

# SOLDER PASTE

## DLM Wallace

Chemwatch Hazard Alert Code: 3

Chemwatch: 8331183

Version No: 4.1

Safety Data Sheet according to the Health and Safety at Work (Hazardous Substances) Regulations 2017

Issue Date: 01/11/2019

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S.GHS.NZL.EN.E

### SECTION 1 Identification of the substance / mixture and of the company / undertaking

#### Product Identifier

|                               |  |
|-------------------------------|--|
| Product name                  | SOLDER PASTE   |
| Chemical Name                 | Not Applicable   |
| Synonyms                      | Consolidated Alloys KEMTEX B916 'Tinning' Compound         |
| Proper shipping name          | CORROSIVE LIQUID, N.O.S. (contains zinc chloride and lead) |
| Chemical formula              | Not Applicable   |
| Other means of identification | Not Available  |

#### Relevant identified uses of the substance or mixture and uses advised against

|                          |   |
|--------------------------|---|
| Relevant identified uses | Used for tin coating and soldering of metals. |
|--------------------------|---|

#### Details of the supplier of the safety data sheet

|                         |  |
|-------------------------|--|
| Registered company name | DLM Wallace  |
| Address                 | 55 Maurice Road, Penrose Auckland 1061 New Zealand             |
| Telephone               | +64 9 622 9100   |
| Fax                     | +64 9 622 9119   |
| Website                 | <a href="http://www.dlmwallace.co.nz">www.dlmwallace.co.nz</a> |
| Email                   | enquiries@dlmwallace.co.nz                                     |

#### Emergency telephone number

|                                   |                         |
|-----------------------------------|-------------------------|
| Association / Organisation        | National Poisons Centre |
| Emergency telephone numbers       | 0800 764 766            |
| Other emergency telephone numbers | Not Available           |

### SECTION 2 Hazards identification

#### Classification of the substance or mixture

|   |   |
|---|---|
| Classification [1]                              | Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Germ Cell Mutagenicity Category 2, Carcinogenicity Category 2, Reproductive Toxicity Category 1, Reproductive Toxicity Effects on or via Lactation, Specific Target Organ Toxicity - Single Exposure Category 1, Specific Target Organ Toxicity - Repeated Exposure Category 1, Hazardous to the Aquatic Environment Acute Hazard Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 2, Hazardous to Terrestrial Vertebrates, Corrosive to Metals Category 1 |
| Legend:   | 1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI  |
| Determined by Chemwatch using GHS/HSNO criteria | 8.1A, 6.1D (dermal), 6.1D (inhalation), 6.1D (oral), 8.2B, 8.3A, 6.6B, 6.7B, 6.8A, 6.8C, 6.9A, 9.1A, 9.1B, 9.3B   |

#### Label elements

|                     |   |
|---------------------|---|
| Hazard pictogram(s) |  |
| Signal word         | <b>Danger</b>   |

#### Hazard statement(s)

|      |  |
|------|--|
| H302 | Harmful if swallowed.                    |
| H312 | Harmful in contact with skin.            |
| H332 | Harmful if inhaled.                      |
| H314 | Causes severe skin burns and eye damage. |

|      |   |
|------|---|
| H341 | Suspected of causing genetic defects.                           |
| H351 | Suspected of causing cancer.                                    |
| H360 | May damage fertility or the unborn child.                       |
| H362 | May cause harm to breast-fed children.                          |
| H370 | Causes damage to organs.  |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life.                                     |
| H411 | Toxic to aquatic life with long lasting effects.                |
| H432 | Hazardous to terrestrial vertebrates.                           |
| H290 | May be corrosive to metals.                                     |

**Precautionary statement(s) Prevention**

|      |  |
|------|--|
| P201 | Obtain special instructions before use.  |
| P260 | Do not breathe mist/vapours/spray.   |
| P263 | Avoid contact during pregnancy and while nursing.                                |
| P264 | Wash all exposed external body areas thoroughly after handling.                  |
| P271 | Use only outdoors or in a well-ventilated area.                                  |
| P280 | Wear protective gloves, protective clothing, eye protection and face protection. |
| P234 | Keep only in original packaging.   |

**Precautionary statement(s) Response**

|                |  |
|----------------|--|
| 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 [or shower].                         |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308+P311      | IF exposed or concerned: Call a POISON CENTER/doctor/physician/first aider.  |
| P310           | Immediately call a POISON CENTER/doctor/physician/first aider.   |
| P363           | Wash contaminated clothing before reuse.   |
| P390           | Absorb spillage to prevent material damage.  |

