

# **DLM Wallace**

 Chemwatch Hazard Alert Code: 3

 Chemwatch: 14110

 Version No: 8.1

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

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

Product Identifier		
Product name	Consolidated Alloys Bakers Solderine Paste	
Chemical Name	Not Applicable	
Synonyms	Not Available	
Proper shipping name	CORROSIVE LIQUID, N.O.S. (contains zinc chloride)	
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	Soldering flux in paste form.

# Details of the manufacturer or 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	www.dlmwallace.co.nz	
Email	enquiries@dlmwallace.co.nz	

#### Emergency telephone number

Association / Organisation	National Poisons Centre
Emergency telephone number(s)	0800 764 766
Other emergency telephone number(s)	Not Available

# **SECTION 2 Hazards identification**

# Classification of the substance or mixture

Classification <sup>[1]</sup>	Corrosive to Metals Category 1, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1, Carcinogenicity Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 2, Hazardous to Terrestrial Vertebrates	
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 (oral), 8.2B, 8.3A, 6.7A, 9.1B, 9.3C	

### Label elements

	¥2

Signal word D	anger
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# Hazard statement(s)

Hazar

H290	May be corrosive to metals.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H350	May cause cancer.
H411	Toxic to aquatic life with long lasting effects.
H433	Hazardous to terrestrial vertebrates.

# Precautionary statement(s) Prevention

P201	Obtain special instructions before use.	
P260	Do not breathe mist/vapours/spray.	
P264	Wash all exposed external body areas thoroughly after handling.	
P280	Wear protective gloves, protective clothing, eye protection and face protection.	
P234	Keep only in original packaging.	
P270	Do not eat, drink or smoke when using this product.	
P273	Avoid release to the environment.	

# Precautionary statement(s) Response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If more than 15 mins from Doctor, INDUCE VOMITING (if conscious).	
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].	
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
IF exposed or concerned: Get medical advice/ attention.	
Immediately call a POISON CENTER/doctor/physician/first aider.	
Wash contaminated clothing before reuse.	
Absorb spillage to prevent material damage.	

Precautionary statement(s) Storage		
P405	Store locked up.	
Processfiences attempts (a) Dispectal		

# Precautionary statement(s) Disposal

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

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

#### Substances

See section below for composition of Mixtures

#### Mixtures

CAS No	%[weight]	Name
8009-03-8.	50-60	petrolatum
8012-95-1.	10-15	paraffin oils
7646-85-7	10-15	zinc chloride
12125-02-9	<5	ammonium chloride
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 measure	25
Eye Contact	<ul> <li>If this product comes in contact with the eyes:</li> <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>
Skin Contact	<ul> <li>If skin or hair contact occurs:</li> <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> <li>In case of burns:</li> <li>Immediately apply cold water to burn either by immersion or wrapping with saturated clean cloth.</li> <li>DO NOT remove or cut away clothing over burnt areas. DO NOT pull away clothing which has adhered to the skin as this can cause further injury.</li> <li>DO NOT break blister or remove solidified material.</li> <li>Quickly cover wound with dressing or clean cloth to help prevent infection and to ease pain.</li> <li>For large burns, sheets, towels or pillow slips are ideal; leave holes for eyes, nose and mouth.</li> <li>DO NOT apply ointments, oils, butter, etc. to a burn under any circumstances.</li> <li>Water may be given in small quantities if the person is conscious.</li> <li>Alcohol is not to be given under any circumstances.</li> <li>Reassure.</li> <li>Treat for shock by keeping the person warm and in a lying position.</li> <li>Seek medical aid and advise medical personnel in advance of the cause and extent of the injury and the estimated time of arrival of the patient.</li> </ul>
Inhalation	<ul> <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>
Ingestion	Avoid giving milk or oils.

Avoid giving alcohol.
For advice, contact a Poisons Information Centre or a doctor at once.
Urgent hospital treatment is likely to be needed.
If swallowed do NOT induce vomiting.
If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent
aspiration

- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
  - Transport to hospital or doctor without delay.
  - If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

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

- For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:
  - Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
  - Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO2 50 mm Hg) should be intubated.
  - Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
  - A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
  - Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology] Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used

The patient aspirated during voluming that produce during induction of the ended and the induction of prantacoupling voluming that produce during volume and an ended and the storage of the ended and the ended and

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 dessicating 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 conjuctival 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]

- Heavy and persistent skin contamination over many years may lead to dysplastic changes. Pre-existing skin disorders may be aggravated by exposure to this product.
- In general, emesis induction is unnecessary with high viscosity, low volatility products, i.e. most oils and greases.
- + High pressure accidental injection through the skin should be assessed for possible incision, irrigation and/or debridement.

