

# Aluminum Alloys 1XXX, 2XXX, 3XXX, 4XXX, 5XXX, 6XXX, 7XXX, 8XXX.

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## 1. Identification

1.1. Product identifier

Product Identity Aluminum Alloys 1XXX, 2XXX, 3XXX, 4XXX, 5XXX,

6XXX, 7XXX, 8XXX.

Alternate Names Aluminum Alloys 1XXX, 2XXX, 3XXX, 4XXX, 5XXX,

6XXX, 7XXX, 8XXX.

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

Intended useSee Technical Data Sheet.Application MethodSee Technical Data Sheet.

1.3. Details of the supplier of the safety data sheet

Company Name TW Metals Company, Inc.

The Arboretum 760 Constitution Drive

Exton PA 19341

**Emergency** 

**CHEMTREC (USA)** (800) 424-9300

## 2. Hazard(s) identification

#### 2.1. Classification of the substance or mixture

Skin Sens. 1;H317 May cause an allergic skin reaction.

Resp. Sens. 1;H334 May cause allergy or asthma symptoms of breathing difficulties if inhaled.

Carc. 2;H351 Suspected of causing cancer.

STOT RE 1:H372 Causes damage to organs through prolonged or repeated exposure. Specific Target

Organs: (lungs )

Aguatic Acute 1;H400 Very toxic to aquatic life.

Aquatic Chronic 2;H411 Toxic to aquatic life with long lasting effects.

#### 2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.

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Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



**Danger** 





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H317 May cause an allergic skin reaction.

H334 May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.

H351 Suspected of causing cancer.

H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

### [Prevention]:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P261 Avoid breathing dust / fume / gas / mist / vapors / spray.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P272 Contaminated work clothing should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear protective gloves / eye protection / face protection.

P285 In case of inadequate ventilation wear respiratory protection.

#### [Response]:

P302+352 IF ON SKIN: Wash with plenty of soap and water.

P304+341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

P308+313 IF exposed or concerned: Get medical advice / attention.

P314 Get Medical advice / attention if you feel unwell.

P321 Specific treatment (see information on this label).

P333+313 If skin irritation or a rash occurs: Get medical advice / attention.

P342+311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor / physician.

P363 Wash contaminated clothing before reuse.

P391 Collect spillage.

### [Storage]:

P405 Store locked up.

## [Disposal]:

P501 Dispose of contents / container in accordance with local / national regulations.



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## 3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Aluminum (AI) CAS Number: 0007429-90-5	75 - 100	Flam. Sol. 1;H228 WaterReact. 2;H261	[1][2]
Tin CAS Number: 0007440-31-5	1 - 5	Not Classified	[1][2]
Copper CAS Number: 0007440-50-8	1 - 5	Not Classified	[1][2]
Magnesium CAS Number: 0007439-95-4	1 - 5	WaterReact. 1;H260 Pyr. Sol. 1;H250	[1]
Zinc powder (stabilized) CAS Number: 0007440-66-6	1 - 5	Aquatic Acute 1;H400 Aquatic Chronic 1;H410	[1]
Nickel CAS Number: 0007440-02-0	1 - 5	Carc. 2;H351 STOT RE 1;H372 Skin Sens. 1;H317 Aquatic Chronic 3;H412	[1][2]
Manganese compounds (as Mn) CAS Number: 0007439-96-5	1 - 5	Not Classified	[1][2]
Chromium compounds (as Cr (III)) CAS Number: 0007440-47-3	0.10 - 1.0	Skin Sens. 1;H317 Resp. Sens. 1;H334 Eye Irrit. 2;H319 Aquatic Chronic 4;H413	[1][2]

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

## 4. First aid measures

### 4.1. Description of first aid measures

General In all cases of doubt, or when symptoms persist, seek medical attention.

Never give anything by mouth to an unconscious person.

Inhalation Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give

artificial respiration. If unconscious place in the recovery position and obtain immediate

medical attention. Give nothing by mouth.