**Precautionary statement(s) Storage**

|      |                  |
|------|------------------|
| P405 | Store locked up. |
|------|------------------|

**Precautionary statement(s) Disposal**

|      |  |
|------|--|
| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|--|

Not Applicable

**SECTION 3 Composition / information on ingredients****Substances**

See section below for composition of Mixtures

**Mixtures**

| CAS No     | %[weight] | Name                     |
|------------|-----------|--------------------------|
| 7439-92-1  | 58-62     | <u>lead</u>              |
| 7440-31-5  | 38-42     | <u>tin</u>               |
| 7646-85-7  | <10       | <u>zinc chloride</u>     |
| 12125-02-9 | <5        | <u>ammonium chloride</u> |

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; \* EU IOELVs available

**SECTION 4 First aid measures****Description of first aid measures**

|                     |  |
|---------------------|--|
| <b>Eye Contact</b>  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul> |
| <b>Skin Contact</b> | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately flush body and clothes with large amounts of water, using safety shower if available.</li> <li>▶ Quickly remove all contaminated clothing, including footwear.</li> <li>▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>   |

Continued...

|                   |  |
|-------------------|--|
| <b>Inhalation</b> | <ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>  |
| <b>Ingestion</b>  | <ul style="list-style-type: none"> <li>▶ For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>▶ Urgent hospital treatment is likely to be needed.</li> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Transport to hospital or doctor without delay.</li> </ul> |

#### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

For acute or short term repeated exposures to strong acids:

- ▶ Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- ▶ Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling
- ▶ Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- ▶ Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the desiccating action of the acid on proteins in specific tissues.

INGESTION:

- ▶ Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- ▶ **DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.**
- ▶ Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- ▶ Charcoal has no place in acid management.
- ▶ Some authors suggest the use of lavage within 1 hour of ingestion.

SKIN:

- ▶ Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- ▶ Deep second-degree burns may benefit from topical silver sulfadiazine.

EYE:

- ▶ Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. **DO NOT use neutralising agents or any other additives.** Several litres of saline are required.
- ▶ Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- ▶ Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology]

- ▶ Gastric acids solubilise lead and its salts and lead absorption occurs in the small bowel.
- ▶ Particles of less than 1 µm diameter are substantially absorbed by the alveoli following inhalation.
- ▶ Lead is distributed to the red blood cells and has a half-life of 35 days. It is subsequently redistributed to soft tissue & bone-stores or eliminated. The kidney accounts for 75% of daily lead loss; integumentary and alimentary losses account for the remainder.
- ▶ Neurasthenic symptoms are the most common symptoms of intoxication. Lead toxicity produces a classic motor neuropathy. Acute encephalopathy appears infrequently in adults. Diazepam is the best drug for seizures.
- ▶ Whole-blood lead is the best measure of recent exposure; free erythrocyte protoporphyrin (FEP) provides the best screening for chronic exposure. Obvious clinical symptoms occur in adults when whole-blood lead exceeds 80 µg/dL.
- ▶ British Anti-Lewisite is an effective antidote and enhances faecal and urinary excretion of lead. The onset of action of BAL is about 30 minutes and most of the chelated metal complex is excreted in 4-6 hours, primarily in the bile. Adverse reaction appears in up to 50% of patients given BAL in doses exceeding 5 mg/kg. CaNa2EDTA has also been used alone or in concert with BAL as an antidote. D-penicillamine is the usual oral agent for mobilisation of bone lead; its use in the treatment of lead poisoning remains investigational. 2,3-dimercapto-1-propanesulfonic acid (DMPS) and dimercaptosuccinic acid (DMSA) are water soluble analogues of BAL and their effectiveness is undergoing review. As a rule, stop BAL if lead decreases below 50 µg/dL; stop CaNa2EDTA if blood lead decreases below 40 µg/dL or urinary lead drops below 2 mg/24hrs.

[Ellenhorn & Barceloux: Medical Toxicology]

#### BIOLOGICAL EXPOSURE INDEX - BEI

These represent the determinants observed in specimens collected from a healthy worker who has been exposed at the Exposure Standard (ES or TLV):

| Determinant                     | Index   | Sampling Time          | Comments |
|---------------------------------|---|------------------------|----------|
| 1. Lead in blood                | 30 µg/100 ml                                      | Not Critical           |          |
| 2. Lead in urine                | 150 µg/gm creatinine                              | Not Critical           | B        |
| 3. Zinc protoporphyrin in blood | 250 µg/100 ml erythrocytes OR 100 µg/100 ml blood | After 1 month exposure | B        |

B: Background levels occur in specimens collected from subjects **NOT** exposed.

