


### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Trade name	<b>Tin Copper Alloy</b>
Product code	None
Product list	Fedmet ; Lead free solder, 97-3 ; Tin Silver Copper Alloy.
Supplier	Xstrata Zinc, General Smelting Company of Canada, 1400 Norman Street, Lachine (Québec), Canada H8S 1A8
Information contact	Gino De Nobile, Chemist
Phone number (Business hours)	(514) 637-3591
Phone number (Emergency)	<b>CANUTEC : (613) 996-6666</b>
Synonym	Alliage étain cuivre (French)
Name / Chemical formula	Not applicable
Chemical family	Metal
Utilisation	Plumbing industry.

### SECTION 2. HAZARDS IDENTIFICATION

WHMIS (Canada)	CLASS D-2A : Very toxic material causing other toxic effects	
Hazard classes (categories)/Hazard statements	None	
Hazards words	None	
Precautionary statements	None	
Other hazards	Reactive with : Acids, oxidants. Possibility of eye and skin irritation (Particules). Ingestion will nearly always cause acute gastro-intestinal irritation.	
Environmental hazards	Toxic for aquatic life.	

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No	Percentage (%)	EC No	Hazard statements
Tin	7440-31-5	70-100	231-141-8	none
Copper	7440-50-8	1-10	231-159-6	None

### SECTION 4. FIRST-AID MEASURES

Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Consult a physician.
Skin contact	Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation	Remove the person from exposure. Bring to fresh air. If breathing is difficult, give oxygen. Get immediate medical attention.
Ingestion	Induce vomiting. <b>UNCONSCIOUS</b> person : <b>DO NOT</b> induce vomiting or give any liquid. <b>Consult a physician.</b>

### SECTION 5. FIRE-FIGHTING MEASURES

Flash point	Not available
Flammable limits	Not available
Auto-ignition temperature	Not available
Products of combustion	Metal oxides (Tin, copper).
Fire hazard	Solid form : No fire hazard. Avoid melting moist metal. Dust : Flammable when exposed to heat or flames.
Explosion hazard	Not explosive (Mechanical impact ; Static discharge). Dust : Slightly explosive to explosive in presence of open flames and sparks. <b>Copper</b> : Some chemical forms may explode with : Acetylene compounds, ammonium nitrate, 3-bromopropyne, ethylene oxide, lead azide.
Extinguishing media	NON-FLAMMABLE. Use fire fighting materials and procedures adapted to the immediate environment.
Protective equipment	Firefighters must wear full protective clothing and self-contained breathing apparatus (SCBA).

### SECTION 6. ACCIDENTAL RELEASE MEASURES

Measures	Collect spillage.
Methods	Use appropriate tools to place spilled materials in suitable containers for reclamation or disposal.
Protective equipment	Dust and fumes on melting can cause health effects. If dust or fumes are present, use NIOSH approved respirators equipped with HEPA filtration (For toxic dust or mists). Gloves. Coveralls.

### SECTION 7. HANDLING AND STORAGE

Handling	<b>DO NOT</b> ingest or inhale dust. Wear adequate protective clothing. Wear approved respirators if adequate ventilation cannot be provided. Ingestion or inhalation : Seek medical advice immediately and provide medical personnel with a copy of this SDS.
Conditions for storage	Away from : Moisture, ignition sources, incompatible, combustible and oxidizing substances.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Name	CAS No	Percentage (%)	Control parameters		
			ACGIH (U.S.) 2011 TLV-TWA (mg/m <sup>3</sup> )	OSHA (U.S.) PEL-TWA (mg/m <sup>3</sup> )	QUEBEC (CA) TWAEV (mg/m <sup>3</sup> )
Tin	7440-31-5	70-100	2 (Sn)	2 (metal, compounds)	2 (metal)
Copper	7440-50-8	1-10	1 (dust, mist, Cu) 0.2 (fumes)	1 (dust, mist, Cu) 0.1 (fumes)	1 (dust, mist, Cu) 0.2 (fumes Cu)

**Note :** **Tin :** ACGIH TLV TWA : Metal, oxide, inorganic compounds (Sn) except SnH<sub>4</sub>. OSHA PEL-TWA : Metal, inorganic compounds (Sn) except oxides. NIOSH REL-TWA (≤10 hours) : 2 mg/m<sup>3</sup> (Except oxides) ; IDLH : 100 mg/m<sup>3</sup>.

**Copper :** NIOSH REL-TWA (≤10 hours) : 1 mg/m<sup>3</sup> (Copper, copper compounds, as Cu, except fumes) ; IDLH : 100 mg/m<sup>3</sup> (Metal ; Dust, mists, fumes, compounds Cu).

*Consult local authorities for acceptable exposure limits*

**Engineering controls**

Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits.

**Individual protection**

Safety goggles. Coveralls. Work gloves and boots. Dust respirator. Be sure to use a NIOSH approved respirator or equivalent when concentrations exceed occupational exposure limits.