**Eyes** Irrigate copiously with clean water for at least 15 minutes, holding the eyelids apart and

seek medical attention.

Skin Remove contaminated clothing. Wash skin thoroughly with soap and water or use a

recognized skin cleanser.

Ingestion If swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

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

<sup>[1]</sup> Substance classified with a health or environmental hazard.

<sup>[2]</sup> Substance with a workplace exposure limit.

<sup>[3]</sup> PBT-substance or vPvB-substance.
\*The full texts of the phrases are shown in Section 16.



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Overview

Aluminum alloys in their solid state present no inhalation, ingestion or contact health hazard. However, inhaling dusts, fumes or mists which may be generated during certain manufacturing procedures (melting, welding, sawing. brazing. grinding and machining) may be hazardous to your health. Particulates / dusts may also be irritating to the unprotected skin or eyes.

ACUTE EFFECTS: Excessive exposure to dusts / fumes may cause irritation of eyes, nose or throat. Inhalation of dusts / fumes may result in metal fume fever (metallic taste in mouth, dryness and irritation of throat, chills and fever).

CHRONIC EFFECTS: Prolonged inhalation of fumes or dusts may cause a variety of adverse health effects to the respiratory system, including (but not necessarily limited to) lesions of the mucous membrane, bronchitis, pneumonia and cancers fo the nasal cavity and respiratory tract.

POTENTIAL HEALTH EFFECTS/MEDICAL CONDITIONS AGGRAVATED BY

**EXPOSURE:** 

Any pre-existing chronic respiratory condition (asthma, chronic bronchitis, emphysema). ROUTES OF ENTRY: Inhalation (dusts / fumes / mists), Contact with Skin and Eyes (dusts / mists), Ingestion (dusts).

Possible cancer hazard. Contains an ingredient which may cause cancer based on animal data (See Section 3 and Section 15 for each ingredient). Risk of cancer depends on

duration and level of exposure. See section 2 for further details.

**Inhalation** May cause allergy or asthma symptoms of breathing difficulties if inhaled.

**Skin** May cause an allergic skin reaction.

# 5. Fire-fighting measures

### 5.1. Extinguishing media

Do not use water. Use carbon dioxide or dry chemical extinguishing agents.

#### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: Aluminum oxide, hydrogen gas.

Keep away from heat / sparks / open flames / hot surfaces - No smoking.

Keep away from any possible contact with water, because of violent reaction and possible flash fire.

Handle under inert gas. Protect from moisture.

Ground / bond container and receiving equipment.

Use explosion-proof electrical / ventilating / light / equipment.

Avoid breathing dust / fume / gas / mist / vapors / spray.

### 5.3. Advice for fire-fighters

Nonflammable at low temperatures, but will burn at high temperatures.

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## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Put on appropriate personal protective equipment (see section 8).

### 6.2. Environmental precautions

Use good personal hygiene practices. Wash hands before eating, drinking, smoking or using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

### 6.3. Methods and material for containment and cleaning up

No special procedures needed.

## 7. Handling and storage

### 7.1. Precautions for safe handling

Minimize activities which may generate dusts, mists or fumes. Keep areas well ventilated. Use suitable equipment to move materials.

See section 2 for further details. - [Prevention]:

### 7.2. Conditions for safe storage, including any incompatibilities

Handle containers carefully to prevent damage and spillage.

Incompatible materials: Acids, Oxidizing Agents, Halogens.

See section 2 for further details. - [Storage]:

### 7.3. Specific end use(s)

No data available.

# 8. Exposure controls and personal protection

#### 8.1. Control parameters

#### **Exposure**

CAS No.	Ingredient	Source	Value
0007429-90-5 Aluminum (Al)		OSHA	TWA 15 mg/m3 (total) TWA 5 mg/m3 (resp)
		ACGIH	TWA: 1.o mg/m3 Revised 2008,
		NIOSH	TWA 10 mg/m3 (total) TWA 5 mg/m3 (resp)
		Supplier	No Established Limit
0007439-95-4 Magnesium		OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit
0007439-96-5	Manganese compounds (as Mn)	OSHA	C 5 mg/m3 *See specific listings for specific compounds.



