



# Zinc Guard Silver Zinc

Dy-Mark

Chemwatch: 41-6914

Version No: 2.1.1.1

Material Safety Data Sheet according to NOHSC and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 28/04/2014

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Initial Date: Not Available

S.Local.AUS.EN.RISK

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### Product Identifier

Product name	Zinc Guard Silver Zinc
Chemical Name	Not Applicable
Synonyms	39054014
Proper shipping name	AEROSOLS
Chemical formula	Not Applicable
Other means of identification	Not Available
CAS number	Not Applicable

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

Relevant identified uses	Use according to manufacturer's directions. Application is by spray atomisation from a hand held aerosol pack
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### Details of the supplier of the safety data sheet

Registered company name	Dy-Mark
Address	89 Formation Street Wacol 4076 QLD Australia
Telephone	+61 7 3271 2222
Fax	+61 7 3271 2751
Website	Not Available
Email	info@dymark.com.au

### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	+61 403 186 708
Other emergency telephone numbers	+61 403 186 708

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

**HAZARDOUS SUBSTANCE. DANGEROUS GOODS.** According to the Criteria of NOHSC, and the ADG Code.

### Label elements



Relevant risk statements are found in section 2

Poisons Schedule	Not Applicable														
Risk Phrases <sup>[1]</sup>	<table><tr><td>R20/21</td><td>Harmful by inhalation and in contact with skin.</td></tr><tr><td>R36/38</td><td>Irritating to eyes and skin.</td></tr><tr><td>R51/53</td><td>Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.</td></tr><tr><td>R67</td><td>Vapours may cause drowsiness and dizziness.</td></tr><tr><td>R12</td><td>Extremely flammable.</td></tr><tr><td>R44</td><td>Risk of explosion if heated under confinement.</td></tr><tr><td>R337</td><td>Cumulative effects may result following exposure*.</td></tr></table>	R20/21	Harmful by inhalation and in contact with skin.	R36/38	Irritating to eyes and skin.	R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.	R67	Vapours may cause drowsiness and dizziness.	R12	Extremely flammable.	R44	Risk of explosion if heated under confinement.	R337	Cumulative effects may result following exposure*.
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<b>R61?</b>	May be harmful to the foetus/ embryo*.
<b>R37?</b>	May produce discomfort of the respiratory system*.
<b>R22?</b>	Ingestion may produce health damage*.
<b>R40(3)?</b>	Limited evidence of a carcinogenic effect*.
<b>R66?</b>	Repeated exposure potentially causes skin dryness and cracking*.

\*LIMITED EVIDENCE

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

**Indication(s) of danger** F+, N, Xn

### SAFETY ADVICE

<b>S07</b>	Keep container tightly closed.
<b>S09</b>	Keep container in a well ventilated place.
<b>S13</b>	Keep away from food, drink and animal feeding stuffs.
<b>S15</b>	Keep away from heat.
<b>S16</b>	Keep away from sources of ignition. No smoking.
<b>S23</b>	Do not breathe gas/fumes/vapour/spray.
<b>S25</b>	Avoid contact with eyes.
<b>S26</b>	In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
<b>S29</b>	Do not empty into drains.
<b>S33</b>	Take precautionary measures against static discharges.
<b>S35</b>	This material and its container must be disposed of in a safe way.
<b>S36</b>	Wear suitable protective clothing.
<b>S37</b>	Wear suitable gloves.
<b>S38</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>S39</b>	Wear eye/face protection.
<b>S40</b>	To clean the floor and all objects contaminated by this material, use water and detergent.
<b>S41</b>	In case of fire and/or explosion, DO NOT BREATHE FUMES.
<b>S43</b>	In case of fire use...
<b>S46</b>	If swallowed, seek medical advice immediately and show this container or label.
<b>S51</b>	Use only in well ventilated areas.
<b>S56</b>	Dispose of this material and its container at hazardous or special waste collection point.
<b>S57</b>	Use appropriate container to avoid environmental contamination.
<b>S61</b>	Avoid release to the environment. Refer to special instructions/Safety data sheets.
<b>S64</b>	If swallowed, rinse mouth with water (only if the person is conscious).

