

Carbozinc 11 Part A

Altex Coatings Ltd

Chemwatch: 9-47441

Version No: 2.12

Safety Data Sheet according to HSNO Regulations

Chemwatch Hazard Alert Code: 4

Issue Date: 07/02/2014

Print Date: 07/02/2014

Initial Date: 07/02/2014

S.GHS.NZLEN

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

Product Identifier

Product name	Carbozinc 11 Part A
Chemical Name	Not Applicable
Synonyms	Not Available
Proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
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	INTEGRITY CHECK: Product contains BOTH an alcohol and an acid as ingredients. Part A of a two pack inorganic zinc coating
--------------------------	------------------------------------------------------------------------------------------------------------------------------

Details of the supplier of the safety data sheet

Registered company name	Altex Coatings Ltd
Address	New Zealand
Telephone	+64 7 5411221
Fax	+64 7 5411310
Website	www.altexcoatings.co.nz
Email	Not Available

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	0800 764766
Other emergency telephone numbers	0800 764766

CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
+800 2436 2255	+612 9186 1132	Not Available

Once connected and if the message is not in your preferred language then please dial 01

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation.

GHS Classification ^[1]	Flammable Liquid Category 3, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Acute Toxicity (Inhalation) Category 4, Eye Irritation Category 2B, Reproductive Toxicity Category 1, STOT - SE Category 1, STOT - RE Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	3.1C, 6.1D (dermal), 6.1D (inhalation), 6.1D (oral), 6.4A (mild), 6.8A, 6.9A, 6.9A (dermal)

Label elements

GHS label elements	
--------------------	-------------------------------------------------------------------------------------

SIGNAL WORD

DANGER

Hazard statement(s)

H226	Flammable liquid and vapour
H302	Harmful if swallowed
H312	Harmful in contact with skin
H332	Harmful if inhaled
H320	Causes eye irritation
H360	May damage fertility or the unborn child
H370	Causes damage to organs
H372	Causes damage to organs through prolonged or repeated exposure

Precautionary statement(s): Prevention

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
P233	Keep container tightly closed.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P270	Do not eat, drink or smoke when using this product.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.

Precautionary statement(s): Response

P308+P311	IF exposed or concerned: Call a POISON CENTER/doctor/physician/first aider
P321	Specific treatment (see advice on this label).
P370+P378	In case of fire: Use... to extinguish.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes.
P314	Get medical advice/attention if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P302+P352	IF ON SKIN: Wash with plenty of water and soap
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P330	Rinse mouth.
P362+P364	Take off contaminated clothing and wash it before reuse.

Precautionary statement(s): Storage

P403+P235	Store in a well-ventilated place.
P405	Store locked up.

Precautionary statement(s): Disposal

P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration
------	--------------------------------------------------------------------------------------------------------------

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
11099-06-2	30-40	ethyl silicate
14808-60-7	10-20	silica crystalline - quartz
67-63-0	10-20	isopropanol
111-76-2	1-10	ethylene glycol monobutyl ether
67-56-1	1-10	methanol
64-17-5	1-10	alcohol, denatured
1330-20-7	1-10	xylene

SECTION 4 FIRST AID MEASURES

NZ Poisons Centre 0800 POISON (0800 764 766) | NZ Emergency Services: 111

Description of first aid measures

Eye Contact	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with water. ▶ If irritation continues, seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none"> ▶ Immediately give a glass of water. ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

For acute or short term repeated exposures to ethylene glycol:

- ▶ Early treatment of ingestion is important. Ensure emesis is satisfactory.
- ▶ Test and correct for metabolic acidosis and hypocalcaemia.
- ▶ Apply sustained diuresis when possible with hypertonic mannitol.
- ▶ Evaluate renal status and begin haemodialysis if indicated. [L.L.O]
- ▶ Rapid absorption is an indication that emesis or lavage is effective only in the first few hours. Cathartics and charcoal are generally not effective.
- ▶ Correct acidosis, fluid/electrolyte balance and respiratory depression in the usual manner. Systemic acidosis (below 7.2) can be treated with intravenous sodium bicarbonate solution.
- ▶ Ethanol therapy prolongs the half-life of ethylene glycol and reduces the formation of toxic metabolites.
- ▶ Pyridoxine and thiamine are cofactors for ethylene glycol metabolism and should be given (50 to 100 mg respectively) intramuscularly, four times per day for 2 days.
- ▶ Magnesium is also a cofactor and should be replenished. The status of 4-methylpyrazole, in the treatment regime, is still uncertain. For clearance of the material and its metabolites, haemodialysis is much superior to peritoneal dialysis.

[Ellenhorn and Barceloux: Medical Toxicology]

It has been suggested that there is a need for establishing a new biological exposure limit before a workshift that is clearly below 100 mmol ethoxy-acetic acids per mole creatinine in morning urine of people occupationally exposed to ethylene glycol ethers. This arises from the finding that an increase in urinary stones may be associated with such exposures.

Laitinen J., et al: Occupational & Environmental Medicine 1996; 53, 595-600

For acute and short term repeated exposures to methanol:

- ▶ Toxicity results from accumulation of formaldehyde/formic acid.
- ▶ Clinical signs are usually limited to CNS, eyes and GI tract. Severe metabolic acidosis may produce dyspnea and profound systemic effects which may become intractable. All symptomatic patients should have arterial pH measured. Evaluate airway, breathing and circulation.
- ▶ Stabilise obtunded patients by giving naloxone, glucose and thiamine.
- ▶ Decontaminate with ipecac or lavage for patients presenting 2 hours post-ingestion. Charcoal does not absorb well; the usefulness of cathartic is not established.
- ▶ Forced diuresis is not effective; haemodialysis is recommended where peak methanol levels exceed 50 mg/dL (this correlates with serum bicarbonate levels below 18 mEq/L).
- ▶ Ethanol, maintained at levels between 100 and 150 mg/dL, inhibits formation of toxic metabolites and may be indicated when peak methanol levels exceed 20 mg/dL. An intravenous solution of ethanol in D5W is optimal.
- ▶ Folate, as leucovorin, may increase the oxidative removal of formic acid. 4-methylpyrazole may be an effective adjunct in the treatment. 8-Phenytoin may be preferable to diazepam for controlling seizure.

[Ellenhorn Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

Determinant	Index	Sampling Time	Comment
1. Methanol in urine	15 mg/l	End of shift	B, NS
2. Formic acid in urine	80 mg/gm creatinine	Before the shift at end of workweek	B, NS

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

NS: Non-specific determinant - observed following exposure to other materials.

For acute or short term repeated exposures to xylene:

- ▶ 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.
- ▶ Pulmonary absorption is rapid with about 60-65% retained at rest.
- ▶ Primary threat to life from 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 or pCO₂ > 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.

BIOLOGICAL EXPOSURE INDEX - BEI

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

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	

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- ▶ Foam.

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

- ▶ When silica dust is dispersed in air, firefighters should wear inhalation protection as hazardous substances from the fire may be adsorbed on the silica particles.

Fire/Explosion Hazard

- ▶ Liquid and vapour are flammable.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills

- ▶ Remove all ignition sources.

Major Spills

- ▶ Clear area of personnel and move upwind.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling

- ▶ Containers, even those that have been emptied, may contain explosive vapours.

Other information

- ▶ Store in original containers in approved flammable liquid storage area.

Conditions for safe storage, including any incompatibilities

Suitable container

- ▶ Packing as supplied by manufacturer.