**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical state and appearance</b>	Solid (Ingot, bar, wire)	<b>Odour</b>	Odourless
<b>Molecular weight</b>	Not applicable	<b>Taste</b>	Not applicable
<b>pH (1% soln/water)</b>	Not applicable	<b>Colour</b>	Silver to grey yellow
<b>Boiling point</b>	Not available	<b>Volatility</b>	Not available
<b>Melting point</b>	252°C (485°F) to 267°C (512°F)	<b>% Moisture</b>	Not available
<b>Critical temperature</b>	Not available	<b>Odour threshold</b>	Not available
<b>Specific gravity</b>	Weighted average : 7.27 (Water = 1)	<b>Water/Oil dist. coeff.</b>	Not available
<b>Vapour pressure</b>	Not available	<b>Ionicity (in water)</b>	Not available
<b>Vapour density</b>	Not available	<b>Dispersion</b>	No (Water)
<b>Solubility</b>	No (Water)		

**SECTION 10. STABILITY AND REACTIVITY**

<b>Stability</b>	Yes (Under normal conditions of ambient temperature)
<b>Reactivity</b>	Reactive or incompatible with : Acids.
<b>Dangerous decomposition</b>	Metallic oxides
<b>Conditions to avoid</b>	Acids
<b>Dangerous polymerization</b>	No
<b>Materials to avoid</b>	<b>Tin :</b> Reacts violently under certain conditions with : Chlorine, bromine, trifluoride (Chlorine, bromine), acids, oxidants. Can react with some extinguishing agents (Bicarbonate powder, carbon dioxide). <b>Copper :</b> Violent reaction with : Bromates, chlorates, hydrogen peroxide, sulfuric acid, sodium peroxide, dipotassium peroxide, hydrazoic acid, combination of hydrogen sulfur and air.
<b>Corrosivity</b>	No

**SECTION 11. TOXICOLOGICAL INFORMATION**

<b>Routes of entry</b>	Ingestion. Inhalation. Eyes and skin contact.
<b>Carcinogenicity</b>	<b>Copper ; Tin :</b> NOT A CARCINOGEN (IARC, OSHA, NTP) ; NOT LISTED (ACGIH).
<b>Mutagenicity</b>	Not applicable
<b>Teratogenicity</b>	Not applicable
<b>Acute toxicity</b>	<b>Tin :</b> UNREPORTED ROUTE acute (LoTD) : 250 mg/kg (Human). (RTECS). <b>Copper :</b> SUBCUTENOUS acute (LoLD) : 375 mg/kg (Rabbit) ; INTRAPERITONAL acute (LD 50) : 0.7 mg/kg (Mouse). (RTECS).
<b>Acute effects</b>	Solid form : No health hazards. Conditions and work practices which generate dust or fumes should be avoided or controlled. Other forms : Dangerous (Ingestion, inhalation). <b>Copper :</b> Exposure to fumes or extremely fine dust (Concentrations of 0.075 to 0.12 mg/m <sup>3</sup> ) may cause <b>metal fume fever</b> , a delayed, generally benign, transient, reversible flu-like condition.
<b>Chronic effects</b>	Non-controlled repeated or prolonged exposure : Possibility of target organ damages (Blood, kidneys, liver, lungs ; nervous and reproductive systems). <b>Tin :</b> Low toxicity for humans. Chronic inhalation of oxide (Dust, fume) may cause stannosis (Benign pneumoconiosis) without any pulmonary functional impairment. Other sensitive organs : Kidneys, central nervous system.

**Toxicity**  
**Copper** : Target organs for acute and chronic overexposure (NIOSH 90-117) : Respiratory system, skin, liver and kidneys.  
 Persons with the following pre-existing conditions warrant particular attention :  
**Tin** : Respiratory system (Inorganic compounds).  
**Copper** : Wilson's disease.  
*Eating, drinking and smoking must be prohibited in areas where this material is handled and processed.*  
*Wash hands and face before eating, drinking and smoking.*

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity** **Heavy metals** : Harmful to aquatic life.  
**Toxicity to animals** **Tin** : UNREPORTED ROUTE acute (LoTD) : 250 mg/kg (Human). (RTECS).  
**Copper** : SUBCUTENOUS acute (LoLD) : 375 mg/kg (Rabbit) ; INTRAPERITONAL acute (LD 50) : 0.7 mg/kg (Mouse). (RTECS).  
**Mobility (Soil)** Not applicable  
**Persistence and degradability** Not applicable  
**Bioaccumulation** Not applicable  
**Biodegradation products** Not biodegradable  
**Biodegradation products (Toxicity)** Not applicable  
**Remarks on environment** Due to the product's composition, particular attention must be taken.  
 Run-off water may become acidic and may be harmful to flora and fauna.  
**BOD5 and COD** Not available

## SECTION 13. DISPOSAL CONSIDERATIONS

**Disposal methods** Recycle to process, if possible. P501-Dispose of contents/container in full compliance with Federal, Provincial and local regulations.

