MSDS ATTACHMENT

PLEASE ATTACH THIS COMPLETED SHEET TO THE MSDS FOR:

PRODUCT:

CRC 2085 Zinc-It Aerosol

DATE:

(MSDS date)

10/03/2023

1. Manufacturer/Supplier:

PPS Industries Limited

86 Hugo Johnston Drive, Auckland

New Zealand

P.O.Box 12823, Penrose, Auckland 1642

Phone: 64 9 579-1001 Facsimile: 64 9 579-9497

Emergency Phone: 0800 657-894 Website: www.ppsindustries.co.nz

Emergency Information:

National Poison Centre

0800 764-766

Chemcall 24/7 Emergency Response Service :

0800 243-622

13. Disposal Considerations:

Product

Recommendation - Consult local or national regulations to ensure proper disposal.

Packaging

Disposal must be made according to official regulations.

16. Other Information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other

product or process, is the responsibility of the user.



CRC Zinc It Aerosol

CRC Industries (CRC Industries New Zealand)

Chemwatch: 17012 Version No: 12.1

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

Chemwatch Hazard Alert Code: 4

Issue Date: 10/03/2023 Print Date: 16/04/2024

S.GHS.NZL.EN

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

duct Identifier	
Product name	CRC Zinc It Aerosol
Chemical Name	Not Applicable
Synonyms	CRC2085A; CRC2085AB
Proper shipping name	AEROSOLS
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses

Anti corrosive interior / exterior zinc spray coating for metal protection. Application is by spray atomisation from a hand held aerosol pack

Details of the manufacturer or supplier of the safety data sheet

Registered company name	CRC Industries (CRC Industries New Zealand)
Address	10 Highbrook Drive East Tamaki Auckland New Zealand
Telephone	+64 9 272 2700
Fax	+64 9 274 9696
Website	www.crc.co.nz
Email	info.nz@crc.co.nz

Emergency telephone number

Association / Organisation	CRC Industries (CRC Industries New Zealand)	CHEMWATCH EMERGENCY RESPONSE (24/7)
Emergency telephone numbers	NZ Poisons Centre 0800 POISON (0800 764 766)	+64 800 700 112
Other emergency telephone numbers	111 (NZ Emergency Services)	+61 3 9573 3188

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

Classification ^[1]	Aerosols Category 1, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2, Reproductive Toxicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2, Hazardous to the Aquatic Environment Acute Hazard Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	2.1.2A, 6.1D (oral), 6.3A, 6.4A, 6.8B, 6.9B, 9.1A

Hazard pictogram(s)









Signal word

Hazard statement(s)

H222+H229	Extremely flammable aerosol. Pressurized container: may burst if heated.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/ attention.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314	Get medical advice/attention if you feel unwell.
P337+P313	If eye irritation persists: Get medical advice/attention.

Precautionary statement(s) Storage

P405	Store locked up.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Precautionary statement(s) Disposal

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

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
7440-66-6	20-40	zinc powder
108-88-3	5-20	<u>toluene</u>
1330-20-7	5-20	xylene
6422-86-2	<1	dioctyl terephthalate
Not Available	1-9	additives, unregulated
Not Available		propellant as
68476-85-7.	10-30	LPG (liquefied petroleum gas)

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

SECTION 4 First aid measures

Description of first aid measures

- 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 and lower lids.
- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

If solids or aerosol mists are deposited upon the skin:

- Flush skin and hair with running water (and soap if available).
- Remove any adhering solids with industrial skin cleansing cream.
- DO NOT use solvents.
- Seek medical attention in the event of irritation.

If aerosols, fumes or combustion products are inhaled:

- · Remove to fresh air.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- 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.
- Transport to hospital, or doctor.
- Avoid giving milk or oils.
- Avoid giving alcohol.

Not considered a normal route of entry.

