CASWELL INC

Safety Data Sheet
Tinning Solution

SECTION 1: Identification

1.1 Product identifier

Product name	Tinning Solution
Product number	ET
Brand	Caswell

1.2 Other means of identification

Electroless Tin

1.3 Recommended use of the chemical and restrictions on use

Tinning Bath

1.4 Supplier's details

Name	Caswell Inc
Address	7696 Route 31 Lyons NY 14489 USA
Telephone	315 946 1213
Fax	315 946 4456
email	sales@caswellplating.com

Supplied in Australia by

Name	Caswell Australia P/L
Address	Factory 1 51 Elm Park Drive Hoppers Crossing Victoria 3029
Telephone	03 9741 7103
email	sales@caswellplating.com.au

1.5 Emergency phone number(s)

Office Hours (9-4 EST)
Emergency Services **000**

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Carcinogenicity (chapter 3.6), Cat. 1B
- Acute toxicity, oral (chapter 3.1), Cat. 3
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 3

2.2 GHS label elements, including precautionary statements

Pictogram

Signal word **Danger**

Hazard statement(s)

H315	Causes skin irritation
H350	May cause cancer
H301	Toxic if swallowed
H412	Harmful to aquatic life with long lasting effects

Precautionary statement(s)

P264	Wash … thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P321	Specific treatment (see … on this label).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container to …
P270	Do not eat, drink or smoke when using this product.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/...
P330	Rinse mouth.
P273	Avoid release to the environment.

SECTION 3: Composition/information on ingredients

3.1 Substances

Hazardous components

1. STANNOUS CHLORIDE

Concentration	0.01 - 0.02 %
CAS no.	7772-99-8

2. THIOUREA

Concentration	0.1 - 0.2 %
EC no.	200-543-5
CAS no.	62-56-6
Index no.	612-082-00-0

3. HYDROCHLORIC ACID (<37%)

Concentration	3 - 5 %
EC no.	231-595-7
CAS no.	7647-01-0
Index no.	017-002-01-X

4. WATER OR OTHER NON-REPORTABLE INGREDIENTS

Concentration	90 - 94.78 %
CAS no.	7732-18-5

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Drink 1 or 2 glasses of water. Do NOT induce vomiting. Get medical attention immediately if symptoms occur.
Personal protective equipment for first-aid responders	See section 8

4.2 Most important symptoms/effects, acute and delayed

Material is destructive to mucous membranes and upper respiratory tract, eyes and skin. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Use extinguishing media appropriate for surrounding fire.

5.2 Specific hazards arising from the chemical
None Known

5.3 Special protective actions for fire-fighters
Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear PPE per section 8.

6.2 Environmental precautions
Avoid release into the environment.

6.3 Methods and materials for containment and cleaning up
SMALL SPILLS: Contain and absorb with absorbent material and place into containers for later disposal. Wash site of spillage thoroughly with water. LARGE SPILLS: Dike far ahead of spill to prevent further movement. Recover by pumping or by using a suitable absorbent material and place into containers for later disposal. Dispose in suitable waste container.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.2 Conditions for safe storage, including any incompatibilities
Keep away from oxidizers.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Hydrogen chloride (CAS: 7647-01-0)
PEL (Inhalation): (C) 5 ppm (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): (C) 7 mg/m3 (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): (C) 5 ppm (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

REL (Inhalation): (C) 5 ppm (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

8.2 Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms

Eye/face protection
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection
Wear chemical resistant gloves and clothing.

Body protection
Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection
NIOSH/MSHA approved air purifying respirator with an organic vapor cartidge or canister may be permissable under certain circumstances where airborne concentrations are expected to exceed exposure limits.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Clear/White Liquid with residue. Milk colored after shaking.
Odor	None
Odor threshold	
pH	1
Melting point/freezing point	
Initial boiling point and boiling range	212 deg F
Flash point	
Evaporation rate	
Flammability (solid, gas)	
Upper/lower flammability limits	
Vapor pressure	
Vapor density	
Relative density	1.3
Solubility(ies)	Fully miscible in water
Partition coefficient: n-octanol/water	
Auto-ignition temperature	
Decomposition temperature	
Viscosity	
Explosive properties	
Oxidizing properties	

SECTION 10: Stability and reactivity

10.1 Reactivity
No reactive

10.2 Chemical stability
Stable

10.5 Incompatible materials
Strong Oxidizers

10.6 Hazardous decomposition products
Sulfur oxides, Tin/Tin Oxides

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Harmful if swallowed, inhaled or absorbed through skin. Material is destructive to mucous membranes and upper respiratory tract, eyes and skin. Inhalation may be fatal as a result of spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

LD50 Oral Rat - 125 mh/kg

Skin corrosion/irritation
Can cause burns and irritation.

Serious eye damage/irritation
Causes serious eye irritation.

Respiratory or skin sensitization
May be absorbed through skin in harmful amounts.

Germ cell mutagenicity
Suspected of causing genetic problems.

Carcinogenicity
Suspected of causing cancer.

STOT-single exposure
Respiratory Systen

STOT-repeated exposure
Cardio Vascular System

SECTION 12: Ecological information

Toxicity
Harmful to the environment.

48hour EC50 - 35 mg/L

SECTION 13: Disposal considerations

Disposal of the product
Consult appropriate federal and local regulations for disposal. Empty containers are subject to the same regulations.

Disposal of contaminated packaging
Consult appropriate federal and local regulations for disposal. Empty containers are subject to the same regulations.

SECTION 14: Transport information

DOT (US)
UN Number: UN2922
Class: 8 (6.1)
Packing Group: II
Proper Shipping Name: Corrosive liquid, toxic, n.o.s. Stannous Chloride, Hydrochloric Acid, Thiourea)
Reportable quantity (RQ):
Marine pollutant:
Poison inhalation hazard:

IMDG
UN Number: UN2922
Class: 8 (6.1)
Packing Group: II
EMS Number:
Proper Shipping Name: Corrosive liquid, toxic, n.o.s. Stannous Chloride, Hydrochloric Acid, Thiourea)

IATA
UN Number: UN2922
Class: 8 (6.1)
Packing Group: II
Proper Shipping Name: Corrosive liquid, toxic, n.o.s. Stannous Chloride, Hydrochloric Acid, Thiourea)

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Massachusetts Right To Know Components
Chemical name: Thiourea
CAS number: 62-56-6

New Jersey Right To Know Components
Common name: THIOUREA
CAS number: 62-56-6

Pennsylvania Right To Know Components
Chemical name: Thiourea
CAS number: 62-56-6

California Prop. 65 components
Chemical name: THIOUREA
CAS number: 62-56-6
01/01/1988 - cancer

Massachusetts Right To Know Components
Chemical name: Hydrochloric acid

CAS number: 7647-01-0

New Jersey Right To Know Components
Common name: HYDROGEN CHLORIDE
CAS number: 7647-01-0

Pennsylvania Right To Know Components
Chemical name: Hydrochloric acid
CAS number: 7647-01-0

New Jersey Right To Know Components
Common name: STANNOUS CHLORIDE
CAS number: 7772-99-8

HMIS Rating

Tinning Solution	
HEALTH	* 2
FLAMMABILITY	1
PHYSICAL HAZARD	0
PERSONAL PROTECTION	H

NFPA Rating

SECTION 16: Other information

16.1 Further information/disclaimer

DISCLAIMER: The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability of information for their particular purposes. In no event shall Caswell Inc or Caswell Australia, be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if Caswell Inc or Caswell Australia, has been advised of the possibility of such damages.