

BRONZE

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P6341

WARNING!

HAZARDS

HEALTH :

Bronze products in the natural state do not present an inhalation, ingestion or contact hazard. However, operations such as burning, welding, sawing, brazing and grinding may release fumes and/or dusts which may present health hazards if overexposed. The product has not been determined to be carcinogenic. However, individual component, nickel, in a dust or fume form, has been associated with carcinogenicity.

Acute effects : Exposure to dust or fume may cause skin and eye irritation and metal fume fever.

FIRE / REACTIVITY :

Bronze products in the solid state present no fire or explosion hazard but fine particles may burn in air. Liquid metal may explode on contact with water. May react with oxidizing agents, acids and bases.

EMERGENCY MEASURES

FIRST AID : (dusts/fumes exposure)

Inhalation : move to fresh air. Eye : flush thoroughly with water and wash carefully under eyelids. Skin : wash with soap and water. Ingestion : not expected source of exposure.

FIRE / REACTIVITY :

Use extinguishing media appropriate to the surrounding material.

PRECAUTIONARY MEASURES

Use local ventilation if overexposed to dust/fume. Wear dust and fume respirator if necessary. Avoid repeated or prolonged skin contact. Avoid contact with oxidizing agents, acids and bases.

Ingredient	Conc.(%)	CAS #
Copper	79-99	7440-50-8
Nickel	0-14	7440-02-0
Aluminum	0-14	7429-90-5
Iron	<5	7439-89-6
Silicon	<4	7440-21-3
Manganese	<4	7439-96-5
Cobalt	<2	7440-48-4
Tin	<1	7440-31-5
Zinc	<1	7440-66-6
Lead	<1	7439-92-1

TOXIC MATERIAL

Metal Goods Service Centers
Div. of Alcan Aluminum Corporation
P.O. Box 346
St-Louis, MO
63166

BEFORE USING, READ SAFETY DATA SHEET (SDS)

AVERTISSEMENT!

RISQUES

SANTÉ :

Les produits du bronze ne présentent pas de danger à l'inhalation, à l'ingestion ou au contact. Cependant, des opérations telles que chauffage, soudage, sciage, brasage et meulage peuvent dégager des fumées et/ou poussières présentant un risque à la santé en cas de surexposition. Le produit n'est pas considéré comme étant cancérigène, mais un de ses composants, le nickel, sous forme de poussière ou fumées, l'est.

Effets aigus : L'exposition aux poussières ou fumées peut causer l'irritation de la peau et des yeux et la fièvre du fondeur.

FEU / RÉACTIVITÉ :

Sous forme solide, ne présente pas de risque de feu ou d'explosion mais les particules fines peuvent brûler au contact de l'air. Le métal liquide peut exploser au contact de l'eau. Peut réagir avec les agents oxydants, les acides et les bases.

MESURES D'URGENCE

PREMIERS SOINS : (exposition fumées/poussières)

Inhalation : aller dans un endroit aéré. Yeux : rincer abondamment avec de l'eau et bien rincer sous les paupières. Peau : laver à l'eau et au savon. Ingestion : source d'exposition peu probable.

FEU / RÉACTIVITÉ :

Utiliser un agent extincteur approprié pour les matières environnantes.

PRÉCAUTIONS

Utiliser une ventilation locale en cas de surexposition aux poussières/fumées. Porter un respirateur anti-particule et fumée si nécessaire. Éviter le contact répété ou prolongé avec la peau. Éviter le contact avec les agents oxydants, les acides et les bases.

WHMIS/SIMDUT



Ingédient	Conc.(%)	# CAS
Cuivre	79-99	7440-50-8
Nickel	0-14	7440-02-0
Aluminium	0-14	7429-90-5
Fer	<5	7439-89-6
Silicium	<4	7440-21-3
Manganèse	<4	7439-96-5
Cobalt	<2	7440-48-4
Étain	<1	7440-31-5
Zinc	<1	7440-66-6
Plomb	<1	7439-92-1

MATIÈRE TOXIQUE

Centres de Service de Produits de Métaux
Div. de Alcan Aluminium Corporation
C.P. 346
St-Louis, MO
63166

LIRE LA FICHE SIGNALÉTIQUE AVANT D'UTILISER CE PRODUIT

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : Bronze

PRODUCT NUMBER : P6341

SUPPLIER : 0804001

Metal Goods Service Centers
Div. of Alcan Aluminum Corporation
P.O. Box 346
St-Louis, MO, 63166