Storage incompatibility

Ethylene glycol monobutyl ether (2-butoxyethanol) and its acetate:

PACKAGE MATERIAL INCOMPATIBILITIES

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)	silica crystalline - quartz	Silica-Crystalline, Quartz	0.2 Respirable dust (mg/m3)	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	isopropanol	Isopropyl alcohol	983 (mg/m3) / 400 (ppm)	1230 (mg/m3) / 500 (ppm)	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	ethylene glycol monobutyl ether	2-Butoxyethanol	121 (mg/m3) / 25 (ppm)	Not Available	Not Available	Skin absorption
New Zealand Workplace Exposure Standards (WES)	methanol	Methyl alcohol	262 (mg/m3) / 200 (ppm)	328 (mg/m3) / 250 (ppm)	Not Available	Skin absorption; Exposure can also be estimated by biological monitoring.
New Zealand Workplace Exposure Standards (WES)	alcohol, denatured	Ethyl alcohol	1880 (mg/m3) / 1000 (ppm)	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	xylene	Xylene (o-, m-, p-isomers)	217 (mg/m3) / 50 (ppm)	Not Available	Not Available	Not Available

EMERGENCY LIMITS


Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
ethyl silicate	10(ppm)	30(ppm)	50(ppm)	250(ppm)

Carbozinc 11 Part A

silica crystalline - quartz	0.3(ppm)	0.3(ppm)	0.3(ppm)	50(ppm)
isopropanol	400(ppm)	400(ppm)	2000(ppm)	2000(ppm)
ethylene glycol monobutyl ether	50(ppm)	50(ppm)	100(ppm)	700(ppm)
methanol	200(ppm)	530(ppm)	2100(ppm)	7200(ppm)
alcohol, denatured	1000(ppm)	3000(ppm)	3300(ppm)	3300(ppm)
xylene	100(ppm)	130(ppm)	920(ppm)	2500(ppm)

Ingredient	Original IDLH	Revised IDLH
ethyl silicate	1,000(ppm)	700(ppm)
silica crystalline - quartz	N.E.(mgm3)N.E.(ppm)	50(mgm3)
isopropanol	12,000(ppm)	2,000 [LEL](ppm)
ethylene glycol monobutyl ether	700(ppm)	700 [Unch](ppm)
methanol	25,000(ppm)	6,000(ppm)
alcohol, denatured	15,000(ppm)	3,300 [LEL](ppm)
xylene	1,000(ppm)	900(ppm)

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard.
Personal protection	
Eye and face protection	► Safety glasses with side shields.
Skin protection	See Hand protection below
Hand protection	► Wear chemical protective gloves, e.g. PVC.
Body protection	See Other protection below
Other protection	► Overalls.
Thermal hazards	

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
Carbozinc 11 Part A Not Available

Material	CPI

* CPI - Chemwatch Performance Index

Respiratory protection

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	-
20+ x ES	-	Air-line**	-

* - 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

Appearance	Not Available		
Physical state	Liquid	Relative density (Water = 1)	1.06
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	397

Carbozinc 11 Part A

pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	64 - 171	Molecular weight (g/mol)	Not Available
Flash point (°C)	26	Taste	Not Available
Evaporation rate	2.6	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	18.2	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	2.9	Volatile Component (%vol)	38
Vapour pressure (kPa)	5.32	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution(1%)	Not Available
Vapour density (Air = 1)	2.38	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	► Presence of incompatible materials.
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

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models).
Ingestion	Ingestion of ethyl silicate may produce liver, kidney and lung damage.
Skin Contact	Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

Carbozinc 11 Part A	TOXICITY	IRRITATION
	Not Available	Not Available
ethyl silicate	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 5878 mg/kg	Eye (human): 3000 ppm
	Oral (rat) LD50: 6270 mg/kg	Eye (rabbit): 100 mg mild
		Eye (rabbit): 500 mg/24h - mild
		Skin (rabbit): 500mg/24h moderate
	Not Available	Not Available
silica crystalline - quartz	TOXICITY	IRRITATION
	Not Available	Y Not Available
isopropanol	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 12800 mg/kg	Eye (rabbit): 10 mg - moderate
	Inhalation (Mouse) LC50: 53000 mg/m ³ /4h	Eye (rabbit): 100 mg - SEVERE
	Inhalation (Rat) LC50: 72600 mg/m ³ /4h	Eye (rabbit): 100mg/24hr-moderate
	Intraperitoneal (Guinea pig) LD50: 2560 mg/kg	Skin (rabbit): 500 mg - mild
	Intraperitoneal (Mouse) LD50: 4477 mg/kg	
	Intraperitoneal (Rabbit) LD50: 667 mg/kg	
	Intraperitoneal (Rat) LD50: 2735 mg/kg	
	Intravenous (Mouse) LD50: 1509 mg/kg	
Intravenous (Rabbit) LD50: 1184 mg/kg		

