

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

Trade name	Tinning Compound
Product code	None
Product list	Tinning Compound : 95/30 ; 40/40 or 30/30
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)	CANUTEC : (613) 996-6666
Synonym	Composé d'étamage ((French)
Name / Chemical formula	Not applicable
Chemical family	Metal
Utilisation	Tinning powder used before soldering operations (Better contact).

SECTION 2. HAZARDS IDENTIFICATION

WHMIS (Canada)	CLASS D-1B : Toxic material causing immediate and serious effects CLASS D-2A : Very toxic material causing other toxic effects CLASS E : Corrosive material
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Hazard classes (categories)/Hazard statements

Zinc chloride : Acute toxicity (4) : H302-Harmful if swallowed. Corrosion (Skin) (1B) : H314- Causes severe skin burns and eye damage. STOT SE (3) : H335-May cause respiratory irritation. Aquatic acute (1) : H400-Very toxic to aquatic life. Aquatic chronic (1) : H410-Very toxic to aquatic life with long lasting effects.

Ammonium chloride : Acute toxicity (4) : H302-Harmful if swallowed. Irritation (Eye) (2) : H319-Causes serious eye irritation.

Hazards words

Danger



Corrosive



Irritant



Danger milieu aquatique

Precautionary statements

P260-Do not breathe dust/fume/gas/mist/vapours/spray. P264-Wash (Hands, face, contaminated skin by the product) thoroughly after handling. P270-Do not eat, drink or smoke when using this product. P271-Use only outdoors or in a well-ventilated area. P280-Wear protective gloves/protective clothing/eye protection/face protection.

Other hazards

Reactive with : Acids, oxidants. Release of irritating, toxic and corrosive gases, hydrides, hydrogen (Flammable gas). Possibility of eye and skin irritation. Ingestion will nearly always cause acute gastrointestinal irritation. Acute exposure : Possibility of other organs and body systems damages.

Environmental hazards

Toxic for aquatic life.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Name	CAS No	Percentage (%)	EC No	Hazard statements
Zinc chloride	7646-85-7	40-80	231-592-0	H302-H314-H335-H400-H410
Ammonium chloride	12125-02-9		235-186-4	H302-H319
Tin chloride	7772-99-8		231-868-0	none
Tin	7440-31-5	5-50	231-141-8	none
Lead	7439-92-1	0-25	231-100-4	None
Antimony	7440-36-0	0-3	231-146-5	None

SECTION 4. FIRST-AID MEASURES

Eye contact	P305+P351+P338-IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313-If eye irritation persists: Get medical advice/attention.
Skin contact	P303+P361+P353-IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash with plenty of soap and water. P363-Wash contaminated clothing before reuse.
Inhalation	P304+P340-IF INHALED : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. P310-Immediately call a POISON CENTER or doctor/physician.
Ingestion	P301+P310-IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P301+P330+P331-IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Conscious and alert person : Rinse mouth with water and give ½ to 1 cup of water or milk to dilute material. Spontaneous vomiting : Have the individual lean forward with head down to avoid breathing in vomit ; Rinse mouth and give ½ to 1 cup of water or milk. Give 100% oxygen. Immediately obtain medical attention.

SECTION 5. FIRE-FIGHTING MEASURES

Flash point	Not available
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Flammable limits	Not available
Autoignition temperature	Not available
Products of combustion	Heated to decomposition : Emission of toxic chloride fumes (Cl ⁻) and metallic oxides. Heating : Possibility of corrosive gas release.
Fire hazard	Heated and on contact with acids or acid fumes, metals can release hydrogen and form stibine , (Extremely toxic gas). Zinc chloride : Mixtures of powdered chlorides and powdered zinc are flammable. Tin : Fine dust combustible when exposed to heat. Lead : In contact with fire or heat source, it may melt, and then if in contact with water, will cause a violent reaction. Possibility of toxic lead vapours formation. Antimony : Spontaneously flammable in fluorine, chlorine, or bromine. With iodine : Reaction produces heat, which may cause flames or explosion if quantities are great enough. Dust or vapours exposed to heat or flame : Moderate fire or explosion hazard.
Explosion hazard	Not explosive (Mechanical impact ; Static discharge).
Extinguishing media	ERG (Emergency Response Guide) : Guide 154 Small fire : Use dry chemical, CO ₂ , water spray. Large fire : Use dry chemical, CO ₂ , alcohol-resistant foam, water spray. Move containers from area if you can do it without risk. Dike fire control water for later disposal. Do not scatter the material.
Protective equipment	Firefighters must wear full protective clothing and self-contained breathing apparatus (SCBA).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Measures	P391-Collect spillage. If without risk : Stop leak or spill. Prevent entry into waterways, sewers, basements or confined areas.
Methods	Use appropriate tools to place spilled materials in suitable containers for reclamation or disposal. If necessary : Neutralize the residue with a dilute solution of sodium carbonate (Soda ash).
Protective equipment	High concentrations of fumes or dust or risk of emission of toxic material (Stibine) : Use a positive-pressure, self-contained breathing apparatus (SCBA) to avoid inhalation of material. Low concentrations : Use a NIOSH/OSHA approved full face cartridge respirator or the equivalent. Full protective clothing. Work gloves and boots.