Emergency tel. : 216-523-6860
Business tel. : 314-427-1234
Fax : 314-427-4321 (221)

SYNONYMS : Silicon bronze, leaded bronze, aluminum bronze

APPEARANCE AND ODOUR : Red-gold metallic solid, odorless

2. COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS #	LD ₅₀	LC ₅₀	EC DIRECTIVE Symbol	R phrases	CONC.
Base metal:						
Copper	7440-50-8	Unknown	Unknown	None	None	79-99 %
Alloying elements:						
Nickel	7440-02-0	9000 mg/kg (oral-rat)	Unknown	Xn	40-43	0-14 %
Aluminum	7429-90-5	Unknown	Unknown	None	None	0-14 %
Iron	7439-89-6	Unknown	Unknown	None	None	< 5 %
Silicon	7440-21-3	3160 mg/kg (oral-rat)	Unknown	None	None	< 4 %
Manganese	7439-96-5	9000 mg/kg (oral-rat)	Unknown	None	None	< 4 %
Cobalt	7440-48-4	6170 mg/kg (oral-rat)	Unknown	Xn	42/43	< 2 %
Tin	7440-31-5	Unknown	Unknown	None	None	< 1 %
Zinc	7440-66-6	Unknown	Unknown	None	None	< 1 %
Leaded alloys:						
Lead	7439-92-1	Unknown	Unknown	Not classified		< 1 %

3. HAZARDS IDENTIFICATION

Dusts present a lead contamination hazard.

4. FIRST AID MEASURES

In case of dust exposure:

Inhalation : In case of discomfort, remove to a ventilated area. Consult a physician.

Skin contact : Wash skin thoroughly with soap and water.

Eye contact : Flush eyes thoroughly with water, taking care to rinse under eyelids. If irritation persists, continue flushing for 15 minutes, rinsing from time to time under eyelids. If discomfort continues, consult a physician.

Ingestion : Not applicable.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA : The product in the solid state presents no fire or explosion hazard.

HAZARDOUS COMBUSTION PRODUCTS : Not determined.

6. ACCIDENTAL RELEASE MEASURES

Not applicable.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS : Follow the recommendations in ANSI Z49.1, Safety in welding and cutting. (ANSI: American National Standard Institute)

STORAGE CONDITIONS : Not applicable.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Provide general and local ventilation to maintain concentrations of air contaminants below recommended standards.

Use an approved respirator designed for the hazard, where concentrations exceed exposure limits. Wear goggles, as necessary.

EXPOSURE LIMITS :

(ACGIH=American Conference of Governmental Industrial Hygienists; TLV=Threshold Limit Value; OSHA=Occupational Safety and Health Administration [USA]; PEL=Permissible Exposure Limit; TWA=Time-Weighted Average; STEL=Short Term Exposure Limit; Ceiling=Ceiling value)

	ACGIH (TLV)		OSHA (PEL)	
	TWA	STEL	TWA	Ceiling
Iron oxide, fume	5 mg/m ³	None	10 mg/m ³	None
dust	None	None	10 mg/m ³	None
Copper (fume)	0.2 mg/m ³	None	0.1 mg/m ³	None
(dust)	1.0 mg/m ³	None	1.0 mg/m ³	None
Silicon (tot. dust)	10 mg/m ³	None	15 mg/m ³	None
-Resp. dust	None	None	5 mg/m ³	None
Cobalt (Metal/dust/fumes)	0.05 mg/m ³	None	0.1 mg/m ³	None
Tin metal & oxide (As Sn)	2 mg/m ³	None	2 mg/m ³	None
Zinc oxide fume	5 mg/m ³	10 mg/m ³	5 mg/m ³	None
Tot. dust	10 mg/m ³	None	15 mg/m ³	None
Lead inorg. dust & fumes	0.15 mg/m ³	None	0.05 mg/m ³	None
Aluminum (tot. dust)	10 mg/m ³	None	15 mg/m ³	None
-Fume, powder, resp. dust	5 mg/m ³	None	5 mg/m ³	None
Nickel metal	1.0 mg/m ³	None	1 mg/m ³	None
Manganese (dust)	5 mg/m ³	None	5 mg/m ³	5 mg/m ³ -ceil
(fumes)	1 mg/m ³	3 mg/m ³	5 mg/m ³	5 mg/m ³

9. PHYSICAL AND CHEMICAL PROPERTIES

pH : Not applicable.	flashpoint : Not applicable.
boiling point : Not applicable.	autoignition temp. : Not applicable.
melting point : > 1700°C	lower flammable limit : Not applicable.
vapour pressure : Not applicable.	higher flammable limit : Not applicable.
vapour density (air=1) : Not applicable.	explosive properties : Not applicable.
evaporation rate : Not applicable.	NFPA fire code : 0
relative density (water=1) : > 7	oxidizing properties : Not applicable.
water solubility : Not applicable.	odour threshold : Not applicable.
partition coefficient (n-octanol/water) : Not applicable.	