### Other hazards

Not Applicable

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

### Substances

See section below for composition of Mixtures

### Mixtures

CAS No	%[weight]	Name
1330-20-7	10-30	<a href="#">xylene</a>
Not Available	10-30	resin
67-64-1	10-30	<a href="#">acetone</a>
7440-66-6	1-10	<a href="#">zinc powder</a>
	NotSpec.	ingredients at levels determined not to be hazardous
115-10-6	30-60	<a href="#">dimethyl ether</a>

## SECTION 4 FIRST AID MEASURES

### Description of first aid measures

#### Eye Contact

- If aerosols come in contact with the eyes:
- ▶ Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes with fresh running water.
  - ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper

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	<ul style="list-style-type: none"> <li>▶ and lower lids.</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 solids or aerosol mists are deposited upon the skin:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Remove any adhering solids with industrial skin cleansing cream.</li> <li>▶ <b>DO NOT use solvents.</b></li> <li>▶ Seek medical attention in the event of irritation.</li> </ul>
<b>Inhalation</b>	<p>If aerosols, fumes or combustion products are inhaled:</p> <ul style="list-style-type: none"> <li>▶ Remove to fresh air.</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>▶ If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, 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>▶ Avoid giving milk or oils.</li> <li>▶ Avoid giving alcohol.</li> <li>▶ Not considered a normal route of entry.</li> </ul>

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

	<p>Treat symptomatically. for lower alkyl ethers:</p> <p>-----</p> <p><b>BASIC TREATMENT</b></p> <p>-----</p> <ul style="list-style-type: none"> <li>▶ Establish a patent airway with suction where necessary.</li> <li>▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.</li> <li>▶ Administer oxygen by non-rebreather mask at 10 to 15 l/min.</li> <li>▶ A low-stimulus environment must be maintained.</li> <li>▶ Monitor and treat, where necessary, for shock.</li> <li>▶ Anticipate and treat, where necessary, for seizures.</li> <li>▶ <b>DO NOT use emetics.</b> Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.</li> </ul> <p>-----</p> <p><b>ADVANCED TREATMENT</b></p> <p>-----</p> <ul style="list-style-type: none"> <li>▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.</li> <li>▶ Positive-pressure ventilation using a bag-valve mask might be of use.</li> <li>▶ Monitor and treat, where necessary, for arrhythmias.</li> <li>▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.</li> <li>▶ Drug therapy should be considered for pulmonary oedema.</li> <li>▶ Hypotension without signs of hypovolaemia may require vasopressors.</li> <li>▶ Treat seizures with diazepam.</li> <li>▶ Proparacaine hydrochloride should be used to assist eye irrigation.</li> </ul> <p>-----</p> <p><b>EMERGENCY DEPARTMENT</b></p> <p>-----</p> <ul style="list-style-type: none"> <li>▶ Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph.</li> <li>▶ Ethers may produce anion gap acidosis. Hyperventilation and bicarbonate therapy might be indicated.</li> <li>▶ Haemodialysis might be considered in patients with impaired renal function.</li> <li>▶ Consult a toxicologist as necessary.</li> </ul> <p><i>BRONSTEIN, A. C. and CURRANCE, P.L.</i> <i>EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994</i></p> <p>For acute or short term repeated exposures to xylene:</p> <ul style="list-style-type: none"> <li>▶ Gastro-intestinal absorption is significant with ingestions. For ingestions exceeding 1-2 ml (xylene)/kg, intubation and lavage with cuffed endotracheal tube is recommended. The use of charcoal and cathartics is equivocal.</li> <li>▶ Pulmonary absorption is rapid with about 60-65% retained at rest.</li> <li>▶ Primary threat to life from ingestion and/or inhalation, is respiratory failure.</li> <li>▶ 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 (pO<sub>2</sub> &lt; 50 mm Hg or pCO<sub>2</sub> &gt; 50 mm Hg) should be intubated.</li> <li>▶ 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.</li> <li>▶ A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.</li> <li>▶ 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.</li> </ul> <p style="text-align: center;"><b>BIOLOGICAL EXPOSURE INDEX - BEI</b></p> <p>These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Determinant</th> <th>Index</th> <th>Sampling Time</th> <th>Comments</th> </tr> </thead> <tbody> <tr> <td>Methylhippu-ric acids in urine</td> <td>1.5 gm/gm creatinine</td> <td>End of shift</td> <td></td> </tr> <tr> <td></td> <td>2 mg/min</td> <td>Last 4 hrs of shift</td> <td></td> </tr> </tbody> </table>	Determinant	Index	Sampling Time	Comments	Methylhippu-ric acids in urine	1.5 gm/gm creatinine	End of shift			2 mg/min	Last 4 hrs of shift	
Determinant	Index	Sampling Time	Comments										
Methylhippu-ric acids in urine	1.5 gm/gm creatinine	End of shift											
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**SECTION 5 FIREFIGHTING MEASURES**