SECTION 7. HANDLING AND STORAGE

Handling	DO NOT ingest or inhale dust. Wear adequate protective clothing. Wear approved respirators if adequate ventilation cannot be provided. If you feel unwell : Seek medical advice immediately and provide medical personnel with a copy of this SDS. Heated and on contact with acids or acid fumes, metals (Aluminum, zinc, iron, etc.) can release hydrogen : Nascent hydrogen may form : Antimony hydride (Stibine) (Extremely toxic gas). If hydrides suspected in the area, the workplace must be immediately evacuated. Personnel entering this area MUST wear positive-pressure, self contained breathing apparatus (SCBA).
Conditions for storage	P403+P233-Store in a well-ventilated place. Keep container tightly closed. P405-Store locked up. Avoid : Moisture, incompatible substances (Acids). Corrosive materials : Should be stored in a storage cabinet or room.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Name	CAS No	ACGIH (U.S.) 2011 Percentage (%)	Control parameters		
			OSHA (U.S.) TLV-TWA (mg/m ³)	OSHA (U.S.) PEL-TWA (mg/m ³)	QUEBEC (CA) TWA _{EV} (mg/m ³)
Zinc chloride	7646-85-7	40-80	1 (fumes)	1 (fumes)	1 (fumes)
Ammonium chloride	12125-02-9		10 (fumes)	Not established	10 (fumes)
Tin chloride	7772-99-8		2 (Sn)	2 (metal, compounds)	2 (metal)
Tin	7440-31-5	5-50	2 (Sn)	2 (metal, compounds)	2 (metal)
Lead	7439-92-1	0-25	0.05 (Pb, inorganic compds Pb)	0.05 (Pb, Pb compds)	0.05 (Pb, inorganic compds)
Antimony	7440-36-0	0-3	0.5 (Sb, compds Sb)	0.5 (Sb, compds Sb)	0.5 (Sb, compds Sb)

Note : **Zinc chloride** : ACGIH TLV-STEL (Fumes) : 2 mg/m³. NIOSH REL-TWA (≤10 hours) : 1 mg/m³ ; STEL (Fumes) : 2 mg/m³ ; IDLH : 50 mg/m³.

Ammonium chloride (Fumes) : ACGIH TLV-STEL : 20 ppm. NIOSH REL-TWA (≤10 hours) : 10 mg/m³ ; STEL : 20 mg/m³. IDLH : 300 ppm (Ammonia). QUEBEC TLV-Ceiling : 20 mg/m³ (Fumes).

Tin chloride : ACGIH TLV TWA : Metal, oxide, inorganic compounds (Sn) except SnH₄. OSHA PEL-TWA : Metal, inorganic compounds (Sn) except oxides. NIOSH REL-TWA (≤10 hours) : 2 mg/m³ ; IDLH : 100 mg Sn/m³. QUÉBEC TLV-TWA : Metal, inorganic compounds except SnH₄.

Tin : ACGIH TLV TWA : Metal, oxide, inorganic compounds (Sn) except SnH₄. OSHA PEL-TWA : Metal, inorganic compounds (Sn) except oxides. NIOSH REL-TWA (≤10 hours) : 2 mg/m³ (Except oxides) ; IDLH : 100 mg/m³.

Lead : NIOSH REL-TWA (≤ 10 hours) : 0.05 mg/m^3 ; REL also applies to other lead compounds (as Pb) ; IDLH : 100 mg/m^3 (Metal ; Compounds). OSHA PEL-TWA : PEL also applies to other lead compounds (as Pb).

Antimony : ACGIH TLV-TWA : Elemental and compounds. NIOSH REL-TWA (≤ 10 -hours) : 0.5 mg/m^3 ; IDLH : 50 mg/m^3 .