## SECTION 5 Firefighting measures

#### Extinguishing media

- ▶ Water spray or fog.
- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

#### Special hazards arising from the substrate or mixture

|                             |             |
|-----------------------------|-------------|
| <b>Fire Incompatibility</b> | None known. |
|-----------------------------|-------------|

#### Advice for firefighters

|                      |   |
|----------------------|---|
| <b>Fire Fighting</b> | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Use fire fighting procedures suitable for surrounding area.</li> </ul> |
|----------------------|---|

|                              |   |
|------------------------------|---|
|                              | <ul style="list-style-type: none"> <li>▶ <b>Do not approach containers suspected to be hot.</b></li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> <li>▶ If safe to do so, remove containers from path of fire.</li> </ul>  |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered to be a significant fire risk.</li> <li>▶ Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ May emit corrosive, poisonous fumes. May emit acrid smoke.</li> </ul> <p>Decomposition may produce toxic fumes of:</p> <p>hydrogen chloride<br/>nitrogen oxides (NO<sub>x</sub>)<br/>metal oxides</p> |

## SECTION 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures

See section 8

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

|                     |   |
|---------------------|---|
| <b>Minor Spills</b> | <ul style="list-style-type: none"> <li>▶ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.</li> <li>▶ Check regularly for spills and leaks.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> <li>▶ Contain and absorb spill with sand, earth, inert material or vermiculite.</li> <li>▶ Wipe up.</li> <li>▶ Place in a suitable, labelled container for waste disposal.</li> </ul> |
| <b>Major Spills</b> | <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Consider evacuation (or protect in place).</li> <li>▶ Stop leak if safe to do so.</li> <li>▶ Contain spill with sand, earth or vermiculite.</li> </ul>   |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

### Precautions for safe handling

|                          |   |
|--------------------------|---|
| <b>Safe handling</b>     | <ul style="list-style-type: none"> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Avoid contact with moisture.</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ <b>When handling, DO NOT eat, drink or smoke.</b></li> <li>▶ Keep containers securely sealed when not in use.</li> </ul> |
| <b>Other information</b> | <ul style="list-style-type: none"> <li>▶ <b>DO NOT store near acids, or oxidising agents</b></li> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store in a cool, dry, well-ventilated area.</li> <li>▶ Store away from incompatible materials and foodstuff containers.</li> <li>▶ Protect containers against physical damage and check regularly for leaks.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>          |

### Conditions for safe storage, including any incompatibilities

|                           |  |
|---------------------------|--|
| <b>Suitable container</b> | <ul style="list-style-type: none"> <li>▶ <b>DO NOT use aluminium or galvanised containers</b></li> <li>▶ Check regularly for spills and leaks</li> <li>▶ Lined metal can, lined metal pail/ can.</li> <li>▶ Plastic pail.</li> <li>▶ Polyliner drum.</li> <li>▶ Packing as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul> <p>For low viscosity materials</p> <ul style="list-style-type: none"> <li>▶ Drums and jerricans must be of the non-removable head type.</li> <li>▶ Where a can is to be used as an inner package, the can must have a screwed enclosure.</li> </ul> <p>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</p> <ul style="list-style-type: none"> <li>▶ Removable head packaging;</li> <li>▶ Cans with friction closures and</li> <li>▶ low pressure tubes and cartridges</li> </ul> <p>may be used.</p> <p>-</p> <p>Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.</p> |
|---------------------------|--|

**Storage incompatibility**

- ▶ Avoid reaction with oxidising agents
- Zinc chloride:
  - ▶ reacts with water forming an acidic solution (pH about 4); zinc oxychloride may be formed with large amounts of water
  - ▶ reacts violently with strong bases, potassium
  - ▶ attacks metals as fume or in the presence of moisture.
  - ▶ Inorganic acids are generally soluble in water with the release of hydrogen ions. The resulting solutions have pH's of less than 7.0.
  - ▶ Inorganic acids neutralise chemical bases (for example: amines and inorganic hydroxides) to form salts - neutralisation can generate dangerously large amounts of heat in small spaces.
  - ▶ The dissolution of inorganic acids in water or the dilution of their concentrated solutions with additional water may generate significant heat.
  - ▶ The addition of water to inorganic acids often generates sufficient heat in the small region of mixing to cause some of the water to boil explosively. The resulting "bumping" can spatter the acid.
  - ▶ Inorganic acids react with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas.
  - ▶ Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.
  - ▶ Many metals may incandesce, react violently, ignite or react explosively upon addition of concentrated nitric acid.