**NOTE:** Injuries may not seem serious at first, but within a few hours tissue may become swollen, discoloured and extremely painful with extensive subcutaneous necrosis. Product may be forced through considerable distances along tissue planes.

#### **SECTION 5 Firefighting measures**

#### Extinguishing media

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

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

Fire Incompatibility	Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
Advice for firefighters	
Fire Fighting	<ul> <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> <li>Do not approach containers suspected to be hot.</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>
Fire/Explosion Hazard	<ul> <li>Combustible.</li> <li>Slight fire hazard when exposed to heat or flame.</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 acrid smoke and corrosive fumes.</li> <li>Combustion products include:</li> <li>carbon monoxide (CO)</li> <li>carbon dioxide (CO2)</li> <li>hydrogen chloride</li> <li>phosgene</li> <li>other pyrolysis products typical of burning organic material.</li> </ul>
	phosgene other pyrolysis products typical of burning organic material.

NOTE: Burns with intense heat. Produces melting, flowing, burning liquid and dense acrid black smoke.

# **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

Minor Spills	<ul> <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>Slippery when spilt.</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>
Major Spills	<ul> <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 all means available, spillage from entering drains or water courses.</li> <li>Consider evacuation (or protect in place).</li> <li>No smoking, naked lights or ignition sources.</li> <li>Increase ventilation.</li> <li>Slippery when spilt.</li> </ul>

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

# **SECTION 7 Handling and storage**

#### Precautions for safe handling

Safe handling	<ul> <li>Containers, even those that have been emptied, may contain explosive vapours.</li> <li>Do NOT cut, drill, grind, weld or perform similar operations on or near containers.</li> <li>Electrostatic discharge may be generated during pumping - this may result in fire.</li> <li>Ensure electrical continuity by bonding and grounding (earthing) all equipment.</li> <li>Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (&lt;=1 m/sec until fill pipe submerged to twice its diameter, then &lt;= 7 m/sec).</li> <li>Avoid splash filling.</li> <li>Do NOT use compressed air for filling discharging or handling operations.</li> <li>Wait 2 minutes after tank filling (for tanks such as those on road tanker vehicles) before opening hatches or manholes.</li> <li>Wait 30 minutes after tank filling ( for large storage tanks)</li> <li>before opening hatches or manholes.</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 micompatible materials.</li> <li>When handling, DO NOT eat, drink or smoke.</li> <li>Keep containers securely sealed when not in use.</li> <li>DO NOT eat, drink or stay in contact with skin</li> </ul>
Other information	<ul> <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

Suitable container	<ul> <li>DO NOT use aluminium or galvanised containers</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> <li>For low viscosity materials</li> <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> <li>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</li> <li>Removable head packaging;</li> <li>Cans with friction closures and</li> <li>low pressure tubes and cartridges may be used.</li> <li>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.</li> </ul>
Storage incompatibility	<ul> <li>Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.</li> <li>Segregate from alkalies, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.</li> <li>Avoid strong bases.</li> </ul>

Avoid reaction with oxidising agents

### **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)	petrolatum	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	(om) - Sampled by a method that does not collect vapour	
New Zealand Workplace Exposure Standards (WES)	paraffin oils	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	(om) - Sampled by a method that does not collect vapour	
New Zealand Workplace Exposure Standards (WES)	zinc chloride	Zinc chloride fume	1 mg/m3	2 mg/m	3 Not Available	Not Available	
New Zealand Workplace Exposure Standards (WES)	ammonium chloride	Ammonium chloride fume	10 mg/m3	20 mg/m3	Not Available	Not Available	
Ingredient	Original IDLH	Original IDLH			Revised IDLH		
petrolatum	2,500 mg/m3	2,500 mg/m3			Not Available		
paraffin oils	2,500 mg/m3				Not Available		
zinc chloride	50 mg/m3				Not Available		
ammonium chloride	Not Available				Not Available		