10. STABILITY AND REACTIVITY

STABLE (yes/no) : Yes

CONDITIONS AND MATERIAL TO AVOID : Mercury, ammoniac, acetylene. Acids, bases, oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS : Not applicable.

11. TOXICOLOGICAL INFORMATION

ROUTES OF EXPOSURE :

inhalation : Yes	ingestion : No
eye contact : No	skin contact : No
	skin absorption : No

ACUTE EFFECTS :

case of dust exposure:
Inhalation : Irritation of respiratory tract and eyes. High concentrations of freshly-formed copper oxide and fumes can produce symptoms of metal fume fever.
Skin contact : Not applicable.
Eye contact : Not applicable.
Ingestion : Not applicable.

CHRONIC EFFECTS :

This product may contain lead. Following effects may occur:
Lead compounds bioaccumulate. The most frequent chronic effects are anemia, kidneys and central nervous damages. Medical surveillance should be undertaken to prevent high blood lead levels. Inhalation of lead oxide fumes can cause abdominal pains, constipation, headaches, weakness, muscle pain, loss of appetite, nausea and vomiting. Nickel fumes may cause severe pneumonitis and/or sensitization.

Medical conditions aggravated by exposure to the product : Not determined.

Carcinogenicity / Mutagenicity / Reproductive toxicity : Nickel and some of its compounds are listed in the current "Annual Report on Carcinogens" prepared by the "National Toxicology Program" (NTP). The International Agency for Research on Cancer (IARC) classifies lead compounds in group 2B: possibly carcinogenic in humans (no evidence in humans but sufficient evidence in animals). Does not contain any other carcinogen or potential carcinogen (IARC, NTP, OSHA). (IARC=International Agency for Research on Cancer; NTP=National Toxicology Program [USA]; OSHA=Occupational Safety and Health Administration [USA])

12. ECOLOGICAL INFORMATION

No information available

13. DISPOSAL CONSIDERATIONS

Recycle if possible. Dispose of waste in accordance with federal, state, or local regulations.

14. TRANSPORT INFORMATION

This product is not classified as dangerous under the Transport Regulations, for road, rail, sea or air transport (no UN number).

15. REGULATORY INFORMATION

WHMIS CLASSIFICATION (Canada) : D2 Material causing other toxic effects

EEC CLASSIFICATION (Europe) : Not classified

Warning symbol : None

Warning word : None

Risk phrases : None

Safety phrases : None

USA REGULATIONS:**Section 313 Supplier Notification**

This product may contain the following toxic chemical(s) subject to the reporting requirements of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 (Title III of SARA) and of 40 CFR 372. (This information must be included in all MSDSs that are copied and distributed for this material).

Chemical Name	CAS #
Manganese	7439-96-5
Nickel	7440-02-0
Copper	7440-50-8
Lead	7439-92-1

This product contains lead. Any process resulting exposure to more than 0.5 mg/m³ of metal dust may result in a daily dose of lead of over 0.5 µg/day, the dose above which the "California Safe Drinking Water and Toxic Enforcement Act" of 1986 requires notification. Refer to the appropriate regulation notification wording guidelines.

16. OTHER INFORMATION

Abbreviations :

CAS # = Chemical Abstracts Service Registry Number; EC = European Community
LD₅₀ = Lethal dose 50%; LC₅₀ = Lethal concentration 50%; LCL₀ = lowest published lethal concentration

* Although the information in this MSDS was obtained from sources which we believe to be reliable, it cannot be guaranteed. In addition, this information may be used in a manner beyond our knowledge or control. The information is therefore provided for advice purposes only, without any representation or warranty express or implied. *

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Date of the previous revision : 1991/03/01

Reason for modification : Standardization according to ISO 11014 and European Directive 91/155/EEC.