**SECTION 8 Exposure controls / personal protection****Control parameters****Occupational Exposure Limits (OEL)****INGREDIENT DATA**

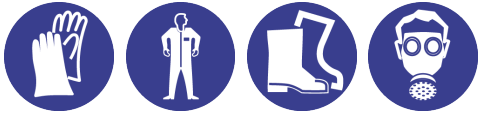
| Source   | Ingredient        | Material name   | TWA                    | STEL                 | Peak          | Notes  |
|--|-------------------|---|------------------------|----------------------|---------------|--|
| New Zealand Workplace Exposure Standards (WES) | lead              | Particulates not otherwise classified respirable dust | 3 mg/m <sup>3</sup>    | Not Available        | Not Available | Not Available  |
| New Zealand Workplace Exposure Standards (WES) | lead              | Inhalable dust (not otherwise classified)             | 10 mg/m <sup>3</sup>   | Not Available        | Not Available | Not Available  |
| New Zealand Workplace Exposure Standards (WES) | lead              | Lead, inorganic dusts and fumes, as Pb                | 0.05 mg/m <sup>3</sup> | Not Available        | Not Available | (bio)-Exposure can also be estimated by biological monitoring. 6.7B-Suspected carcinogen |
| New Zealand Workplace Exposure Standards (WES) | lead              | Respirable dust (not otherwise classified)            | 3 mg/m <sup>3</sup>    | Not Available        | Not Available | Not Available  |
| New Zealand Workplace Exposure Standards (WES) | lead              | Particulates not otherwise classified                 | 10 mg/m <sup>3</sup>   | Not Available        | Not Available | Not Available  |
| New Zealand Workplace Exposure Standards (WES) | tin               | Tin metal   | 2 mg/m <sup>3</sup>    | Not Available        | Not Available | Not Available  |
| New Zealand Workplace Exposure Standards (WES) | zinc chloride     | Zinc chloride fume                                    | 1 mg/m <sup>3</sup>    | 2 mg/m <sup>3</sup>  | Not Available | Not Available  |
| New Zealand Workplace Exposure Standards (WES) | ammonium chloride | Ammonium chloride fume                                | 10 mg/m <sup>3</sup>   | 20 mg/m <sup>3</sup> | Not Available | Not Available  |

**Emergency Limits**

| Ingredient        | TEEL-1                 | TEEL-2                | TEEL-3                  |
|-------------------|------------------------|-----------------------|-------------------------|
| lead              | 0.15 mg/m <sup>3</sup> | 120 mg/m <sup>3</sup> | 700 mg/m <sup>3</sup>   |
| tin               | 6 mg/m <sup>3</sup>    | 67 mg/m <sup>3</sup>  | 400 mg/m <sup>3</sup>   |
| zinc chloride     | 2 mg/m <sup>3</sup>    | 800 mg/m <sup>3</sup> | 4,800 mg/m <sup>3</sup> |
| ammonium chloride | 20 mg/m <sup>3</sup>   | 54 mg/m <sup>3</sup>  | 330 mg/m <sup>3</sup>   |

| Ingredient        | Original IDLH        | Revised IDLH  |
|-------------------|----------------------|---------------|
| lead              | Not Available        | Not Available |
| tin               | Not Available        | Not Available |
| zinc chloride     | 50 mg/m <sup>3</sup> | Not Available |
| ammonium chloride | Not Available        | Not Available |

**Exposure controls**

|   |  |
|---|--|
| <b>Appropriate engineering controls</b> | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> |
| <b>Personal protection</b>              |   |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>▶ Chemical goggles.</li> <li>▶ Full face shield may be required for supplementary but never for primary protection of eyes.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.</li> </ul>  |

|                              |   |
|------------------------------|---|
| <b>Skin protection</b>       | See Hand protection below   |
| <b>Hands/feet protection</b> | <ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> <li>▶ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.</li> </ul> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> |
| <b>Body protection</b>       | See Other protection below  |
| <b>Other protection</b>      | <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ PVC Apron.</li> <li>▶ PVC protective suit may be required if exposure severe.</li> <li>▶ Eyewash unit.</li> <li>▶ Ensure there is ready access to a safety shower.</li> </ul>   |

