CASWELL INC

Safety Data Sheet
Casweld Flux AL

SECTION 1: Identification

1.1 Product identifier

Product name	Casweld Flux AL
Product number	CWFX2
Brand	Caswell

1.4 Supplier's details

Name	Caswell Inc	SUPPLIED IN AUSTRALIA BY
Address	7696 Route 31 Lyons, NY 14489 USA	CASWELL AUSTRALIA P/L FACTROY 1, 51 ELM PARK DRIVE HOPPERS CROSSING 3029 VICTORIA
Telephone	315 946 1213	PH 03 9741 7103
Fax	315 946 4456	EMERGENCY **000**
email	sales@caswellplating.com	

1.5 Emergency phone number(s)

Office Hours (9-4ET): 315 946 1213
24 Hour: CHEMTEL US# 1-800-255-3924 Intl# +01-813-248-0585

SECTION 2: Hazard identification

General hazard statement
Not considered a hazard in its solid form. Hazards are from fumes during use and heat.

2.1 Classification of the substance or mixture

GHS classification in accordance with: (EC) No 1272/2008 (CLP)
- Acute toxicity, oral (chapter 3.1), Cat. 4
- Skin corrosion/irritation (chapter 3.2), Cat. 1B
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3
- Hazardous to the aquatic environment - long-term hazard (chapter 4.1), Cat. 2

2.2 GHS label elements, including precautionary statements

Pictogram

Signal word	**Danger**

Hazard statement(s)

H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H411	Toxic to aquatic life with long lasting effects

Precautionary statement(s)

P264	Wash … thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/.../if you feel unwell,
P330	Rinse mouth.
P501	Dispose of contents/container to …
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363	Wash contaminated clothing before reuse.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310	Immediately call a POISON CENTER/doctor/...
P321	Specific treatment (see … on this label).
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P405	Store locked up.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P312	Call a POISON CENTER/doctor/... if you feel unwell.
P403+P233	Store in a well ventilated place. Keep container tightly closed.
P273	Avoid release to the environment.
P391	Collect spillage.

SECTION 3: Composition/information on ingredients

3.1 Substances

Hazardous components

1. LITHIUM CHLORIDE

Concentration	30 - 45 %
CAS no.	7447-41-8

2. Zinc chloride

Concentration	6 - 10 %
EC no.	231-592-0
CAS no.	7646-85-7
Index no.	030-003-00-2

3. POTASSIUM CHLORIDE

Concentration	30 - 45 %
CAS no.	7447-40-7

4. SODIUM FLUORIDE

Concentration	10 - 25 %
EC no.	231-667-8
CAS no.	7681-49-4
Index no.	009-004-00-7

5. SODIUM CHLORIDE

Concentration	8 - 13 %
CAS no.	7647-14-5

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	Wash off with soap and plenty of water. Get medical attention if symptoms occur.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If swallowed	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Personal protective equipment for first-aid responders
See section 8

4.2 Most important symptoms/effects, acute and delayed
not established

4.3 Indication of immediate medical attention and special treatment needed, if necessary
not established

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
Use water spray, alcohol resistant foam, dry chemical or carbon dioxide. Welding sparks can ignite combusible and flammable materials. Use media recommended for burning material.

5.2 Specific hazards arising from the chemical
Hydrogen Chloride Gas, Zinc Oxides, Potassium Oxides, Sodium Oxides

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
See section 8

6.2 Environmental precautions
See section 13

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. Zinc chloride fume (CAS: 7646-85-7)
PEL (Inhalation): 1 mg/m3 (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

2. Zinc chloride fume (CAS: 7646-85-7)
PEL (Inhalation): 1 mg/m3, (ST) 2 mg/m3 (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

3. Zinc chloride fume (CAS: 7646-85-7)
REL (Inhalation): 1 mg/m3, (ST) 2 mg/m3 (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
Welder's helmet or face shield with color absorbing lenses. Shield and filter to provide protection from UV radiation, infrared and molten metal approved to standard EN379. Filter shade to be a minimum of shade 9.

Skin protection
Heat resistant protective clothing. Safety boots, apron, arm and shoulder protection.

Body protection
Type A or B gloves. Type B recommended when high dexterity is required.

Respiratory protection
Use an air purifying dust respirator when welding or brazing in a confined space, or when local exhaust or ventialtion is not sufficient to keep exposure values within safe limits.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Powder
Odor	None
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	500 deg C
Initial boiling point and boiling range	Not Available
Flash point	Not Available
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Upper/lower flammability limits	Not Available
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	Not Available
Solubility(ies)	Unlimited
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available
Viscosity	Not Available
Explosive properties	Not Available
Oxidizing properties	Not Available