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		ACGIH	TWA: 0.2 mg/m3 R
		NIOSH	TWA 1 mg/m3 ST 3 mg/m3 *See specific listings for specific compounds.
		Supplier	No Established Limit
0007440-02-0	Nickel	OSHA	TWA 1 mg/m3 [*Note: The PEL does not apply to Nickel carbonyl.]
		ACGIH	Insoluble TWA: 0.05 mg/m3 A1, 1, (I) Soluble TWA: 0.05 mg/m3 A1, 1, 2B, (I)
		NIOSH	Ca TWA 0.015 mg/m3 [*Note: The REL does not apply to Nickel carbonyl.]
		Supplier	No Established Limit
0007440-31-5	Tin	OSHA	TWA 2 mg/m3 [*Note:PEL also applies to other inorganic tin compounds (as Sn) except tin oxides.]
		ACGIH	TWA: 2 mg/m3 (Oxide and inorganic compounds, except tin hydride) TWA: 0.2, STEL 0.1 mg/m3 (Tin - Organic Compounds)
		NIOSH	TWA 2 mg/m3 [*Note:The REL also applies to other inorganic tin compounds (as Sn) except tin oxides.]
		Supplier	No Established Limit
0007440-47-3	Chromium compounds (as Cr (III))	OSHA	TWA 1 mg/m3 [*Note: The PEL also applies to insoluble chromium salts.]
		ACGIH	TWA: 0.5 mg/m3 (III)
		NIOSH	TWA 0.5 mg/m3
		Supplier	No Established Limit
0007440-50-8	Copper	OSHA	TWA 1 mg/m3 [*Note: The PEL also applies to other copper compounds (as Cu) except copper fume.]
		ACGIH	TWA: 0.2 mg/m3 (fume) 1 mg/m3 (dusts and mists)
		NIOSH	TWA 1 mg/m3 [*Note: The REL also applies to other copper compounds (as Cu) except Copper fume.]
		Supplier	No Established Limit
0007440-66-6	Zinc powder (stabilized)	OSHA	No Established Limit
		ACGIH	No Established Limit
		NIOSH	No Established Limit
		Supplier	No Established Limit

The exposure limits for nuisance dust are: OSHA PEL: 15 mg/m3 (50 mppcf\*) TWA, ACGIH 10 mg/m3.

## **Carcinogen Data**

CAS No.	Ingredient	Source	Value
0007429-90-5 Aluminum (Al)		OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0007439-95-4	Magnesium	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0007439-96-5	Manganese compounds (as Mn)	OSHA	Select Carcinogen: No
		NTP	Known: No; Suspected: No
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;
0007440-02-0	0007440-02-0 Nickel		Select Carcinogen: Yes
		NTP	Known: Yes; Suspected: Yes



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		IARC	Group 1: No; Group 2a: No; Group 2b: Yes; Group 3: No; Group 4: No;	
0007440-31-5 Tin	OSHA	Select Carcinogen: No		
		NTP	Known: No; Suspected: No	
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;	
0007440-47-3	Chromium compounds (as Cr (III))	OSHA	Select Carcinogen: No	
		NTP	Known: No; Suspected: No	
	IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: Yes; Group 4: No;		
0007440-50-8	Copper	OSHA	Select Carcinogen: No	
		NTP	Known: No; Suspected: No	
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;	
0007440-66-6	Zinc powder (stabilized)	OSHA	Select Carcinogen: No	
		NTP	Known: No; Suspected: No	
		IARC	Group 1: No; Group 2a: No; Group 2b: No; Group 3: No; Group 4: No;	

### 8.2. Exposure controls

**Respiratory** Wear NIOSH approved dust / mist / fume respirator when welding or burning this metal.

**Eyes** Face shields (welding or burning), Safety glasses (cutting or grinding).

**Skin** Use appropriate protective clothing such as welding aprons and gloves when welding or

burning.