### Respiratory protection

Type B-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator  |
|------------------------------------|----------------------|----------------------|-------------------------|
| up to 10 x ES                      | B-AUS P2             | -                    | B-PAPR-AUS / Class 1 P2 |
| up to 50 x ES                      | -                    | B-AUS / Class 1 P2   | -                       |
| up to 100 x ES                     | -                    | B-2 P2               | B-PAPR-2 P2 ^           |

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

|   |  |  |                |
|---|--|--|----------------|
| <b>Appearance</b>                                   | Grey odourless paste; partly mixes with water. |  |                |
| <b>Physical state</b>                               | Liquid   | <b>Relative density (Water = 1)</b>            | 3.0            |
| <b>Odour</b>  | Not Available                                  | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available                                  | <b>Auto-ignition temperature (°C)</b>          | Not Available  |
| <b>pH (as supplied)</b>                             | Not Applicable                                 | <b>Decomposition temperature (°C)</b>          | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | Not Available                                  | <b>Viscosity (cSt)</b>                         | Not Applicable |
| <b>Initial boiling point and boiling range (°C)</b> | Not Available                                  | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | Not Applicable                                 | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Available                                  | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | Not Applicable                                 | <b>Oxidising properties</b>                    | Not Available  |
| <b>Upper Explosive Limit (%)</b>                    | Not Applicable                                 | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available  |
| <b>Lower Explosive Limit (%)</b>                    | Not Applicable                                 | <b>Volatile Component (%vol)</b>               | Not Available  |
| <b>Vapour pressure (kPa)</b>                        | Not Available                                  | <b>Gas group</b>                               | Not Available  |
| <b>Solubility in water</b>                          | Partly miscible                                | <b>pH as a solution (Not Available%)</b>       | Not Available  |
| <b>Vapour density (Air = 1)</b>                     | Not Available                                  | <b>VOC g/L</b>                                 | Not Available  |

## SECTION 10 Stability and reactivity

|   |   |
|---|---|
| <b>Reactivity</b>                         | See section 7                                   |
| <b>Chemical stability</b>                 | ▶ Contact with alkaline material liberates heat |
| <b>Possibility of hazardous reactions</b> | See section 7                                   |
| <b>Conditions to avoid</b>                | See section 7                                   |
| <b>Incompatible materials</b>             | See section 7                                   |
| <b>Hazardous decomposition products</b>   | See section 5                                   |

## SECTION 11 Toxicological information

## Information on toxicological effects

|                     |  |
|---------------------|--|
| <b>Inhaled</b>      | Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness.   |
| <b>Ingestion</b>    | Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.<br>The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.  |
| <b>Skin Contact</b> | Skin contact with the material may be harmful; systemic effects may result following absorption.<br>The material can produce chemical burns following direct contact with the skin.<br>Open cuts, abraded or irritated skin should not be exposed to this material<br>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.  |
| <b>Eye</b>          | The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.<br>If applied to the eyes, this material causes severe eye damage.  |
| <b>Chronic</b>      | Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems. Ample evidence exists that developmental disorders are directly caused by human exposure to the material.<br>Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.<br>Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining. Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs.<br>Lead, in large amounts, can affect the blood, nervous system, heart, glands, immune system and digestive system. Anaemia may occur. |

| SOLDER PASTE      | TOXICITY  | IRRITATION   |
|-------------------|---|--|
|                   | Not Available   | Not Available  |
| lead              | TOXICITY  | IRRITATION   |
|                   | dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>   | Not Available  |
|                   | Inhalation(Rat) LC50; >5.05 mg/4h <sup>[1]</sup>  |  |
|                   | Oral (Rat) LD50; >2000 mg/kg <sup>[1]</sup>   |  |
| tin               | TOXICITY  | IRRITATION   |
|                   | dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>   | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>  |
|                   | Inhalation(Rat) LC50; >4.75 mg/4h <sup>[1]</sup>  | Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |
|                   | Oral (Rat) LD50; >2000 mg/kg <sup>[1]</sup>   |  |
| zinc chloride     | TOXICITY  | IRRITATION   |
|                   | dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>   | Not Available  |
|                   | Oral (Rat) LD50; 350 mg/kg <sup>[2]</sup>   |  |
| ammonium chloride | TOXICITY  | IRRITATION   |
|                   | dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>   | Eye (rabbit): 100 mg SEVERE                                      |
|                   | Oral (Rat) LD50; 1650 mg/kg <sup>[2]</sup>  | Eye (rabbit): 500 mg/24h SEVERE                                  |
| <b>Legend:</b>    | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances |  |