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

Physical state and appearance	Solid (Powder)	Odour	Odourless
Molecular weight	Not applicable	Taste	Not applicable
pH (1% soln/water)	Acid	Colour	Grey
Boiling point	Not available	Vapour density	Not available
Melting point	Tin : 231.67°C (449°F)	Volatility	Not available
	Weighted average : 290.33°C (554.6°F)	% Moisture	Not available
Critical temperature	Not available	Odour threshold	Not available
Specific gravity	Weighted average : 2.7 (Water = 1)	Water/Oil dist. coeff.	Not available
Vapour pressure	Not available	Ionicity (in water)	Not available
Solubility	Yes (Acetone, acids). No (Water)	Dispersion	Yes (Acetone, acids). No (Water)

SECTION 10. STABILITY AND REACTIVITY

Stability	Yes (Under normal conditions of ambient temperature)
Reactivity	Reactive or incompatible with : Acids.
Dangerous decomposition	Metallic oxides, chloride (Cl^-) Heated and on contact with acids or acid fumes, metals (Soft or galvanized metal, aluminum) can release hydrogen and form antimony hydride (Stibine) (Extremely toxic gas).
Conditions to avoid	Acids
Dangerous polymerization	No
Materials to avoid	Zinc chloride : Reacts with sulfuric acid to produce zinc sulfate. Potassium Ammonium chloride : Violent reactions with : Boron trifluoride, boron pentafluoride, iodine heptafluoride, potassium chlorate. Incompatible with : Alkalis, acids, salts of lead or silver. At high temperatures (Fire, etc.) : Fumes corrode metals. Tin : Reacts violently under certain conditions with : Chlorine, bromine, trifluoride (Chlorine, bromine), acids, oxidants. Can react with some extinguishing agents (Bicarbonate powder, carbon dioxide). Lead : Violent reaction on ignition with : Chlorine trifluoride, concentrated hydrogen peroxide, ammonium nitrate, sodium acetylide. Other incompatibilities : Sodium nitrate, zirconium, disodium acetylide, oxidants. Antimony : Possibility of violent reaction with : Ammonium nitrate, bromate trifluoride, halogens, chloric acid, chlorine trifluoride, nitric acid, potassium nitrate, potassium permanganate, dipotassium peroxide, sodium nitrate and oxidants. <i>NOTE : This list of products is not exhaustive. Verify technical documents to determine any incompatibilities with your process.</i>
Corrosivity	Zinc chloride : Corrosive to metals.

SECTION 11. TOXICOLOGICAL INFORMATION

Routes of entry	Ingestion. Inhalation. Eyes and skin contact.
Carcinogenicity	Lead : POSSIBLE (Group 2B, IARC) (EPA) ; CARCINOGEN (Animal, A3, ACGIH). Tin ; Tin chloride : NOT A CARCINOGEN (IARC, OSHA, NTP) ; NOT LISTED (ACGIH). Antimony ; Ammonium chloride (Fumes) ; Zinc chloride (Fumes) : NOT LISTED (IARC, ACGIH).
Mutagenicity	Zinc chloride : DNA damage : 2 mmol/l (Fibroblast, Human). DNA inhibition : $360 \text{ }\mu\text{mol/L}$ (Lymphocyte, Human). Test (micronucleus) : 100 mg/l (Lymphocyte, Human). (RTECS). Lead : Cytogenetic analysis ; DNA. (RTECS).
Teratogenicity	Zinc chloride : ORAL (LoTD) : 186 mg/kg (98 day male/98 day prior copulation-3 week after birth) Effects on fertility : Female fertility index (# females pregnant per # sperm positive females ; # females pregnant per # females mated) ; Specific developmental abnormalities : Blood and lymphatic systems (including spleen and marrow ; Urogenital system) (Mouse). INTRAPERITONEAL (LoTD) : $12 \text{ }500 \text{ }\mu\text{g/kg}$ (11 day pregnant), Specific developmental abnormalities: Musculoskeletal system (Mouse). (RTECS). Lead : SUSPECTED (OSHA). Effects on embryo, foetus, fertility (RTECS).