SECTION 10: Stability and reactivity

10.2 Chemical stability
Stable

10.3 Possibility of hazardous reactions
Hydrogen Chloride Fumes, Fluorides with high heat

10.4 Conditions to avoid
Excess Heat or Cold. Metals contact with acids liberates very toxic gas.

10.5 Incompatible materials
Reacts with acid

10.6 Hazardous decomposition products
When this product is used in a welding process, hazardous decomposition product would include those from volatilization, reaction or oxidation of the material listed in section 3and those from the base metal and coating. The amount of fumes generated from this product varies with welding parameters and dimensions. Refer to applicable national exposure limits for fume compounds, including those exposure limits for fume compoundsfound in section 3.
Reasonably expected gaseous products would include carbon oxides, nitrogen oxides and ozone. Air contaminants around the welding area can be affected by the welding process and influence the composition and quality of fumes and gases produced.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Lithium Chloride is an antidepressant/antipsychotic and may affect behavior/Central Nervous System (drowsiness, mental confusion, somnolence, muscle weakness, contraction, spasticity, tremors) if ingested in high doses. It may also affect brain (degenerative changes), metabolism (anorexia), vision (blurred vision), blood, urinary system, cardiovascular system, and liver. Zinc Chloride affects behavior/ Central Nervous System (central nervous system depression), the urinary system (kidney damage – hematuria, oliguria, and renal failure), cardiovascular system, respiration (dyspnea), metabolism, pancreas (elevated amylase, and glucose levels), liver enzymes, and blood (changes in white and red blood cell count, changes in serum composition). Sodium Fluoride may affect behavior/Central Nervous System/Nervous System (headache, nervousness, dizziness, seizures, convulsions, tremors, muscle weakness, somnolence, respiration (respiratory depression, dyspnea), cardiovascular system (weak pulse, hypotension, dysrhythmias, cardiac arrest), liver, urinary system (polyuria, polydipsia), brain, metabolism (loss of appetite, hypcalcemia, hyperkalemia, and hypo magnesia), teeth, bones, and blood (changes in red and white blood cell counts, interference in blood coagulation).
Eye Contact: may cause severe irritation with possible eye burns and irreversible eye injury. Also it may cause corneal ulceration, chemical conjunctivitis, and opacification, and glaucoma and severe iritis.
Skin Contact: Causes skin irritation with possible burns, especially if skin is wet or moist. Also it may be absorbed by the skin. Inhalation: may cause severe respiratory tract irritation, headache, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), delayed lung edema, bronchial asthma. Inhalation of fumes may cause mental fume fever. It is characterized by flu-like symptoms (fever, chills, cough, muscle pain, weakness), chest pain. Also may cause irritation and chemical burns of the respiratory tract with coughing, breathing difficulty and possibly nasal septum perforation and coma. Ingestion: Harmful if swallowed. Also it may cause severe digestive tract irritation with thirst, salivation, nausea, vomiting, hypermotility, diarrhea, abdominal pain, possible burns (corrosion and permanent tissue destruction) of the esophagus and digestive tract and perforation of the stomach and possible death.

LD/LC50 Values that are relevant for classification
Lithium Chloride 7447-41-8
Oral LD50 526 mg/kg (rat)

LD/LC50 Values that are relevant for classification
Zinc Chloride 7646-85-7
Oral LD50 350 mg/kg (rat)
LC50 .4 – 2.2 mg/l (96h) (carp)

LD/LC50 Values that are relevant for classification
Potassium Chloride 7447-40-7
LC50 880 mg/l (96h) (fathead minnow)

LD/LC50 Values that are relevant for classification
Sodium Fluoride 7681-49-4
Oral LD50 31 mg/kg (rat)
Oral LD50 44 mg/kg (mouse)
Oral LD50 200 mg/kg (rabbit)
Oral LD50 100 mg/kg (domestic animals)
Oral LD50 110 mg/kg (wild bird)
Intraperitoneal LD50 22 mg/kg (rat)
Intravenous LD50 26 mg/kg (rat)
Subcutaneous LD50 175 mg/kg (rat)
Intraperitoneal LD50 38 mg/kg (mouse)
Intravenous LD50 50.83 mg/kg (mouse)
Subcutaneous LD50 .115 mg/kg (mouse)
Intravenous LD50 26.6 mg/kg (monkey)
LC50 200 mg/l (96h) (rainbow trout)

Summary of evaluation of the CMR properties
Chronic Effects: Lithium Chloride may affect behaviour/ Central Nervous System and cardiovascular system, and have
similar affects to acute ingestion. Zinc Chloride may cause defatting and dermatitis with repeated or prolonged skin contact.
Sodium Fluoride may cause fluorosis. Effects of Fluorosis may include joint pain, weakness, limited joint mobility, brittle bones,
ossification on x-ray, thickening of long bone cortices, calcification of ligaments, osteomalacia, osteosclerosis (skeletal (bone
and teeth) abnormalities) and mottled tooth enamel. Other symptoms may include anemia, nausea, vomiting, diarrhea or
constipation, kidney damage and weight loss/anorexia. Chronic inhalation may cause bronchitis to develop with cough, phlegm,
and/or shortness of breath, and liver complications (hepatic enzymes increased, jaundice). Prolonged or repeated exposure to
sodium fluoride can cause damage to the lungs.

SECTION 12: Ecological information

Toxicity
No available data.
Welding materials could degrade into components originating from the materials used in the welding process.
Avoid exposure to conditions that could lead to accumulation in soils or groundwater.

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)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

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

Massachusetts Right To Know Components
Chemical name: Zinc chloride
CAS number: 7646-85-7

New Jersey Right To Know Components
Common name: ZINC CHLORIDE
CAS number: 7646-85-7

Pennsylvania Right To Know Components
Chemical name: Zinc chloride
CAS number: 7646-85-7

Massachusetts Right To Know Components
Chemical name: Sodium fluoride
CAS number: 7681-49-4

New Jersey Right To Know Components
Common name: SODIUM FLUORIDE
CAS number: 7681-49-4

Pennsylvania Right To Know Components
Chemical name: Sodium fluoride
CAS number: 7681-49-4

HMIS Rating

Casweld Flux AL	
HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	D

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 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 has been advised of the possibility of such damages.