**Extinguishing media**

	<p><b>SMALL FIRE:</b></p> <ul style="list-style-type: none"> <li>▶ Water spray, dry chemical or CO2</li> </ul> <p><b>LARGE FIRE:</b></p> <ul style="list-style-type: none"> <li>▶ Water spray or fog.</li> </ul>
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**Special hazards arising from the substrate or mixture**

<b>Fire Incompatibility</b>	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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**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>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Liquid and vapour are highly flammable.</li> <li>▶ Severe fire hazard when exposed to heat or flame.</li> <li>▶ Vapour forms an explosive mixture with air.</li> <li>▶ Severe explosion hazard, in the form of vapour, when exposed to flame or spark.</li> </ul>

**SECTION 6 ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Wear protective clothing, impervious gloves and safety glasses.</li> <li>▶ Shut off all possible sources of ignition and increase ventilation.</li> </ul>
<b>Major Spills</b>	<ul style="list-style-type: none"> <li>▶ <b>DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.</b></li> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> </ul>
	Personal Protective Equipment advice is contained in Section 8 of the MSDS.

**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>▶ Prevent concentration in hollows and sumps.</li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can</li> <li>▶ Store in original containers in approved flammable liquid storage area.</li> <li>▶ <b>DO NOT store in pits, depressions, basements or areas where vapours may be trapped.</b></li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> </ul>

**Conditions for safe storage, including any incompatibilities**

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Aerosol dispenser.</li> <li>▶ Check that containers are clearly labelled.</li> </ul>
<b>Storage incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Reacts with acids producing flammable / explosive hydrogen (H2) gas</li> <li>▶ Avoid reaction with oxidising agents</li> </ul>



- X** — Must not be stored together  
**O** — May be stored together with specific preventions  
**+** — May be stored together

**PACKAGE MATERIAL INCOMPATIBILITIES**

Not Available

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION****Control parameters****OCCUPATIONAL EXPOSURE LIMITS (OEL)****INGREDIENT DATA**

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Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	xylene	Xylene (o-, m-, p-isomers)	350 (mg/m3) / 80 (ppm)	655 (mg/m3) / 150 (ppm)	Not Available	Not Available
Australia Exposure Standards	acetone	Acetone	1185 (mg/m3) / 500 (ppm)	2375 (mg/m3) / 1000 (ppm)	Not Available	Not Available
Australia Exposure Standards	zinc powder	Fume (thermally generated) (respirable dust)	2 (mg/m3)	Not Available	Not Available	(see Silica - Amorphous); Containing no asbestos and < 1% crystalline silica (see Chapter 14).
Australia Exposure Standards	dimethyl ether	Dimethyl ether	760 (mg/m3) / 400 (ppm)	950 (mg/m3) / 500 (ppm)	Not Available	Not Available

## EMERGENCY LIMITS

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
xylene	100(ppm)	130(ppm)	920(ppm)	2500(ppm)
acetone	200(ppm)	200(ppm)	3200(ppm)	5700(ppm)
zinc powder	10(ppm)	30(ppm)	50(ppm)	200(ppm)
dimethyl ether	1000(ppm)	3000(ppm)	10000(ppm)	60000(ppm)

Ingredient	Original IDLH	Revised IDLH
xylene	1,000(ppm)	900(ppm)
acetone	20,000 / 5,000(ppm)	1,500 / 2,500 [LEL](ppm)