#### Exposure controls

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: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that Appropriate engineering strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The controls design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure. For molten materials: Provide mechanical ventilation; in general such ventilation should be provided at compounding/ converting areas and at fabricating/ filling work stations where the material is heated. Local exhaust ventilation should be used over and in the vicinity of machinery involved in handling the molten material. Individual protection measures, such as personal protective equipment Chemical goggles Full face shield may be required for supplementary but never for primary protection of eyes. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, Eye and face protection 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. Skin protection See Hand protection below Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. 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 Hands/feet protection advance and has therefore to be checked prior to the application. 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. 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. Body protection See Other protection below Other protection Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent] Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filtertype respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. [AS/NZS 1715 or national equivalent] Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely. Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood. When handling hot or molten liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. Overalls. PVC Apron. PVC protective suit may be required if exposure severe. Evewash unit.

Ensure there is ready access to a safety shower.

#### **Respiratory protection**

Type AB-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	AB-AUS P2	-	AB-PAPR-AUS / Class 1 P2
up to 50 x ES	-	AB-AUS / Class 1 P2	-
up to 100 x ES	-	AB-2 P2	AB-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(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.

The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.

• Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

For molten materials: 76ab-p()

# SECTION 9 Physical and chemical properties

# Information on basic physical and chemical properties

Appearance	Pink odourless waxy paste; partly mixes with water.			
Physical state	Liquid	Relative density (Water = 1)	Not Applicable	
Odour	Not Available	Partition coefficient n-octanol / water	Not Available	
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available	
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	Not Available	
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available	
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable	
Flash point (°C)	Not Applicable	Taste	Not Available	
Evaporation rate	Not Available	Explosive properties	Not Available	
Flammability	Not Applicable	Oxidising properties	Not Available	
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Available	
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available	
Vapour pressure (kPa)	Not Available	Gas group	Not Available	
Solubility in water	Partly miscible	pH as a solution (1%)	Not Available	
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available	
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available	
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available	
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available	

#### **SECTION 10 Stability and reactivity**

Reactivity	See section 7	
Chemical stability	Contact with alkaline material liberates heat	
Possibility of hazardous reactions	See section 7	
Conditions to avoid	See section 7	
Incompatible materials	See section 7	
Hazardous decomposition products	See section 5	

### **SECTION 11 Toxicological information**

Inhaled

### Information on toxicological effects

Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.

Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.

Inhaling high concentrations of mixed hydrocarbons can cause narcosis, with nausea, vomiting and lightheadedness. Low molecular weight (C2-C12) hydrocarbons can irritate mucous membranes and cause incoordination, giddiness, nausea, vertigo, confusion, headache, appetite

	loss, drowsiness, tremors and stupor. Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal. Corrosive acids can cause irritation of the respiratory tract, with coughing, choking and mucous membrane damage. There may be dizziness, headache, nausea and weakness.
Ingestion	The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733) Accidental ingestion of the material may be damaging to the health of the individual.
Skin Contact	The material can produce chemical burns following direct contact with the skin. Irritation and skin reactions are possible with sensitive skin Open cuts, abraded or irritated skin should not be exposed to this material The material may accentuate any pre-existing dermatitis condition 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.
Eye	The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. If applied to the eyes, this material causes severe eye damage.
Chronic	There is ample evidence that this material can be regarded as being able to cause cancer in humans based on experiments and other information. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. 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. Chronic minor exposure to hydrogen chloride (HCI) vapour or fume may cause discolouration or erosion of the teeth, bleeding of the nose and gums; and ulceration of the mucous membranes of the nose. Workers exposed to hydrochloric acid suffered from stomach inflammation and a number of cases of chronic bronchitis (airway inflammation) have also been reported. Repeated or prolonged exposure to dilute solutions of hydrogen chloride thay cause skin inflammation. Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin. Welding or flame cutting of metals with zinc or zinc dust coatings may result in inhalation of zinc oxide fume; high concentrations of zinc oxide fume may result in "metal fume fever"; also known as "brass chills", an industrial disease of short duration. [1.L.O] Symptoms include malaise, fever, weakness, nausea and may appear quickly if operations occur in enclosed or poorly ventilated areas. Oil may contact the skin or be inhaled. Extended exposure can lead to eczema, inflammation of hair follicles, pigmentation of the face and warts on the soles of the feet.