Ingestion

Inhalation

Skin Contact

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

Following acute or short term repeated exposures to toluene:

- Toluene is absorbed across the alveolar barrier, the blood/air mixture being 11.2/15.6 (at 37 degrees C.) The concentration of toluene, in expired breath, is of the order of 18 ppm following sustained exposure to 100 ppm. The tissue/blood proportion is 1/3 except in adipose where the proportion is 8/10.
- Metabolism by microsomal mono-oxygenation, results in the production of hippuric acid. This may be detected in the urine in amounts between 0.5 and 2.5 g/24 hr which represents, on average 0.8 gm/gm of creatinine. The biological half-life of hippuric acid is in the order of 1-2 hours.
- Primary threat to life from ingestion and/or inhalation is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (eg 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 damage 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 (adrenaline) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- Lavage is indicated in patients who require decontamination; ensure use.

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

 o-Cresol in urine
 0.5 mg/L
 End of shift
 B

 Hippuric acid in urine
 1.6 g/g creatinine
 End of shift
 B, NS

Toluene in blood 0.05 mg/L Prior to last shift of workweek

NS: Non-specific determinant; also observed after exposure to other material

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

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

- · 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

SMALL FIRE:

Water spray, dry chemical or CO2

LARGE FIRE:

Water spray or fog.

Special hazards arising from the substrate or mixture

Fire Incompatibility

- Reacts with acids producing flammable / explosive hydrogen (H2) gas
- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may

Advice for firefighters

Fire Fighting

- · Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- · Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.

· Liquid and vapour are highly flammable.

- Severe fire hazard when exposed to heat or flame.
- Vapour forms an explosive mixture with air.
- Severe explosion hazard, in the form of vapour, when exposed to flame or spark.

Fire/Explosion Hazard

Combustion products include:

carbon dioxide (CO2)

metal oxides

other pyrolysis products typical of burning organic material.

Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Wear protective clothing, impervious gloves and safety glasses.
- Shut off all possible sources of ignition and increase ventilation.
- · Remove leaking cylinders to a safe place if possible.
- Release pressure under safe, controlled conditions by opening the valve.
- DO NOT exert excessive pressure on valve; DO NOTattempt to operate damaged valve.

Major Spills

- · Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard. May be violently or explosively reactive.
- · Wear breathing apparatus plus protective gloves.

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

SECTION 7 Handling and storage

Precautions for safe handling

Safe handling

- Avoid all personal contact, including inhalation.
- · Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

Other information

· Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can

- · Store in original containers in approved flammable liquid storage area.
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- No smoking, naked lights, heat or ignition sources.
- · Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container

- CARE: Packing of high density product in light weight metal or plastic packages may result in container collapse with product release
- ▶ Heavy gauge metal packages / Heavy gauge metal drums
- Aerosol dispenser.
- Check that containers are clearly labelled.

Storage incompatibility

Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
New Zealand Workplace Exposure Standards (WES)	zinc powder	Respirable dust (not otherwise classified)	3 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	zinc powder	Inhalable dust (not otherwise classified)	10 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	toluene	Toluene (Toluol)	20 ppm / 75 mg/m3	377 mg/m3 / 100 ppm	Not Available	(skin) - Skin absorption oto - Ototoxin (bio) - Exposure can also be estimated by biological monitoring
New Zealand Workplace Exposure Standards (WES)	xylene	Dimethylbenzene	50 ppm / 217 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	dioctyl terephthalate	Respirable dust (not otherwise classified)	3 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	dioctyl terephthalate	Inhalable dust (not otherwise classified)	10 mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	LPG (liquefied petroleum gas)	LPG (Liquefied petroleum gas)	1000 ppm / 1800 mg/m3	Not Available	Not Available	Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
zinc powder	6 mg/m3	21 mg/m3	120 mg/m3
toluene	Not Available	Not Available	Not Available
xylene	Not Available	Not Available	Not Available
LPG (liquefied petroleum gas)	65,000 ppm	2.30E+05 ppm	4.00E+05 ppm

Ingredient	Original IDLH	Revised IDLH
zinc powder	Not Available	Not Available
toluene	500 ppm	Not Available
xylene	900 ppm	Not Available
dioctyl terephthalate	Not Available	Not Available
LPG (liquefied petroleum gas)	2,000 ppm	Not Available

Exposure controls

Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Individual protection measures, such as personal protective equipment









Eye and face protection

- Safety glasses with side shields.
- ► Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent]
- 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.

