H232	May form combustible dust concentrations in air
H261	In contact with water releases flammable gases

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product