Carbozinc 11 Part A

	Intravenous (Rat) LD50: 1088 mg/kg	
	Oral (Mouse) LD50: 3600 mg/kg	
	Oral (Rabbit) LD50: 6410 mg/kg	
	Oral (Rat) LD50: 5000 mg/kg	
	Oral (rat) LD50: 5045 mg/kg	
	Not Available	Not Available
ethylene glycol monobutyl ether	TOXICITY	IRRITATION
	Dermal (Guinea pig) LD50: 210 mg/kg **	* [Union Carbide]
	Dermal (rabbit) LD50: 220 mg/kg	Eye (rabbit): 100 mg SEVERE
	Inhalation (Rat) LC50: 2210 mg/m3 **	Eye (rabbit): 100 mg/24h-moderate
	Inhalation (Rat) LC50: 450 ppm *	Skin (rabbit): 500 mg, open; mild
	Oral (Rat) LD50: 300 mg/kg **	
	Oral (rat) LD50: 470 mg/kg	
	Not Available	Not Available
methanol	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 15800 mg/kg	Eye (rabbit): 100 mg/24h-moderate
	Inhalation (rat) LC50: 64000 ppm/4h	Eye (rabbit): 40 mg-moderate
	Oral (rat) LD50: 5628 mg/kg	Skin (rabbit): 20 mg/24 h-moderate
	Not Available	Not Available
alcohol, denatured	TOXICITY	IRRITATION
	Not Available	Not Available
xylene	TOXICITY	IRRITATION
	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
Carbozinc 11 Part A	Liver, kidney and lung damage may result from overexposure by inhalation or ingestion.	
ETHYL SILICATE	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. as tetraethyl silicate, ethyl silicate	
SILICA CRYSTALLINE - QUARTZ	WARNING:	
ISOPROPANOL	For isopropanol (IPA):	
ETHYLENE GLYCOL MONOBUTYL ETHER	NOTE: Changes in kidney, liver, spleen and lungs are observed in animals exposed to high concentrations of this substance by all routes. ** ASCC (NZ) SDS	
METHANOL	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic).	
XYLENE	Reproductive effector in rats	
ETHYLENE GLYCOL MONOBUTYL ETHER, ALCOHOL, DENATURED, XYLENE	The material may produce severe irritation to the eye causing pronounced inflammation.	

Acute Toxicity	Acute Toxicity (Oral) Category 4 Acute Toxicity (Dermal) Category 4 Acute Toxicity (Inhalation) Category 4	Carcinogenicity	Not Applicable
Skin Irritation/Corrosion	Not Applicable	Reproductivity	Reproductive Toxicity Category 1
Serious Eye Damage/Irritation	Eye Irritation Category 2B	STOT - Single Exposure	STOT - SE Category 1
Respiratory or Skin sensitisation	Not Applicable	STOT - Repeated Exposure	STOT - RE Category 1

Mutagenicity Not Applicable

Aspiration Hazard Not Applicable

CMR STATUS

SKIN			
	ethylene glycol monobutyl ether	New Zealand Workplace Exposure Standards (WES) - Skin	Skin absorption
	methanol	New Zealand Workplace Exposure Standards (WES) - Skin	Skin absorption

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

For tetraethyl silicate:

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

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory.
	Insure that the disposal of material is carried out in accordance with Hazardous Substances (Disposal) Regulations 2001.