## Exposure controls

<b>Appropriate engineering controls</b>	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 strategically "adds" and "removes" air in the work environment.
<b>Personal protection</b>	
<b>Eye and face protection</b>	Safety glasses with side shields. Chemical goggles. 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.
<b>Skin protection</b>	See Hand protection below
<b>Hand protection</b>	<ul style="list-style-type: none"> <li>▶ No special equipment needed when handling small quantities.</li> <li>▶ <b>OTHERWISE:</b></li> <li>▶ For potentially moderate exposures:</li> <li>▶ Wear general protective gloves, eg. light weight rubber gloves.</li> <li>▶ For potentially heavy exposures:</li> <li>▶ Wear chemical protective gloves, eg. PVC. and safety footwear.</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	No special equipment needed when handling small quantities. <b>OTHERWISE:</b> <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ Skin cleansing cream.</li> <li>▶ Eyewash unit.</li> </ul>
<b>Thermal hazards</b>	Not Available

## Recommended material(s)

## GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

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Material	CPI
BUTYL	B
NEOPRENE	B

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

## Respiratory protection

Type AX 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	Air-line*	AX-2	AX-PAPR-2 ^
up to 20 x ES	-	AX-3	-

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\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

20+ x ES	-	Air-line**	-
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\* - Continuous-flow; \*\* - Continuous-flow or positive pressure demand

^ - 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)

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

## Information on basic physical and chemical properties

<b>Appearance</b>	22aereth Silver flammable liquid with a solvent odour; not miscible with water.		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	Not Available
<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 Available	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	-41 (propellant)	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Flammable.	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Immiscible	<b>pH as a solution(1%)</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>	<ul style="list-style-type: none"> <li>▶ Elevated temperatures.</li> <li>▶ Presence of open flame.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul>
<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 aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo. Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation.
<b>Ingestion</b>	Accidental ingestion of the material may be damaging to the health of the individual. Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments. Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result. Signs and symptoms of chemical (aspiration) pneumonitis may include coughing, gasping, choking, burning of the mouth, difficult breathing, and bluish coloured skin (cyanosis).
<b>Skin Contact</b>	Skin contact with the material may be harmful; systemic effects may result following absorption. Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis.

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<b>Eye</b>	<p>Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur. Direct contact with the eye may not cause irritation because of the extreme volatility of the gas; however concentrated atmospheres may produce irritation after brief exposures..</p> <p>Eye contact with alkyl ethers (vapours or liquid) may produce irritation, redness and lachrymation.</p>
<b>Chronic</b>	<p>On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.</p> <p>Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.</p> <p>There is some evidence that human exposure to the material may result in developmental toxicity. This evidence is based on animal studies where effects have been observed in the absence of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not secondary non-specific consequences of the other toxic effects.</p>

<b>Zinc Guard Silver Zinc</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available

<b>xylene</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Inhalation (rat) LC50: 5000 ppm/4h	Eye (human): 200 ppm irritant
	Intraperitoneal (Mouse) LD50: 1548 mg/kg	Eye (rabbit): 5 mg/24h SEVERE
	Intraperitoneal (Rat) LD50: 2459 mg/kg	Eye (rabbit): 87 mg mild
	Oral (Mouse) LD50: 2119 mg/kg	Skin (rabbit):500 mg/24h moderate
	Oral (rat) LD50: 4300 mg/kg	
	Subcutaneous (Rat) LD50: 1700 mg/kg	
	Not Available	Not Available

<b>acetone</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 20000 mg/kg	Eye (human): 500 ppm - irritant
	Inhalation (rat) LC50: 50100 mg/m3/8 hr	Eye (rabbit): 20mg/24hr -moderate
	Oral (rat) LD50: 5800 mg/kg	Eye (rabbit): 3.95 mg - SEVERE
		Skin (rabbit): 500 mg/24hr - mild
	Skin (rabbit):395mg (open) - mild	
	Not Available	Not Available

<b>zinc powder</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 1130 mg/kg	Skin (human):0.3mg/3DaysInt. mild
	Not Available	Not Available

<b>dimethyl ether</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Inhalation (rat) LC50: 308000 mg/m3	
	Not Available	Not Available

Not available. Refer to individual constituents.