Consolidated Alloys Bakers Solderine Paste	TOXICITY	IRRITATION	
	Not Available	Not Available	
	ΤΟΧΙΟΙΤΥ	IRRITATION	
petrolatum	Dermal (rabbit) LD50: >2000 mg/kg <sup>[1]</sup>	Not Available	
	Oral (Rat) LD50: >5000 mg/kg <sup>[1]</sup>		
	τοχιζιτγ	IRRITATION	
	Inhalation (Rat) LC50: 2062 ppm4h <sup>[2]</sup>	Eye (Rodent - rabbit): 100mg/1H - Mild	
paraffin oils	Oral (Mouse) LD50; 22000 mg/kg <sup>[2]</sup>	Eye (Rodent - rabbit): 500mg - Moderate	
		Skin (Rodent - guinea pig): 100mg/24H - Mild	
		Skin (Rodent - rabbit): 100mg/24H - Mild	
	ΤΟΧΙΟΙΤΥ	IRRITATION	
zinc chloride	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Skin (Rodent - rabbit): 1%/5D - Severe	
	Oral (Rat) LD50: 350 mg/kg <sup>[2]</sup>	Skin: adverse effect observed (irritating) <sup>[1]</sup>	
	ΤΟΧΙΟΙΤΥ	IRRITATION	
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye (Rodent - rabbit): 100mg - Severe	
ammonium chloride	Oral (Rat) LD50: 1650 mg/kg <sup>[2]</sup>	Eye (Rodent - rabbit): 500mg/24H - Mild	
		Eye: adverse effect observed (irritating) <sup>[1]</sup>	
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>	
Legend:	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		
	Dermal (rabbit) TDLo: 100 ml/kg/30D-I Tumorigenic effe "Hydrocarbon wax" describes a group of solid C20 to C3 small quantity will pass through undigested.	cts. 36 paraffinic hydrocarbons which are not absorbed in the gastro-intestinal tract and in	

 PETROLATUM
 small quantity will pass through undigested.

 Refined waxes are used widely in cosmetic surgery over many years and this demonstrates their low toxicity; many guidelines exist for their safe use. However, occasionally there are reports of adverse effects with these products. Deposits under the skin, referred to as "paraffinoma" have been described, but these are not normally associated with other progressive changes.

 Long-term toxicity studies indicated that petroleum-derived paraffin and microcrystalline waxes are non-toxic and do not cause cancer.

 PARAFFIN OILS
 Equivocal tumorigen by RTECS criteria<br/>Paraffin oil (boiling in the kerosene boiling range) can pose certain health hazards, especially if it is inhaled or ingested and also due to repeated or prolonged skin exposure. Inhalation of paraffin oil can irritate the respiratory tract, and cause cough, shortness of breath, and occasionally, lead to hydrocarbon pneumonitis. On the other hand, prolonged skin exposure to this oil can cause skin irritation, which can lead to contact dermatitis, especially in individuals who already have skin disorders or diseases. Ingestion of paraffin oil can cause upset of the intestinal tract.<br/>Paraffin oil, which has not been highly refined, is often considered as a carcinogen or cancer causing agent. Therefore, adequate precaution is required, while using paraffin oil. Ideally, liquid paraffin oil should be stored in a cool and well-ventilated place n a tightly closed container.<br/>As some paraffin oil is highly inflammable, be sure to keep it away from any source of heat or ignition and also out of direct sunlight.