SECTION 14 TRANSPORT INFORMATION

Labels Required

	
Marine Pollutant	NO
HAZCHEM	*3YE; *3Y

Land transport (UN)

UN number	1263
Packing group	III
UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)
Environmental hazard	No relevant data
Transport hazard class(es)	Class : 3 Subrisk :
Special precautions for user	Special provisions : 163;223;367 limited quantity : 5 L

Air transport (ICAO-IATA / DGR)

UN number	1263
Packing group	III
UN proper shipping name	Paint related material (including paint thinning or reducing compounds); Paint (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base)
Environmental hazard	No relevant data
Transport hazard class(es)	ICAO/IATA Class : 3 ICAO / IATA Subrisk :

	ERG Code	3L
Special precautions for user	Special provisions	A3A72
	Cargo Only Packing Instructions	366
	Cargo Only Maximum Qty / Pack	220 L
	Passenger and Cargo Packing Instructions	355
	Passenger and Cargo Maximum Qty / Pack	60 L
	Passenger and Cargo Limited Quantity Packing Instructions	Y344
	Passenger and Cargo Maximum Qty / Pack	10 L

Sea transport (IMDG-Code / GGVSee)

UN number	1263	
Packing group	III	
UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac solutions, varnish, polish, liquid filler and liquid lacquer base) or PAINT RELATED MATERIAL (including paint thinning or reducing compound)	
Environmental hazard	No relevant data	
Transport hazard class(es)	IMDG Class	3
	IMDG Subrisk	
Special precautions for user	EMS Number	F-E,S-E
	Special provisions	163 223 955
	Limited Quantities	5 L

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
IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances	isopropanol	Not Available	Not Available	Not Available
IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances	ethylene glycol monobutyl ether	Not Available	Not Available	Not Available
IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances	methanol	Not Available	Not Available	Not Available
IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances	alcohol, denatured	Not Available	Not Available	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
HSR002662	Surface Coatings and Colourants (Flammable) Group Standard 2006

ethyl silicate(11099-06-2) is found on the following regulatory lists	"International Maritime Dangerous Goods Requirements (IMDG Code)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "New Zealand Inventory of Chemicals (NZIoC)", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 4 Quantity Limits for Dangerous Goods in Excepted Quantities", "OECD List of High Production Volume (HPV) Chemicals", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 3 Segregation requirements for dangerous goods", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (English)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 2 Dangerous Goods in Limited Quantities and Consumer Commodities", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits"
silica crystalline - quartz(14808-60-7) is found on the following regulatory lists	"New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "FisherTransport Information", "OECD List of High Production Volume (HPV) Chemicals", "New Zealand Workplace Exposure Standards (WES)", "Sigma-AldrichTransport Information", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)"
isopropanol(67-63-0) is found on the following regulatory lists	"International Maritime Dangerous Goods Requirements (IMDG Code)", "IOFI Global Reference List of Chemically Defined Substances", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "FisherTransport Information", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 4 Quantity Limits for Dangerous Goods in Excepted Quantities", "OSPAR National List of Candidates for Substitution - Norway", "OECD List of High Production Volume (HPV) Chemicals", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 3 Segregation requirements for dangerous goods", "IMO IBC Code Chapter 18: List of products to which the Code does not