<b>XYLENE</b>	<p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis.</p> <p>Reproductive effector in rats</p>
<b>ACETONE</b>	<p>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.</p> <p>for acetone: The acute toxicity of acetone is low.</p>

<b>Acute Toxicity</b>	✔	<b>Carcinogenicity</b>	⊘
<b>Skin Irritation/Corrosion</b>	✔	<b>Reproductivity</b>	✔
<b>Serious Eye Damage/Irritation</b>	✔	<b>STOT - Single Exposure</b>	✔
<b>Respiratory or Skin sensitisation</b>	⊘	<b>STOT - Repeated Exposure</b>	⊘
<b>Mutagenicity</b>	⊘	<b>Aspiration Hazard</b>	⊘

**CMR STATUS**

Not Applicable

**SECTION 12 ECOLOGICAL INFORMATION****Toxicity**

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.

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
Not Available	Not Available	Not Available

**Bioaccumulative potential**

Ingredient	Bioaccumulation
Not Available	Not Available



**Mobility in soil**

Ingredient	Mobility
Not Available	Not Available

**SECTION 13 DISPOSAL CONSIDERATIONS****Waste treatment methods**

<b>Product / Packaging disposal</b>	<p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> <li>▶ Reduction</li> <li>▶ Reuse</li> <li>▶ Recycling</li> <li>▶ Disposal (if all else fails)</li> </ul> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</p>
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**SECTION 14 TRANSPORT INFORMATION****Labels Required**

	
<b>Marine Pollutant</b>	
<b>HAZCHEM</b>	2YE

**Land transport (ADG)**

<b>UN number</b>	1950
<b>Packing group</b>	Not Available
<b>UN proper shipping name</b>	AEROSOLS
<b>Environmental hazard</b>	No relevant data
<b>Transport hazard class(es)</b>	Class 2.1 Subrisk
<b>Special precautions for user</b>	Special provisions 63 190 277 327 limited quantity See SP 277

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

<b>UN number</b>	1950
<b>Packing group</b>	Not Available
<b>UN proper shipping name</b>	Aerosols, flammable



## Zinc Guard Silver Zinc

<b>Environmental hazard</b>	No relevant data	
<b>Transport hazard class(es)</b>	ICAO/IATA Class	2.1
	ICAO / IATA Subrisk	
	ERG Code	10L
<b>Special precautions for user</b>	Special provisions	A145A167A802
	Cargo Only Packing Instructions	203
	Cargo Only Maximum Qty / Pack	150 kg
	Passenger and Cargo Packing Instructions	203
	Passenger and Cargo Maximum Qty / Pack	75 kg
	Passenger and Cargo Limited Quantity Packing Instructions	Y203
	Passenger and Cargo Limited Maximum Qty / Pack	30 kg G

## Sea transport (IMDG-Code / GGVSee)

<b>UN number</b>	1950	
<b>Packing group</b>	Not Available	
<b>UN proper shipping name</b>	AEROSOLS	
<b>Environmental hazard</b>		
<b>Transport hazard class(es)</b>	IMDG Class	2.1
	IMDG Subrisk	
<b>Special precautions for user</b>	EMS Number	F-D,S-U
	Special provisions	63 190 277 327 344 959
	Limited Quantities	SP277

## Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code

Source	Ingredient	Pollution Category	Residual Concentration - Outside Special Area (% w/w)	Residual Concentration
40-7-4-9-0-0-MK-20041022	acetone	Not Available	Not Available	Not Available

## SECTION 15 REGULATORY INFORMATION

## Safety, health and environmental regulations / legislation specific for the substance or mixture

<b>xylene(1330-20-7) is found on the following regulatory lists</b>	"Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "International Maritime Dangerous Goods Requirements (IMDG Code)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "OSPAR List of Chemicals for Priority Action", "Australia Exposure Standards", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "FisherTransport Information", "IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes", "OECD List of High Production Volume (HPV) Chemicals", "Australia Inventory of Chemical Substances (AICS)", "Australia Drinking Water Guideline Values For Physical and Chemical Characteristics", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix I", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "UNECE - Kiev Protocol on Pollutant Release and Transfer Registers - Annex II", "Australia National Pollutant Inventory", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm - Domestic water supply quality", "Australia High Volume Industrial Chemical List (HVICL)", "WHO Guidelines for Drinking-water Quality - Guideline values for chemicals that are of health significance in drinking-water", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "OECD Existing Chemicals Database", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "International Air Transport Association (IATA) Dangerous Goods Regulations", "Australia Hazardous Substances Information System - Consolidated Lists", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (Domestic water supply - organic compounds)", "IMO IBC Code Chapter 17: Summary of minimum requirements", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7", "International Fragrance Association (IFRA) Survey: Transparency List", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6"
<b>acetone(67-64-1) is found on the following regulatory lists</b>	"Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia Customs (Prohibited Exports) Regulations 1958 - Schedule 9 Precursor substances - Part 2", "Australia Illicit Drug Reagents/Essential Chemicals - Category III", "IOFI Global Reference List of Chemically Defined Substances", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia - Victoria Occupational Health and Safety Regulations - Schedule 9: Materials at Major Hazard Facilities (And Their Threshold Quantity) Table 2", "Australia Exposure Standards", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia Crimes (Traffic in Narcotic Drugs and Psychotropic Substances) Act - Schedule 1 - United Nations Convention Against Illicit Traffic In Narcotic Drugs And Psychotropic Substances - Table II", "United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances - Table II", "FisherTransport Information", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "Australia Dangerous Goods Code (ADG Code) - List