	The materials included in the Lubricating Base Oils of The potential toxicity of a specific distillate base oil is • The adverse effects of these materials are associal • The levels of the undesirable components are inverved • Distillate base oils receiving the same degree or es • The potential toxicity of residual base oils is indeped • The reproductive and developmental toxicity of the Unrefined & mildly refined distillate base oils contain molecules and have shown the highest potential car oils are produced from unrefined and mildly refined and mildly refined base oils, the highly and severely demonstrated very low mammalian toxicity. Testing of results, supporting the belief that these materials lace their molecular size. Toxicity testing has consistently shown that lubricatin base oil s mutagenic and carcinogenic potential corr DMSO extractables (e.g. IP346 assay), both charace For highly and severely refined distillate base oils: In animal studies, the acute, oral, semilethal dose is semilethal concentration for inhalation is 2.18 to >4 tested for skin and eye irritation. Testing for sensitias effects to the testes and lung have been observed, a found to cause reproductive toxicity or significant into chromosome aberrations.	category are related from both proce is inversely related to the severity or in ted with undesirable components, ar insely related to the degree of process kent of processing will have similar the andent of the degree of processing the distillate base oils is inversely related in the highest levels of undesirable co- ocer-causing and mutation-causing a oils by removing or transforming und refined distillate base oils have a sm of residual oils for mutation-causing a sk biologically active components or the ing base oils have low acute toxicities relates with its 3-7 ring polycyclic aro teristics that are directly related to the space of the materials have varied from ation has been negative. The effects as well as the formation of granuloma creases in birth defects. They are als	ss and physical-chemical perspectives; extent of processing the oil has undergone, since: ad sing; oxicities; te oil receives. d to the degree of processing. mponents, have the largest variation of hydrocarbon ctivities. Highly and severely refined distillate base esirable components. In comparison to unrefined taller range of hydrocarbon molecules and have and cancer-causing potential has shown negative the components are largely non-bioavailable due to s. Numerous tests have shown that a lubricating matic compound (PAC) content, and the level of e degree/conditions of processing. hal dose by skin contact is >2g/kg body weight. The n "non-irritating" to "moderately irritating" when of repeated exposure vary by species; in animals, as. In animals, these substances have not been o not considered to cause cancer, mutations or
ZINC CHLORIDE	Mutation DNA Damage Human. Equivocal tumorigenic agent by RTECS criteria. For acid mists, aerosols, vapours 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). The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. 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 irritant gubstance. 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. The material may produce respiratory tract irritation, and result in damage to the lung including reduced lung function. The material may crouse skin irritation after prolonged or repeated exposur		
AMMONIUM CHLORIDE	The material may produce severe irritation to the ey produce conjunctivitis.	e causing pronounced inflammation.	Repeated or prolonged exposure to irritants may
Acute Toxicity	×	Carcinogenicity	×
Skin Irritation/Corrosion	*	Reproductivity	×
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	×
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

# **SECTION 12 Ecological information**

kicity					
	Endpoint	Test Duration (hr)	Species	Value	Source
Consolidated Alloys Bakers Solderine Paste	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
petrolatum	Not Available	Not Available	Not Available	Not Available	Not Available
	Endpoint	Test Duration (hr)	Species	Value	Source
paraffin oils	EC50	48h	Crustacea	0.016- 0.027mg/L	4
	EC50(ECx)	48h	Crustacea	0.016- 0.027mg/L	4
	LC50	96h	Fish	>100mg/L	4
zinc chloride	Endpoint	Test Duration (hr)	Species	Value	Source
	BCF	1680h	Fish	58-116	7
	EC50	72h	Algae or other aquatic plants	0.011mg/L	4
	EC50	48h	Crustacea	0.011- 0.094mg/L	4
	LC50	96h	Fish	0.023- 0.031mg/l	4

Legend:

Data either not available or does not fill the criteria for classification
 Data available to make classification

	EC50	96h	Algae or other aquatic plants	0.026mg/L	4
	NOEC(ECx)	96h	Algae or other aquatic plants	0.05mg/L	1
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>76.6mg/l	4
ammonium chloride	EC50	48h	Crustacea	0.075- 0.126mg/l	4
	LC50	96h	Fish	0.002- 0.005mg/L	4
	NOEC(ECx)	Not Available	Fish	0.002mg/L	5
	EC50	96h	Algae or other aquatic plants	58.476- 59.706mg/L	4
Legend:	Extracted from a Ecotox database (Japan) - Biocor	. IUCLID Toxicity Data 2. Europe ECHA Regi - Aquatic Toxicity Data 5. ECETOC Aquatic I centration Data 8. Vendor Data	stered Substances - Ecotoxicological Inform Hazard Assessment Data 6. NITE (Japan) -	nation - Aquatic Toxicity Bioconcentration Data	4. US EP, 7. METI

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.

When spilled this product may act as a typical oil, causing a film, sheen, emulsion or sludge at or beneath the surface of the body of water. The oil film on water surface may physically affect the aquatic organisms, due to the interruption of the

oxygen transfer between the air and the water

Oils of any kind can cause:

+ drowning of water-fowl due to lack of buoyancy, loss of insulating capacity of feathers, starvation and vulnerability to predators due to lack of mobility

Iethal effects on fish by coating gill surfaces, preventing respiration

asphyxiation of benthic life forms when floating masses become engaged with surface debris and settle on the bottom and

adverse aesthetic effects of fouled shoreline and beaches

In case of accidental releases on the soil, a fine film is formed on the soil, which prevents the plant respiration process and the soil particle saturation. It may cause deep water infestation.