Carbozinc 11 Part A

	<p>apply", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "Sigma-AldrichTransport Information", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (English)", "International Air Transport Association (ATA) Dangerous Goods Regulations", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 2 Dangerous Goods in Limited Quantities and Consumer Commodities", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Dangerous Goods", "IMO IBC Code Chapter 17: Summary of minimum requirements", "Acros Transport Information", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)"</p>
<p>ethylene glycol monobutyl ether(111-76-2) is found on the following regulatory lists</p>	<p>"International Maritime Dangerous Goods Requirements (IMDG Code)", "IOFI Global Reference List of Chemically Defined Substances", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "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", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 4 Quantity Limits for Dangerous Goods in Excepted Quantities", "OSPAR National List of Candidates for Substitution – Norway", "OECD List of High Production Volume (HPV) Chemicals", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 3 Segregation requirements for dangerous goods", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "Sigma-AldrichTransport Information", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (English)", "International Air Transport Association (ATA) Dangerous Goods Regulations", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Dangerous Goods", "New Zealand Cosmetic Products Group Standard - Schedule 5 - Table 1: Components Cosmetic Products Must Not Contain Except Subject to the Restrictions and Conditions Laid Down", "IMO IBC Code Chapter 17: Summary of minimum requirements", "Acros Transport Information", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)"</p>
<p>methanol(67-56-1) is found on the following regulatory lists</p>	<p>"IMDG Code - Medical First Aid Guide for use in accidents involving Dangerous Goods (MFAG) - Appendix 15 List Of Substances", "International Maritime Dangerous Goods Requirements (IMDG Code)", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments", "FisherTransport Information", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 4 Quantity Limits for Dangerous Goods in Excepted Quantities", "OSPAR National List of Candidates for Substitution – Norway", "OECD List of High Production Volume (HPV) Chemicals", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 3 Segregation requirements for dangerous goods", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "Sigma-AldrichTransport Information", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (English)", "International Air Transport Association (ATA) Dangerous Goods Regulations", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 2 Dangerous Goods in Limited Quantities and Consumer Commodities", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Dangerous Goods", "New Zealand Cosmetic Products Group Standard - Schedule 5 - Table 1: Components Cosmetic Products Must Not Contain Except Subject to the Restrictions and Conditions Laid Down", "IMO IBC Code Chapter 17: Summary of minimum requirements", "Acros Transport Information", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)"</p>
<p>alcohol, denatured(64-17-5) is found on the following regulatory lists</p>	<p>"World Anti-Doping Agency - The 2012 Prohibited List World Anti-Doping Code - Substances Prohibited in Particular Sports", "International Maritime Dangerous Goods Requirements (IMDG Code)", "IOFI Global Reference List of Chemically Defined Substances", "International Council of Chemical Associations (ICCA) - High Production Volume List", "World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Particular Sports (French)", "World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Particular Sports (Korean)", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "FisherTransport Information", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 4 Quantity Limits for Dangerous Goods in Excepted Quantities", "OSPAR National List of Candidates for Substitution – Norway", "OECD List of High Production Volume (HPV) Chemicals", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 3 Segregation requirements for dangerous goods", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Competition (German)", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "Sigma-AldrichTransport Information", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (English)", "FEMA Generally Recognized as Safe (GRAS) Flavoring Substances 23 - Examples of FEMA GRAS Substances with Non-Flavor Functions", "International Air Transport Association (ATA) Dangerous Goods Regulations", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 2 Dangerous Goods in Limited Quantities and Consumer Commodities", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Dangerous Goods", "IMO IBC Code Chapter 17: Summary of minimum requirements", "Acros Transport Information", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)"</p>
<p>xylylene(1330-20-7) is found on the following regulatory lists</p>	<p>"International Maritime Dangerous Goods Requirements (IMDG Code)", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OSPAR List of Chemicals for Priority Action", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (English)", "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", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "FisherTransport Information", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 4 Quantity Limits for Dangerous Goods in Excepted Quantities", "OECD List of High Production Volume (HPV) Chemicals", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 3 Segregation requirements for dangerous goods", "United Nations Recommendations on the Transport of Dangerous Goods Model Regulations (Spanish)", "WHO Guidelines for Drinking-water Quality - Guideline values for chemicals that are of health significance in drinking-water", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "Regulations concerning the International Carriage of Dangerous Goods by Rail - Table A: Dangerous Goods List - RID 2013 (English)", "International Air Transport Association (ATA) Dangerous Goods Regulations", "New Zealand Land Transport Rule: Dangerous</p>

Goods 2005 - Schedule 2 Dangerous Goods in Limited Quantities and Consumer Commodities", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Dangerous Goods", "IMO IBC Code Chapter 17: Summary of minimum requirements", "New Zealand Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Chemicals (single components)"

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.

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment.

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.