	<p>of Emergency Action Codes", "Australia Inventory of Chemical Substances (AICS)", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution – Norway", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "UNECE - Kiev Protocol on Pollutant Release and Transfer Registers - Annex II", "Australia National Pollutant Inventory", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "Sigma-AldrichTransport Information", "Australia High Volume Industrial Chemical List (HVICL)", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "OECD Existing Chemicals Database", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "Australia Hazardous Substances Information System - Consolidated Lists", "International Air Transport Association (IATA) Dangerous Goods Regulations", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "FEMA Generally Recognized as Safe (GRAS) Flavoring Substances 23 - Examples of FEMA GRAS Substances with Non-Flavor Functions", "IMO IBC Code Chapter 17: Summary of minimum requirements", "United Nations List of Precursors and Chemicals Frequently used in the Illicit Manufacture of Narcotic Drugs and Psychotropic Substances Under International Control (Red List) - Table II", "International Fragrance Association (IFRA) Survey: Transparency List"</p>
<p><b>zinc powder(7440-66-6) is found on the following regulatory lists</b></p>	<p>"International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia Exposure Standards", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (STOCK - inorganic chemicals)", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (Domestic water supply - inorganic chemicals)", "FisherTransport Information", "United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (STOCK)", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes", "OECD List of High Production Volume (HPV) Chemicals", "Australia Inventory of Chemical Substances (AICS)", "Australia Drinking Water Guideline Values For Physical and Chemical Characteristics", "Australia National Environment Protection (Ambient Air Quality) Measure - Schedule 1: Pollutants", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (Aquatic habitat)", "Australia National Environment Protection (Ambient Air Quality) Measure - Schedule 2 Table 1: Standards and Goal for Pollutants other than Particles as PM2.5", "UNECE - Kiev Protocol on Pollutant Release and Transfer Registers - Annex II", "Australia National Pollutant Inventory", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (AQUA/1 to 6 - inorganic chemicals)", "WHO Guidelines for Drinking-water Quality - Chemicals for which guideline values have not been established", "Sigma-AldrichTransport Information", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm - Domestic water supply quality", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "Australia High Volume Industrial Chemical List (HVICL)", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (IRRIG - inorganic chemicals)", "OECD Existing Chemicals Database", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "Australia Hazardous Substances Information System - Consolidated Lists", "International Air Transport Association (IATA) Dangerous Goods Regulations", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (IRRIG)"</p>
<p><b>dimethyl ether(115-10-6) is found on the following regulatory lists</b></p>	<p>"International Maritime Dangerous Goods Requirements (IMDG Code)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia Exposure Standards", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes", "Australia Inventory of Chemical Substances (AICS)", "OECD List of High Production Volume (HPV) Chemicals", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix B (Part 3)", "Belgium Federal Public Service Mobility and Transport, Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (Dutch)", "International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft", "Australia National Pollutant Inventory", "Sigma-AldrichTransport Information", "Australia Dangerous Goods Code (ADG Code) - Packing Instruction - Liquefied and Dissolved Gases", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "Australia Hazardous Substances Information System - Consolidated Lists", "IMO IBC Code Chapter 17: Summary of minimum requirements"</p>

## SECTION 16 OTHER INFORMATION

### 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.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references)

The (M)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.

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