Ecotoxicity:

The tolerance of water organisms towards pH margin and variation is diverse. Recommended pH values for test species listed in OECD guidelines are between 6.0 and almost 9. Acute testing with fish showed 96h-LC50 at about pH 3.5

Prevent, by any means available, spillage from entering drains or water courses. **DO NOT** discharge into sewer or waterways.

LOW (Log KOC = 23.74)

# 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	

### SECTION 13 Disposal considerations

#### Waste treatment methods

zinc chloride

<ul> <li>Containers may still present a chemical hazard/ danger when empty.</li> <li>Return to supplier for reuse/ recycling if possible.</li> <li>Otherwise:</li> <li>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.</li> <li>Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> <li>DO NOT allow wash water from cleaning or process equipment to enter drains.</li> <li>It may be necessary to collect all wash water for treatment before disposal.</li> <li>In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>Where in doubt contact the responsible authority.</li> <li>Recycle wherever possible.</li> <li>Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable 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</li> <li>Decontainers are cleaned and destroved</li> </ul>

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
l and transport (UN)	

#### Land transport (UN)

14.1. UN number or ID number	1760		
14.2. UN proper shipping name	CORROSIVE LIQUID,	CORROSIVE LIQUID, N.O.S. (contains zinc chloride)	
14.3. Transport hazard class(es)	Class Subsidiary Hazard	8 Not Applicable	
14.4. Packing group	III		
14.5. Environmental hazard	Environmentally hazar	dous	
14.6. Special precautions for user	Special provisions	223; 274 5 L	

# Air transport (ICAO-IATA / DGR)

14.1. UN number	1760			
14.2. UN proper shipping name	Corrosive liquid, n.o.s. * (contains z	tinc chloride)		
14.3. Transport hazard class(es)	ICAO/IATA Class	8 Not Applicable		
	ERG Code	ERG Code     8L		
14.4. Packing group	III			
14.5. Environmental hazard	Environmentally hazardous			
	Special provisions		A3 A803	
	Cargo Only Packing Instructions		856	
14.6. Special precautions for user	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)

14.1. UN number	1760		
14.2. UN proper shipping name	CORROSIVE LIQUID, N.C	CORROSIVE LIQUID, N.O.S. (contains zinc chloride)	
14.3. Transport hazard class(es)	IMDG Class IMDG Subsidiary Hazard	8       d     Not Applicable	
14.4. Packing group	III		
14.5 Environmental hazard	Marine Pollutant		
14.6. Special precautions for user	EMS Number     F-       Special provisions     22       Limited Quantities     5	-A , S-B 23 274 L	

# 14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code Not Applicable

# 14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
petrolatum	Not Available

Product name	Group
paraffin oils	Not Available
zinc chloride	Not Available
ammonium chloride	Not Available

#### 14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
petrolatum	Not Available
paraffin oils	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
Not Applicable	Not Applicable

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

#### petrolatum 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 - Not Classified as Carcinogenic

New Zealand Approved Hazardous Substances with controls

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

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

#### paraffin oils is found on the following regulatory lists

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

New Zealand Approved Hazardous Substances with controls

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

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

FEI Equine Prohibited Substances List - Banned Substances

FEI Equine Prohibited Substances List (EPSL)

- 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)

### Additional Regulatory Information

Not Applicable

# 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	

# Not Applicable

# National Inventory Status

National Inventory	Status	
Australia - AIIC / Australia Non- Industrial Use	Yes	
Canada - DSL	Yes	
Canada - NDSL	No (petrolatum; paraffin oils; zinc chloride; ammonium chloride)	
China - IECSC	Yes	
Europe - EINEC / ELINCS / NLP	Yes	
Japan - ENCS	Yes	
Korea - KECI	Yes	
New Zealand - NZIoC	Yes	
Philippines - PICCS	Yes	
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'	
Taiwan - TCSI	Yes	
Mexico - INSQ	Yes	
Vietnam - NCI	Yes	
Russia - FBEPH	Yes	
Legend:	Yes = All CAS declared ingredients are on the inventory 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**

Revision Date	23/12/2022
Initial Date	27/08/2004

#### SDS Version Summary

Version	Date of Update	Sections Updated
7.1	30/12/2020	Classification change due to full database hazard calculation/update.
8.1	23/12/2022	Classification review due to GHS Revision change.

#### 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
  DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- AIIC: 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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