|                                  |   |
|----------------------------------|---|
| <b>LEAD</b>                      | WARNING: Lead is a cumulative poison and has the potential to cause abortion and intellectual impairment to unborn children of pregnant workers.  |
| <b>TIN</b>                       | No significant acute toxicological data identified in literature search.  |
| <b>ZINC CHLORIDE</b>             | Mutation DNA Damage Human. Equivocal tumorigenic agent by RTECS criteria.<br>For acid mists, aerosols, vapours<br>Test results suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airway from direct exposure to inhaled acidic mists (which also protects the stomach lining from the hydrochloric acid secreted there).<br>The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.<br>The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function.<br>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. |
| <b>AMMONIUM CHLORIDE</b>         | The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.  |
| <b>Acute Toxicity</b>            | ✓   |
| <b>Carcinogenicity</b>           | ✓   |
| <b>Skin Irritation/Corrosion</b> | ✓   |
| <b>Reproductivity</b>            | ✓   |



|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| Serious Eye Damage/Irritation     | ✓ | STOT - Single Exposure   | ✓ |
| Respiratory or Skin sensitisation | ✗ | STOT - Repeated Exposure | ✓ |
| Mutagenicity                      | ✓ | Aspiration Hazard        | ✗ |

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
 ✓ – Data available to make classification

## SECTION 12 Ecological information

### Toxicity

| SOLDER PASTE | Endpoint      | Test Duration (hr) | Species       | Value         | Source        |
|--------------|---------------|--------------------|---------------|---------------|---------------|
|              | Not Available | Not Available      | Not Available | Not Available | Not Available |

| lead | Endpoint  | Test Duration (hr) | Species                       | Value           | Source |
|------|-----------|--------------------|-------------------------------|-----------------|--------|
|      | NOEC(ECx) | Not Available      | Crustacea                     | 0.051mg/L       | 5      |
|      | EC50      | 72h                | Algae or other aquatic plants | 1.191mg/L       | 4      |
|      | LC50      | 96h                | Fish                          | 1.17mg/l        | 4      |
|      | EC50      | 96h                | Algae or other aquatic plants | 0.282-0.864mg/l | 4      |

| tin | Endpoint      | Test Duration (hr) | Species       | Value         | Source        |
|-----|---------------|--------------------|---------------|---------------|---------------|
|     | Not Available | Not Available      | Not Available | Not Available | Not Available |

| zinc chloride | Endpoint  | Test Duration (hr) | Species                       | Value           | Source |
|---------------|-----------|--------------------|-------------------------------|-----------------|--------|
|               | BCF       | 1680h              | Fish                          | 58-116          | 7      |
|               | NOEC(ECx) | 672h               | Algae or other aquatic plants | 0.005-0.015mg/L | 4      |
|               | EC50      | 72h                | Algae or other aquatic plants | 0.011mg/L       | 4      |
|               | EC50      | 48h                | Crustacea                     | 0.56mg/L        | 5      |
|               | LC50      | 96h                | Fish                          | 0.023-0.031mg/l | 4      |

| ammonium chloride | Endpoint  | Test Duration (hr) | Species                       | Value           | Source |
|-------------------|-----------|--------------------|-------------------------------|-----------------|--------|
|                   | EC50      | 72h                | Algae or other aquatic plants | >76.6mg/l       | 4      |
|                   | EC50      | 48h                | Crustacea                     | 0.075-0.126mg/l | 4      |
|                   | NOEC(ECx) | Not Available      | Fish                          | 0.002mg/L       | 5      |
|                   | LC50      | 96h                | Fish                          | 0.14mg/l        | 4      |

**Legend:** *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

Prevent, by any means available, spillage from entering drains or water courses.

**DO NOT discharge into sewer or waterways.**

### Persistence and degradability

| Ingredient    | Persistence: Water/Soil | Persistence: Air |
|---------------|-------------------------|------------------|
| zinc chloride | HIGH                    | HIGH             |

### Bioaccumulative potential

| Ingredient    | Bioaccumulation    |
|---------------|--------------------|
| zinc chloride | HIGH (BCF = 16000) |

### Mobility in soil

| Ingredient    | Mobility          |
|---------------|-------------------|
| zinc chloride | LOW (KOC = 23.74) |

## SECTION 13 Disposal considerations

### Waste treatment methods

| Product / Packaging disposal |  |
|------------------------------|--|
|                              | ▸ Containers may still present a chemical hazard/ danger when empty. |

Continued...