Skin protection

See Hand protection below

- No special equipment needed when handling small quantities.
- ▶ OTHERWISE:
- For potentially moderate exposures:
- ▶ Wear general protective gloves, eg. light weight rubber gloves.
- For potentially heavy exposures:
- ▶ Wear chemical protective gloves, eg. PVC, and safety footwear.

Body protection

Hands/feet protection

See Other protection below

No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Skin cleansing cream.
- Other protection
- Evewash unit.
- The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.
- Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost. BRETHERICK: Handbook of Reactive Chemical Hazards.

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:

CRC Zinc It Aerosol

Material	CPI
PE/EVAL/PE	Α
PVA	Α
VITON	Α
TEFLON	В
BUTYL	С
BUTYL/NEOPRENE	С
CPE	С
HYPALON	С
NAT+NEOPR+NITRILE	С
NATURAL+NEOPRENE	С
NEOPRENE	С
NEOPRENE/NATURAL	С
NITRILE	С
NITRILE+PVC	С
PVC	С
PVDC/PE/PVDC	С
SARANEX-23	С
SARANEX-23 2-PLY	С
VITON/CHLOROBUTYL	С
VITON/NEOPRENE	С

^{*} 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	AX-AUS	-	AX-PAPR-AUS / Class 1	
up to 50 x ES		AX-AUS / Class 1	1.	
up to 100 x ES	-	AX-2	AX-PAPR-2 ^	

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

* 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.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance

Grey viscous liquid with a solvent odour; not miscible with water.

Supplied as an aerosol pack. Contents under PRESSURE. Contains highly flammable hydrocarbon propellant. Supplied as an aerosol pack. Contents under PRESSURE.

	l	Relative density (Water =	
Physical state	Liquid	1)	2.1
Odour	Not Available	Partition coefficient n- octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	110	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	-81 Propellant	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	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)	Not Available
Vapour pressure (kPa)	UNDER PRESSURE	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	>1	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See sect
	▶ Eleva

tion 7

- ated temperatures.
- · Presence of open flame.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Possibility of hazardous reactions

See section 7 See section 7

Conditions to avoid

Chemical stability

Incompatible materials

See section 7

Hazardous decomposition products

See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled

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 sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

Inhalation of toxic gases may cause:

- · Central Nervous System effects including depression, headache, confusion, dizziness, stupor, coma and seizures;
- respiratory: acute lung swellings, shortness of breath, wheezing, rapid breathing, other symptoms and respiratory arrest;
- ▶ heart: collapse, irregular heartbeats and cardiac arrest;
- gastrointestinal: irritation, ulcers, nausea and vomiting (may be bloody), and abdominal pain.

Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.

Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure. Symptoms of asphyxia (suffocation) may include headache, dizziness, shortness of breath, muscular weakness, drowsiness and ringing in the ears. If the asphyxia is allowed to progress, there may be nausea and vomiting, further physical weakness and unconsciousness and, finally, convulsions, coma and death.

WARNING:Intentional misuse by concentrating/inhaling contents may be lethal.

Headache, fatigue, tiredness, irritability and digestive disturbances (nausea, loss of appetite and bloating) are the most common symptoms of xylene overexposure. Injury to the heart, liver, kidneys and nervous system has also been noted amongst workers. Exposure to hydrocarbons may result in irregularity of heart beat. Symptoms of moderate poisoning may include dizziness, headache, nausea.

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.

Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)

Not normally a hazard due to physical form of product.