## SECTION 14. TRANSPORT INFORMATION

**TDG (Pictograms)** Not regulated (Canada)  
**PIN** Not applicable  
**Special provisions (Transport)** Not applicable

## SECTION 15. REGULATORY INFORMATION

**Labelling (GHS)** Regulation (EC) No 1272/2008 CLP : Not listed.  
**Labelling (DSD)** EU (Regulation 67/548/EEC) : Not listed.  
 EU: Consolidated Inventories : Listed.  
**Tin** : EU Consolidated Inventories : EC Number 231-141-8  
**Copper** : EU Consolidated Inventories : EC Number 231-159-6  
 Not classified in the Annex I of Directive 67/548/EEC  
 Not listed in the Annex I of Council Regulation No (EC) 304/2003  
 Not listed in a priority list (as foreseen under Council Regulation (EEC) No 793/93)  
**Risk phrases (DSD)** None  
**Safety phrases (DSD)** None  
**CEPA DSL (CANADA)** CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) : on the Domestic Substances List (DSL) ; acceptable for use under the provisions of CEPA.  
**Regulation (U.S.A.)** CERCLA Section 103 Hazardous substances (40 CFR 302.4) ; SARA 110 ATSDR CERCLA Priority List : Listed ; SARA Section 313, Toxic Chemicals (40 CFR 372.65) : Listed.  
**Copper** (RQ) : \*5 000 pounds (2 270 kg)  
 TSCA (EPA, Toxic Substance Control Act) Chemical Inventory (40 CFR710) : Listed.  
**Tin ; Copper.**  
 \* No declaration required if the diameter of the piece of solid metal released is equal to or exceeds 100 micrometers (0.004 inches).  
**Classifications HCS (U.S.A.)** Not controlled

## NFPA (National Fire Protection Association) (U.S.A.)

**Fire Hazard** 0 **Reactivity** 0 **Health** 2 **Special Hazard**

## SECTION 16. OTHER INFORMATION

**References**

- TLVs and BEIs (2011). Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices. ACGIH, Cincinnati, OH – <http://www.acgih.org>
- CCOHS (2011) - Canadian Centre for Occupational Health and Safety - <http://www.ccohs.ca/>
- CSST (2011) - Commission de la Santé et de la Sécurité du Travail (Québec). Service du répertoire toxicologique <http://www.reptox.csst.qc.ca/>

- ESIS : C&L (Classification and Labelling), substances ou préparations selon la Directive 67/548/EEC (substances) et 1999/45/EC (préparations).
- ESIS : EINECS (European Inventory of Existing Commercial chemical Substances) O.J. C 146A, 15.6.1990
- ESIS : EINECS corrections publiées dans O.J. C 54/13 01.03.2002, 2002/C54/08.
- Guidance on the Application of the CLP Criteria. Guidance to Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging (CLP) of substances and mixtures. 25/08/2009. ECHA Reference : ECHA-09-G-02-EN. © European Chemicals Agency, 2009.
- ERG (2008). Emergency Response Guidebook, U.S. Department of Transportation, Transport Canada, et le Secretariat of Communications and Transportation of Mexico
- Guidance on the Application of the CLP Criteria. Guidance to Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging (CLP) of substances and mixtures. 25/08/2009. ECHA Reference : ECHA-09-G-02-EN. © European Chemicals Agency, 2009.
- HSDB (2011) - Hazardous Substances Data Bank. TOXNET® Network of databases on toxicology, hazardous chemicals, and environmental health. NLM Databases & Electronic Resources, U.S. National Library of Medicine, NHI, 8600 Rockville Pike, Bethesda, MD 20894 <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>
- IARC - Monographs on the Evaluation of Carcinogenic Risks to Humans (collection) - <http://www-cie.iarc.fr/>
- Merck Index (1999). Merck & CO., Inc, 12th edition
- NIOSH U.S. (2011) - Pocket Guide to Chemical Hazards - <http://www.cdc.gov/niosh/npg/>
- Patty's Industrial Hygiene and Toxicology, 3rd Revised Edition
- Règlement sur les produits contrôlés (Canada)
- REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing. Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006. (Text with EEA relevance). Official Journal of the European Union. L353 p1-1355, 1.12.2008.
- RTECS (2011). Registry of Toxic Effects of Chemical Substances, NIOSH, CDC
- Toxicologie industrielle & intoxication professionnelle, 3e édition, Lauwerys
- TSCA (2011) - U.S. EPA Toxic Substance Control Act, Chemical Inventory. System of Registries (SoR), Substance Registry Services, [http://iaspub.epa.gov/sor\\_internet/registry/substreg/searchandretrieve/substancesearch/search.do](http://iaspub.epa.gov/sor_internet/registry/substreg/searchandretrieve/substancesearch/search.do)

**Glossary**

CSST : Commission de la Santé et de la Sécurité du Travail (Québec).  
 HSDB : Hazardous Substances Data Bank.  
 IARC : International Agency for Research on Cancer.  
 NIOSH : National Institute of Occupational Safety and Health.  
 NTP : U.S. National Toxicology Program.  
 RTECS : Registry of Toxic Effects of Chemical Substances  
 STOT : Specific target organ toxicity

**Note** No specific studies have been performed on this mixture. For your protection, we suggest that you test it before using in your process.

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**Request**

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