- ▶ Return to supplier for reuse/ recycling if possible.
- Otherwise:
  - ▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
  - ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product.
  - ▶ **DO NOT allow wash water from cleaning or process equipment to enter drains.**
  - ▶ It may be necessary to collect all wash water for treatment before disposal.
  - ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
  - ▶ Where in doubt contact the responsible authority.
  - ▶ Recycle wherever possible.
  - ▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
  - ▶ Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation with soda-ash or soda-lime followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).
  - ▶ Decontaminate empty containers with 5% aqueous sodium hydroxide or soda ash, followed by water. Observe all label safeguards until containers are cleaned and destroyed.

Ensure that the hazardous substance is disposed in accordance with the Hazardous Substances (Disposal) Notice 2017

### Disposal Requirements

Packages that have been in direct contact with the hazardous substance must be only disposed if the hazardous substance was appropriately removed and cleaned out from the package. The package must be disposed according to the manufacturer's directions taking into account the material it is made of. Packages which hazardous content have been appropriately treated and removed may be recycled.



The hazardous substance must only be disposed if it has been treated by a method that changed the characteristics or composition of the substance and it is no longer hazardous.

Only dispose to the environment if a tolerable exposure limit has been set for the substance.

Only deposit the hazardous substance into or onto a landfill or sewage facility or incinerator, where the hazardous substance can be handled and treated appropriately.

## SECTION 14 Transport information

### Labels Required

|                  |   |
|------------------|---|
|                  |   |
| Marine Pollutant |  |
| HAZCHEM          | 2X  |

### Land transport (UN)

|                              |  |                |
|------------------------------|--|----------------|
| UN number                    | 1760   |                |
| UN proper shipping name      | CORROSIVE LIQUID, N.O.S. (contains zinc chloride and lead) |                |
| Transport hazard class(es)   | Class  | 8              |
|                              | Subrisk  | Not Applicable |
| Packing group                | III  |                |
| Environmental hazard         | Environmentally hazardous                                  |                |
| Special precautions for user | Special provisions   | 223; 274       |
|                              | Limited quantity   | 5 L            |

### Air transport (ICAO-IATA / DGR)

|                              |  |                |
|------------------------------|--|----------------|
| UN number                    | 1760   |                |
| UN proper shipping name      | Corrosive liquid, n.o.s. * (contains zinc chloride and lead) |                |
| Transport hazard class(es)   | ICAO/IATA Class  | 8              |
|                              | ICAO / IATA Subrisk  | Not Applicable |
|                              | ERG Code   | 8L             |
| Packing group                | III  |                |
| Environmental hazard         | Environmentally hazardous                                    |                |
| Special precautions for user | Special provisions   | A3 A803        |
|                              | Cargo Only Packing Instructions                              | 856            |
|                              | Cargo Only Maximum Qty / Pack                                | 60 L           |
|                              | Passenger and Cargo Packing Instructions                     | 852            |
|                              | Passenger and Cargo Maximum Qty / Pack                       | 5 L            |
|                              | Passenger and Cargo Limited Quantity Packing Instructions    | Y841           |

Passenger and Cargo Limited Maximum Qty / Pack

1 L

**Sea transport (IMDG-Code / GGVSee)**

|                                     |  |                |
|-------------------------------------|--|----------------|
| <b>UN number</b>                    | 1760   |                |
| <b>UN proper shipping name</b>      | CORROSIVE LIQUID, N.O.S. (contains zinc chloride and lead) |                |
| <b>Transport hazard class(es)</b>   | IMDG Class   | 8              |
|                                     | IMDG Subrisk   | Not Applicable |
| <b>Packing group</b>                | III  |                |
| <b>Environmental hazard</b>         | Marine Pollutant   |                |
| <b>Special precautions for user</b> | EMS Number   | F-A, S-B       |
|                                     | Special provisions   | 223 274        |
|                                     | Limited Quantities   | 5 L            |

**Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

**Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code**

| Product name      | Group         |
|-------------------|---------------|
| lead              | Not Available |
| tin               | Not Available |
| zinc chloride     | Not Available |
| ammonium chloride | Not Available |

**Transport in bulk in accordance with the ICG Code**

| Product name      | Ship Type     |
|-------------------|---------------|
| lead              | Not Available |
| tin               | Not Available |
| zinc chloride     | Not Available |
| ammonium chloride | Not Available |

**SECTION 15 Regulatory information****Safety, health and environmental regulations / legislation specific for the substance or mixture**

This substance is to be managed using the conditions specified in an applicable Group Standard

| HSR Number | Group Standard   |
|------------|--|
| HSR002493  | Additives Process Chemicals and Raw Materials Corrosive Carcinogenic Group Standard 2020 |
| HSR100757  | Veterinary Medicines Limited Pack Size Finished Dose Group Standard 2020                 |

Please refer to Section 8 of the SDS for any applicable tolerable exposure limit or Section 12 for environmental exposure limit.