Zinc Filler

ALTEX COATINGS LTD

Chemwatch: 9-43111
Version No: 2.4
Safety Data Sheet according to HSNO Regulations

Chemwatch Hazard Alert Code: 2

Issue Date: 18/12/2013
Print Date: 10/01/2014
S.GHS.NZL.EN

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

Product Identifier

Product name	Zinc Filler
Chemical Name	ZINC POWDER, NON-WATER REACTIVE
Synonyms	Not Available
Proper shipping name	Not Applicable
Chemical formula	Not Applicable
Other means of identification	Not Available
CAS number	7440-66-6.

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

Relevant identified uses	Use according to manufacturer's directions.
--------------------------	---------------------------------------------

Details of the supplier of the safety data sheet

Registered company name	ALTEX COATINGS LTD
Address	91-111 Oropi Road 3112 Bay of Plenty New Zealand
Telephone	+64 7 5411974
Fax	+64 7 5411310
Website	Not Available
Email	neil.debenham@carboline.co.nz

Emergency telephone number

Association / Organisation	NZ Poisons Centre (0800-1630hr Mon-Fri)
Emergency telephone numbers	0800 764766
Other emergency telephone numbers	0800 764766

CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
+800 2436 2255	+612 9186 1132	Not Available

Once connected and if the message is not in your preferred language then please dial 01


SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation.

GHS Classification ^[1]	Acute Toxicity (Inhalation) Category 4, Chronic Aquatic Hazard Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	6.1D (inhalation), 9.1A

Label elements

GHS label elements	
--------------------	-------------------------------------------------------------------------------------

SIGNAL WORD	WARNING
-------------	----------------

Hazard statement(s)

H332	Harmful if inhaled
H410	Very toxic to aquatic life with long lasting effects

Supplementary statement(s)

Not Applicable

Precautionary statement(s): Prevention

P271	Use only outdoors or in a well-ventilated area.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.

Precautionary statement(s): Response

P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.
P391	Collect spillage.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Precautionary statement(s): Storage

Not Applicable

Precautionary statement(s): Disposal

P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration
------	--------------------------------------------------------------------------------------------------------------

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
7440-66-6.	100	zinc powder, non-water reactive

SECTION 4 FIRST AID MEASURES

NZ Poisons Centre 0800 POISON (0800 764 766) | NZ Emergency Services: 111

Description of first aid measures

Eye Contact	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with water. ▶ If irritation continues, seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. ▶ DO NOT attempt to remove particles attached to or embedded in eye . ▶ Lay victim down, on stretcher if available and pad BOTH eyes, make sure dressing does not press on the injured eye by placing thick pads under dressing, above and below the eye. ▶ Seek urgent medical assistance, or transport to hospital.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none"> ▶ Immediately give a glass of water. ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

	<p>Treat symptomatically.</p> <p>Copper, magnesium, aluminium, antimony, iron, manganese, nickel, zinc (and their compounds) in welding, brazing, galvanising or smelting operations all give rise to thermally produced particulates of smaller dimension than may be produced if the metals are divided mechanically. Where insufficient ventilation or respiratory protection is available these particulates may produce "metal fume fever" in workers from an acute or long term exposure.</p> <ul style="list-style-type: none"> ▶ Onset occurs in 4-6 hours generally on the evening following exposure. Tolerance develops in workers but may be lost over the weekend. (Monday Morning Fever) ▶ Pulmonary function tests may indicate reduced lung volumes, small airway obstruction and decreased carbon monoxide diffusing capacity but these abnormalities resolve after several months. ▶ Although mildly elevated urinary levels of heavy metal may occur they do not correlate with clinical effects. ▶ The general approach to treatment is recognition of the disease, supportive care and prevention of exposure. ▶ Seriously symptomatic patients should receive chest x-rays, have arterial blood gases determined and be observed for the development of tracheobronchitis and pulmonary edema. <p>[Ellenhorn and Barceloux: Medical Toxicology]</p> <ul style="list-style-type: none"> ▶ Absorption of zinc compounds occurs in the small intestine. ▶ The metal is heavily protein bound. ▶ Elimination results primarily from faecal excretion.
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

- The usual measures for decontamination (Ipecac Syrup, lavage, charcoal or cathartics) may be administered, although patients usually have sufficient vomiting not to require them.
- CaNa₂EDTA has been used successfully to normalise zinc levels and is the agent of choice.