Considered an unlikely route of entry in commercial/industrial environments

Skin contact with the material may be harmful; systemic effects may result following absorption.

The material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.

Spray mist may produce discomfort

Open cuts, abraded or irritated skin should not be exposed to this material

If applied to the eyes, this material causes severe eye damage. Not considered to be a risk because of the extreme volatility of the gas.

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects,

Based on experience with animal studies, exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother.

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

Main route of exposure to the gas in the workplace is by inhalation.

Women exposed to xylene in the first 3 months of pregnancy showed a slightly increased risk of miscarriage and birth defects. Evaluation of workers chronically exposed to xylene has demonstrated lack of genetic toxicity.

Intentional abuse (glue sniffing) or occupational exposure to toluene can result in chronic habituation. Chronic abuse has caused inco-ordination, tremors of the extremeties (due to widespread cerebrum withering), headache, abnormal speech, temporary memory loss, convulsions, coma, drowsiness, reduced colour perception, blindness, nystagmus (rapid, involuntary eye movements), hearing loss leading to deafness and mild dementia.

CRC Zinc It Aerosol

Ingestion

Skin Contact

Eye

Chronic

TOXICITY

Not Available

TOXICITY

zinc powder

Dermal (rabbit) LD50: 1130 mg/kg^[2]

Oral (Rat) LD50: >2000 mg/kg[1]

TOXICITY

Dermal (rabbit) LD50: 12124 mg/kg^[2]
Inhalation (Rat) LC50: >13350 ppm4h^[2]

Oral (Rat) LD50: 636 mg/kg^[2]

toluene

xvlene

IRRITATION

Not Available

IRRITATION

Eye: no adverse effect observed (not irritating)[1]

Skin: no adverse effect observed (not irritating)[1]

IRRITATION

Eye (rabbit): 2mg/24h - SEVERE

Eye (rabbit):0.87 mg - mild

Eye (rabbit):100 mg/30sec - mild

Eye: adverse effect observed (irritating)^[1]

Skin (rabbit):20 mg/24h-moderate

Skin (rabbit):500 mg - moderate

Skin: adverse effect observed (irritating)[1]

Skin: no adverse effect observed (not irritating) [1]

TOXICITY

Dermal (rabbit) LD50: >1700 mg/kg^[2]

Inhalation (Rat) LC50: 5000 ppm4h^[2]

Oral (Mouse) LD50; 2119 mg/kg^[2]

IRRITATION

Eye (human): 200 ppm irritant

Eye (rabbit): 5 mg/24h SEVERE

Eye (rabbit): 87 mg mild

Eye: adverse effect observed (irritating)^[1]

Skin (rabbit):500 mg/24h moderate

Skin: adverse effect observed (irritating)[1]

dioctyl terephthalate

TOXICITY

dermal (guinea pig) LD50: >19.68 mg/kg^[2]

IRRITATION

Eye (rabbit): slight

Oral (Mouse) LD50; >3200 mg/kg[2]

Skin (g. pig): slight [Eastman]

LPG (liquefied petroleum

TOXICITY

IRRITATION

Inhalation (Rat) LC50: 658 mg/l4h^[2]

Not Available

Legend:

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2, Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

ZINC POWDER

Inhalation (human) TCLo: 124 mg/m3/50min. Skin (human):0.3mg/3DaysInt. mild

For toluene:

TOLUENE

Acute toxicity: Humans exposed to high levels of toluene for short periods of time experience adverse central nervous system effects ranging from headaches to intoxication, convulsions, narcosis (sleepiness) and death. When inhaled or swallowed, toluene can cause severe central nervous system depression, and in large doses has a narcotic effect. 60mL has caused death. Death of heart muscle fibres, liver swelling, congestion and bleeding of the lungs and kidney injury were all found on autopsy. Exposure to inhalation at a concentration of 600 parts per million for 8 hours resulted in the same and more serious symptoms including euphoria (a feeling of well-being), dilated pupils, convulsions and nausea.