**Engineering Controls** Provide adequate ventilation. Where reasonably practicable this should be achieved by the

use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapor below occupational exposure limits

suitable respiratory protection must be worn.

using toilet. Promptly remove soiled clothing and wash thoroughly before reuse.

See section 2 for further details. - [Prevention]:

# 9. Physical and chemical properties

AppearanceMetal SolidOdorOdorless

Odor threshold Not determined

pH Not Measured

Melting point / freezing point Not Measured

Initial boiling point and boiling range NA

Flash Point Nonflammable at low temperatures, but will burn at high

temperatures.

Evaporation rate (Ether = 1) Not Measured

Flammability (solid, gas) Solid

Upper/lower flammability or explosive limits Lower Explosive Limit: Not Measured

**Upper Explosive Limit:** Not Measured





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Vapor pressure (Pa) NA
Vapor Density NA

Specific Gravity2 .66 - 2.81Solubility in WaterInsolublePartition coefficient n-octanol/water (Log Kow)Not Measured

Auto-ignition temperature A

Decomposition temperature Not Measured Viscosity (cSt) Not Measured

9.2. Other information

No other relevant information.

## 10. Stability and reactivity

### 10.1. Reactivity

Hazardous Polymerization will not occur.

### 10.2. Chemical stability

Stable under normal circumstances.

### 10.3. Possibility of hazardous reactions

No data available.

### 10.4. Conditions to avoid

No data available.

### 10.5. Incompatible materials

Acids, Oxidizing Agents, Halogens.

## 10.6. Hazardous decomposition products

Aluminum oxide, hydrogen gas.

# 11. Toxicological information

### **Acute toxicity**

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapor LC50, mg/L/4hr	Inhalation Dust/Mist LC50, mg/L/4hr	Inhalation Gas LC50, ppm
Aluminum (Al) - (7429-90-5)	No data available	No data available	No data available	No data available	No data available
Tin - (7440-31-5)	No data available	No data available	No data available	No data available	No data available
Copper - (7440-50-8)	2,500.00, Rat - Category: 5	>2,000.00, Rat - Category: 5	No data available	5.11, Rat - Category: NA	No data available
Magnesium - (7439-95-4)	No data available	No data available	No data available	No data available	No data available
Zinc powder (stabilized) - (7440-66-6)	No data available	No data available	No data available	No data available	No data available



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Nickel - (7440-02-0)	No data available	No data available	No data available	No data available	No data available
Manganese compounds (as Mn) - (7439-96-5)	9,000.00, Rat - Category: NA	500.00, Rabbit - Category: 3	19.00, Rat - Category: 4	No data available	No data available
Chromium compounds (as Cr (III)) - (7440-47-3)	422.00, Rat - Category: 4	No data available	No data available	No data available	No data available

Note: When no route specific LD50 data is available for an acute toxin, the converted acute toxicity point estimate was used in the calculation of the product's ATE (Acute Toxicity Estimate).

Classification	Category	Hazard Description
Acute toxicity (oral)		Not Applicable
Acute toxicity (dermal)		Not Applicable
Acute toxicity (inhalation)		Not Applicable
Skin corrosion/irritation		Not Applicable
Serious eye damage/irritation		Not Applicable
Respiratory sensitization	1	May cause allergy or asthma symptoms of breathing difficulties if inhaled.
Skin sensitization	1	May cause an allergic skin reaction.
Germ cell mutagenicity		Not Applicable
Carcinogenicity	2	Suspected of causing cancer.
Reproductive toxicity		Not Applicable
STOT-single exposure		Not Applicable
STOT-repeated exposure	1	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard		Not Applicable

# 12. Ecological information

### 12.1. Toxicity

Very toxic to aquatic life with long lasting effects.

No additional information provided for this product. See Section 3 for chemical specific data.