Acute toxicity

Zinc chloride : Zinc chloride : ORAL acute (LD50) : 350 mg/kg (Rat) ; 329 mg/kg (Mouse). INTRAPERITONEAL acute (LD50) : 58 mg/kg (Rat) ; 24 mg/kg (Mouse). (RTECS).
Ammonium chloride (Fumes) : ORAL acute (LD50): 1 650 mg/kg (Rat); 1 300 mg/kg (Mouse). INTRAPERITONEAL acute (LD50): 485 mg/kg (Mouse). INTRAVENOUS aigu (DL50) : 358 mg/kg (Mouse). (RTECS).
Tin chloride : ORAL acute (LD50) : 700 mg/kg (Rat) ; 250 mg/kg (Mouse). INTRAVENOUS acute (LD50) : 17 mg/kg (Rat). INTRAPERITONEAL acute (LD50) : 316 mg/kg (Rat). (RTECS).
Tin : UNREPORTED ROUTE acute (LoTD) : 250 mg/kg (Human). (RTECS).
Lead : ORAL acute (LoLD) : 155 mg/kg (Human) ; 0.2 mg/kg (Rat). INHALATION acute (LoTC) : 10 µg/m³ (Human). INTRAPERITONEAL acute (LoLD) : 1 g/kg (Rat). (RTECS).
Antimony : ORAL acute (LD50) : 7 000 mg/kg (Rat). INTRAPERITONEAL acute (LD50) : 100 mg/kg (Rat) ; 80 mg/kg (Mouse). (RTECS).

Acute effects

Dangerous : Skin contact (Irritant), eye contact (Corrosive). Ingestion and inhalation (Irritant for the lungs). The amount of tissue damage depends on duration and extent of contact. Eye contact can provoke corneal damage or even blindness. Skin contact can produce inflammation and blistering.
Zinc chloride ; Tin : Fumes inhalation may cause **metal fume fever**, a delayed, generally benign, transient, reversible flu-like condition.
Ammonium chloride ; Tin chloride : Cough, sore throat, redness, abdominal pain, diarrhea, nausea, vomiting. **Lead** : Absorption is easier by inhalation and the symptoms develop more quickly than by ingestion. Symptoms : Loss of appetite, anemia, insomnia, headache, muscle and joint pain. Toxicity by ingestion, compared to those by inhalation, requires greater concentrations before symptom onset.

Chronic effects

Non-controlled, repeated or prolonged exposure : Can produce eye and skin irritation (Possibility of skin damages or dermatitis). Dust : May lead to chronic respiratory irritation.
Zinc chloride : Little information is available on the chronic effects. Repeated and prolonged exposure : May cause dermatitis. Short time exposure : Possible eyes, skin and upper respiratory tract irritation. Severe exposure : May cause pulmonary oedema or pneumonitis.
Ammonium chloride : Usually not considered as a serious industrial hazard. Possibility of mild irritations : Skin and respiratory tract. Toxicity by ingestion : Usually not severe ; Possibility of systemic by ingestion of large amounts ; Symptoms : Nausea, vomiting, thirst, headache, hyperventilation drowsiness, confusion and serious acidosis. Fumes inhalation : Possibility of occupational asthma.
Tin chloride : No systemic effects have been reported from industrial exposure. Possibility of irritation : Eyes, skin, upper respiratory tract ; Causes : Acid formation with body water or humidity. Ingestion : Generally low toxicological risk due largely to low degree of absorption, low tissue retention and body rapid turnover.
Tin : 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.
Lead : Target organs for acute and chronic overexposure (NIOSH 90-117) : Blood, gingival tissues ; gastro-intestinal, central nervous, renal systems. Symptoms of acute overexposure often develop abruptly and resemble those of chronic overexposure : Anaemia, lassitude, weakness, nausea, vomiting, abdominal cramps, constipation, confusion, convulsions, muscular weakness, muscular and joint pains. Target organs (Chronic overexposure) : Blood, kidneys, digestive, nervous and reproductive systems.
Antimony : The principal toxicological properties mimic those of arsenic such as : Abdominal cramps, nausea, vomiting, watery diarrhea which may be bloody. Possibility of dermatitis called **antimony spots** : Papules and pustules around sweat and sebaceous glands (Generally on the forearms) which resemble chicken pox and are transient in nature. Some people may develop an allergy to antimony metal. Inhalation (Antimony and compounds) : Possibility of pneumoconiosis which can lead to some obstructive lung disease. There is some evidence that antimony may have some effect on the heart.

Toxicity

Persons with the following pre-existing conditions warrant particular attention :
Zinc Chloride : Skin problems or respiratory disorders.
Ammonium chloride : Liver and kidney impairments.
Tin ; Tin chloride : Respiratory system (Inorganic compounds).
Lead : Anaemia, pregnant or breast feeding women and women of child bearing age. Preferred method for biological monitoring : Blood lead levels (Pb blood) measurement (BEI 30 µg/100 ml) ; Sampling time : Not critical.
Antimony : Pulmonary and cardiac conditions.
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.

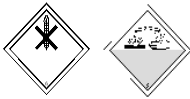

SECTION 12. ECOLOGICAL INFORMATION
Ecotoxicity

Heavy metals : Harmful to aquatic life.

Toxicity to animals

Zinc chloride : Very toxic for aquatic organisms.