**lead is found on the following regulatory lists**

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2B: Possibly carcinogenic to humans

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

**tin is found on the following regulatory lists**

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1: Carcinogenic to humans

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

**zinc chloride is found on the following regulatory lists**

New Zealand Approved Hazardous Substances with controls

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

**ammonium chloride is found on the following regulatory lists**

Continued...

FEI Equine Prohibited Substances List - Banned Substances  
 FEI Equine Prohibited Substances List (EPSL)  
 New Zealand Approved Hazardous Substances with controls  
 New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals

New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data  
 New Zealand Inventory of Chemicals (NZIoC)  
 New Zealand Workplace Exposure Standards (WES)

#### Hazardous Substance Location

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

| Hazard Class | Quantity (Compliance Certificate) | Quantity (Compliance Certificate - Farms >4 ha) |
|--------------|-----------------------------------|---|
| 8.2B         | 250 kg or 250 L                   | 3500 kg or 3500 L                               |

#### Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

| Class of substance | Quantities     |
|--------------------|----------------|
| Not Applicable     | Not Applicable |

Refer Group Standards for further information

#### Maximum quantities of certain hazardous substances permitted on passenger service vehicles

Subject to Regulation 13.14 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

| Hazard Class | Gas (aggregate water capacity in mL) | Liquid (L) | Solid (kg) | Maximum quantity per package for each classification |
|--------------|--------------------------------------|------------|------------|--|
| 8.2B         | 120                                  | 1          | 3          |  |

#### Tracking Requirements

Not Applicable

#### National Inventory Status

| National Inventory                               | Status  |
|--|---|
| Australia - AIIIC / Australia Non-Industrial Use | Yes   |
| Canada - DSL                                     | Yes   |
| Canada - NDSL                                    | No (lead; tin; zinc chloride; ammonium chloride)  |
| China - IECSC                                    | Yes   |
| Europe - EINEC / ELINCS / NLP                    | Yes   |
| Japan - ENCS                                     | No (lead; tin)  |
| Korea - KECI                                     | Yes   |
| New Zealand - NZIoC                              | Yes   |
| Philippines - PICCS                              | Yes   |
| USA - TSCA                                       | Yes   |
| Taiwan - TCSI                                    | Yes   |
| Mexico - INSQ                                    | Yes   |
| Vietnam - NCI                                    | Yes   |
| Russia - FBEPH                                   | Yes   |
| <b>Legend:</b>                                   | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

#### SECTION 16 Other information

|                      |            |
|----------------------|------------|
| <b>Revision Date</b> | 01/11/2019 |
| <b>Initial Date</b>  | 27/01/2010 |

#### SDS Version Summary

| Version | Date of Update | Sections Updated   |
|---------|----------------|--|
| 4.1     | 01/11/2019     | One-off system update. NOTE: This may or may not change the GHS classification |

#### Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

#### Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average  
 PC—STEL: Permissible Concentration-Short Term Exposure Limit  
 IARC: International Agency for Research on Cancer  
 ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit  
TEEL: Temporary Emergency Exposure Limit.  
IDLH: Immediately Dangerous to Life or Health Concentrations  
ES: Exposure Standard  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value  
LOD: Limit Of Detection  
OTV: Odour Threshold Value  
BCF: BioConcentration Factors  
BEI: Biological Exposure Index  
AII: Australian Inventory of Industrial Chemicals  
DSL: Domestic Substances List  
NDSL: Non-Domestic Substances List  
IECSC: Inventory of Existing Chemical Substance in China  
EINECS: European INventory of Existing Commercial chemical Substances  
ELINCS: European List of Notified Chemical Substances  
NLP: No-Longer Polymers  
ENCS: Existing and New Chemical Substances Inventory  
KECI: Korea Existing Chemicals Inventory  
NZIoC: New Zealand Inventory of Chemicals  
PICCS: Philippine Inventory of Chemicals and Chemical Substances  
TSCA: Toxic Substances Control Act  
TCSI: Taiwan Chemical Substance Inventory  
INSQ: Inventario Nacional de Sustancias Químicas  
NCI: National Chemical Inventory  
FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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