### **Aquatic Ecotoxicity**

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Aluminum (Al) - (7429-90-5)	Not Available	Not Available	Not Available
Tin - (7440-31-5)	Not Available	Not Available	Not Available
Copper - (7440-50-8)	0.0103, Pimephales promelas	0.0025, Daphnia magna	0.018 (72 hr), Pseudokirchneriell a subcapitata
Magnesium - (7439-95-4)	Not Available	Not Available	Not Available



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Zinc powder (stabilized) - (7440-66-6)	0.182, Oncorhynchus tshawytscha	0.068, Daphnia magna	0.106 (72 hr), Pseudokirchneriell a subcapitata
Nickel - (7440-02-0)	Not Available	Not Available	Not Available
Manganese compounds (as Mn) - (7439-96-5)	40.00, Daphnia magna	Not Available	Not Available
Chromium compounds (as Cr (III)) - (7440-47-3)	77.50, Pimephales promelas	1.20, Daphnia magna	580.00 (72 hr), Chlorella pyrenoidosa

### 12.2. Persistence and degradability

There is no data available on the preparation itself.

12.3. Bioaccumulative potential

Not Measured

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

12.6. Other adverse effects

No data available.

## 13. Disposal considerations

#### 13.1. Waste treatment methods

Observe all federal, state and local regulations when disposing of this substance.

# 14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	Not Applicable	Not Regulated	Not Regulated
14.2. UN proper shipping name	Not Regulated	Not Regulated	Not Regulated
14.3. Transport hazard class(es)	<b>DOT Hazard Class:</b> Not Applicable	IMDG: Not Applicable Sub Class: Not Applicable	Air Class: Not Applicable
14.4. Packing group	Not Applicable	Not Applicable	Not Applicable

14.5. Environmental hazards

IMDG Marine Pollutant: Yes; (Zinc powder (stabilized))

14.6. Special precautions for user

No further information

# 15. Regulatory information

Regulatory Overview The regulatory data in Section 15 is not intended to be all-inclusive, only selected

regulations are represented.





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**Toxic Substance** All components of this material are either listed or exempt from listing on the TSCA

Control Act (TSCA) Inventory. WHMIS Classification D2A F

US EPA Tier II Hazards Fire: Yes

Sudden Release of Pressure: No

Reactive: Yes

Immediate (Acute): Yes Delayed (Chronic): Yes

### EPCRA 311/312 Chemicals and RQs (lbs):

Copper (5,000.00) Nickel (100.00)

Zinc powder (stabilized) (1,000.00)

### **EPCRA 302 Extremely Hazardous:**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

#### **EPCRA 313 Toxic Chemicals:**

Aluminum (Al)

Copper

Manganese compounds (as Mn)

Nickel

Zinc powder (stabilized)

### Proposition 65 - Carcinogens (>0.0%):

Lead Compounds (as Pb)

Nickel

### **Proposition 65 - Developmental Toxins (>0.0%):**

Lead Compounds (as Pb)

#### Proposition 65 - Female Repro Toxins (>0.0%):

Lead Compounds (as Pb)

### Proposition 65 - Male Repro Toxins (>0.0%):

Lead Compounds (as Pb)

### New Jersey RTK Substances (>1%):

Aluminum (Al)

Copper

Magnesium

Manganese compounds (as Mn)

Nickel

Tin

Zinc powder (stabilized)

#### Pennsylvania RTK Substances (>1%):





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Aluminum (AI)

Copper

Magnesium

Manganese compounds (as Mn)

Nickel

Tin

Zinc powder (stabilized)

### 16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The full text of the phrases appearing in section 3 is:

H228 Flammable solid.

H250 Catches fire spontaneously if exposed to air.

H260 In contact with water releases flammable gases which may ignite spontaneously.

H261 In contact with water releases flammable gases.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H334 May cause allergic or asthmatic symptoms or breathing difficulties if inhaled.

H351 Suspected of causing cancer.

H372 Causes damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

H413 May cause long lasting harmful effects to aquatic life.

The information contained herein is furnished without warranty of any kind. The above information is believed to be correct but does not purport to be all inclusive and should be used only as a guide. Users should make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers.

**End of Document**