Ammonium chloride ; Tin chloride : Harmful for aquatic organisms.

	<p>Tin : UNREPORTED ROUTE acute (LoTD) : 250 mg/kg (Human). (RTECS). Lead : ORAL acute (LoLD) : 155 mg/kg (Human) ; 0.2 mg/kg (Rat). INHALATION acute (LoTC) : 10 µg/m³ (Human). INTRAPERITONEAL acute (LoLD) : 1 g/kg (Rat). (RTECS).</p>
Mobility (Soil)	<p>Easy soil seeping under rain action Metals : Soluble compounds produced by acidic conditions, becomes mobile in water and in soil (as zinc, lead).</p>
Persistence and degradability	Zinc : Indefinite persistence in cation form.
Bioaccumulation	Zinc : Accumulation in aquatic and terrestrial flora, in milk. Acid pHs augment zinc availability.
Biodegradation products	Not biodegradable
Biodegradation products (Toxicity)	Not applicable
Remarks on environment	<p>Due to the product's composition, particular attention must be taken : Substances potentially toxic to aquatic life (Zinc, lead). Run-off water may become acidic and may be harmful to flora and fauna.</p>
BOD5 and COD	Not available
<u>SECTION 13. DISPOSAL CONSIDERATIONS</u>	
Disposal methods	Recycle to process, if possible. P501-Dispose of contents/container in full compliance with Federal, Provincial and local regulations.
<u>SECTION 14. TRANSPORT INFORMATION</u>	
TDG (Pictograms)	CLASS 6.1 (8, 9) Toxic substances (Corrosives)
PIN	UN 2923 CORROSIVE TOXIC SOLIDS N.O.S. PG : III
Special Provisions (Transport)	109 The consignor must determine legal limit.
	
<u>SECTION 15. REGULATORY INFORMATION</u>	
Labelling (GHS)	<p>Regulation (EC) No 1272/2008 CLP : Not listed. Zinc chloride : Index number : 030-003-00-2 ; EC Number 231-592-0 Ammonium chloride : Index number : 017-014-00-8 ; EC Number 235-186-4</p>
Labelling (DSD)	<p>EU (Regulation 67/548/EEC) : Not listed. Zinc chloride : C Corrosive ; N Dangerous for the environment Annex I Index number : 030-003-00-2 ; EU Consolidated Inventories : EC Number 231-592-0 Classification : C: R34 ; Xn: R22 ; N: R50/53 R22, 34, 50/53 ; S26, 36/37/39, 45, 60, 61. Ammonium chloride : Xn Harmful Annex I Index number : 017-014-00-8 ; EU Consolidated Inventories : EC Number 235-186-4 Classification : Xn: R22 ; Xi: R36 R22, 36 ; S22</p>
	
	<p>EU: Consolidated Inventories : Listed Tin chloride : EU Consolidated Inventories : EC Number 231-868-0 Tin : EU Consolidated Inventories : EC Number 231-141-8 Lead : EU Consolidated Inventories : EC Number 231-100-4 Antimony : EU Consolidated Inventories : EC Number 231-146-5 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</p>
Risk phrases (DSD)	<p>R22-Harmful in case of ingestion R34-Causes burns R36 Irritating to eyes R50/53-Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</p>
Safety phrases (DSD)	<p>S22-Do not breathe dusts S26-In case of contact with eyes, rinse immediately with plenty of water and seek medical advice S36/37/39-Wear suitable protective clothing, gloves & eye/face protection S45-In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S60-This material and/or its container must be disposed of as hazardous waste. S61-Avoid release to the environment. Refer to special instructions/Safety data sheets.</p>
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.)	<p>CERCLA Section 103 Hazardous substances (40 CFR 302.4) : Listed. Ammonium chloride (RQ) : 5 000 pounds (2 270 kg)</p>

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.

Lead (RQ) : *10 pounds (4.54 kg)

Antimony (RQ) : *5 000 pounds (2 270 kg)

CERCLA Section 103 Hazardous substances (40 CFR 302.4) ; SARA Section 313, Toxic Chemicals (40 CFR 372.65) : Listed.

Zinc chloride (RQ) : 1 000 pounds (454 kg)

TSCA (EPA, Toxic Substance Control Act) Chemical Inventory (40 CFR710) : Listed.

Zinc chloride ; Ammonium chloride ; Tin chloride ; Tin ; Lead ; Antimony.

* 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.)

Toxic

Corrosive solid

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

Fire Hazard 0 **Reactivity** 2 **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

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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Complete revision : 2011-06-28

Partial review : None

Previous complete revision : 2008-06-28

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Notice to reader

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