[Ellenhorn and Barceloux: Medical Toxicology]

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

Metal dust fires need to be smothered with sand, inert dry powders.

Special hazards arising from the substrate or mixture

Fire Incompatibility

- Reacts with acids producing flammable / explosive hydrogen (H₂) gas

Advice for firefighters

Fire Fighting

- Alert Fire Brigade and tell them location and nature of hazard.

Fire/Explosion Hazard

- Zinc dust clouds are potentially explosive.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills

Environmental hazard - contain spillage.

Major Spills

Environmental hazard - contain spillage.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling

For molten metals:

Other information

- Store in original containers.

Conditions for safe storage, including any incompatibilities

Suitable container

- Lined metal can, lined metal pail/ can.

Storage incompatibility

- WARNING: Avoid or control reaction with peroxides.



X — Must not be stored together

O — May be stored together with specific precautions

+ — May be stored together

PACKAGE MATERIAL INCOMPATIBILITIES

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
zinc powder, non-water reactive	10(ppm)	30(ppm)	50(ppm)	200(ppm)






Ingredient	Original IDLH	Revised IDLH
Zinc Filler	Not Available	Not Available

Exposure controls

Appropriate engineering controls

Metal dusts must be collected at the source of generation as they are potentially explosive.

Zinc Filler

Personal protection	    
Eye and face protection	▸ Safety glasses with side shields.
Skin protection	See Hand protection below
Hand protection	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.
Body protection	See Other protection below
Other protection	▸ Overalls.
Thermal hazards	

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:
Zinc Filler Not Available

Material	CPI

* CPI - Chemwatch Performance Index

Respiratory protection

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	-	PAPR-P1
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow
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

Appearance	grey powder		
Physical state	Divided Solid	Relative density (Water = 1)	7.6
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	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 Available
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Negligible
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution(1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	Product is considered stable and hazardous polymerisation will not occur.
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

Information on toxicological effects

Inhaled	Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation.
Ingestion	The material has
Skin Contact	Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.
Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

Zinc Filler	TOXICITY	IRRITATION
	Not Available	Not Available
zinc powder, non-water reactive	TOXICITY	IRRITATION
	Not Available	Not Available

Acute Toxicity	Acute Toxicity (Inhalation) Category 4	Carcinogenicity	Not Applicable
Skin Irritation/Corrosion	Not Applicable	Reproductivity	Not Applicable
Serious Eye Damage/Irritation	Not Applicable	STOT - Single Exposure	Not Applicable
Respiratory or Skin sensitisation	Not Applicable	STOT - Repeated Exposure	Not Applicable
Mutagenicity	Not Applicable	Aspiration Hazard	Not Applicable

CMR STATUS

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

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

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

Product / Packaging disposal	Legislation addressing waste disposal requirements may differ by country, state and/ or territory.
	Insure that the disposal of material is carried out in accordance with Hazardous Substances (Disposal) Regulations 2001.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	
HAZCHEM	Not Applicable

Land transport (UN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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
HSR002670	Surface Coatings and Colourants (Subsidiary Hazard) Group Standard 2006

<p>zinc powder, non-water reactive(7440-66-6.) is found on the following regulatory lists</p>	<p>"New Zealand Inventory of Chemicals (NZIoC)", "United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Dangerous Goods", "OECD List of High Production Volume (HPV) Chemicals", "FisherTransport Information", "Sigma-AldrichTransport Information", "WHO Guidelines for Drinking-water Quality - Chemicals for which guideline values have not been established", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "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 Land Transport Rule: Dangerous Goods 2005 - Schedule 1 Quantity limits", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code)", "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)"</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.

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment.

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH. TEL (+61 3) 9572 4700.