Reproductive effector in rats

XYLENE

The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

For terephthalic acid and its ester hydrolysates:

Human Health: Results from repeated dose and acute toxicity studies via the oral, dermal and inhalation routes indicate that terephthalic acid is of low order of toxicity, and it is non-irritating to the skin and eyes. A 15 week oral repeat dose study in rats reported a LOAEL of 3837 mg/kg b.w./day for male rates and 4523 mg/kg/day for female rats. The NOAEL is 1220 mg/kg b.w./day for male rats and 1456 mg/kg b.w./day for female rats. Repeated exposure inhalation studies up to 10 mg/m 3 (6 hours/day, 5 days/week) using rats or guinea pigs showed no adverse effects, except for mild respiratory irritation in one study

DIOCTYL TEREPHTHALATE

The primary adverse effect of high doses of terephthalic acid to rats is almost completely restricted to the urinary tract. Tests reveal that terephthalic acid has low levels of toxicity when swallowed, inhaled or on skin contact. Animal testing shows that it causes mild airway irritation, and causes inflammation and stones in the bladder, with tumours appearing on chronic exposure. It is unlikely that humans would ingest enough terephthalic acid to cause bladder stones. Terephthalic acid does not cause reproductive toxicity, or genetic damage.

LPG (LIQUEFIED PETROLEUM GAS)

No significant acute toxicological data identified in literature search. inhalation of the gas

CRC Zinc It Aerosol & XYLENE

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

CRC Zinc It Aerosol & **TOLUENE & XYLENE** The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

Acute Toxicity	~	Carcinogenicity	×
Skin Irritation/Corrosion	~	Reproductivity	~
Serious Eye Damage/Irritation	~	STOT - Single Exposure	×
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	~
Mutagenicity	×	Aspiration Hazard	×

Legend:

X - Data either not available or does not fill the criteria for classification

Data available to make classification

SECTION 12 Ecological information

Toxicity

CRC	Zinc	It A	eros	ol

zinc powder

Endpoint	Test Duration (hr)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available
Endpoint	Test Duration (hr)	Species	Value	Source
NOEC(ECx)	672h	Fish	0.003mg/L	4
EC50	72h	Algae or other aquatic plants	0.005mg/l	4
EC50	96h	Algae or other aquatic plants	0.042mg/L	2
EC50	48h	Crustacea	0.06- 0.08mg/L	4

	LC50	96h	Fish	0.011- 0.014mg/L	4
	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	12.5mg/L	4
	LC50	96h	Fish	5-35mg/I	4
toluene	EC50	48h	Crustacea	3.78mg/L	5
	NOEC(ECx)	168h	Crustacea	0.74mg/l	2
	EC50	96h	Algae or other aquatic plants	>376.71mg/L	4
A /	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	2.6mg/l	2
xylene	EC50	72h	Algae or other aquatic plants	4.6mg/l	2
	EC50	48h	Crustacea	1.8mg/l	2
	NOEC(ECx)	73h	Algae or other aquatic plants	0.44mg/l	2
	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	>984mg/l	2
dioctyl terephthalate	NOEC(ECx)	504h	Crustacea	>=0.001mg/L	2
	EC50	72h	Algae or other aquatic plants	>0.86mg/l	2
	EC50	48h	Crustacea	>0.001mg/L	2
	Endpoint	Test Duration (hr)	Species	Value	Source
LPG (liquefied petroleum gas)	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:			e ECHA Registered Substances - Ecotoxicologio Data 5. ECETOC Aquatic Hazard Assessment Da		

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

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

Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

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

For Metal:

Atmospheric Fate - Metal-containing inorganic substances generally have negligible vapour pressure and are not expected to partition to air.

Environmental Fate: Environmental processes, such as oxidation, the presence of acids or bases and microbiological processes, may transform insoluble metals to more soluble ionic forms. Environmental processes may enhance bioavailability and may also be important in changing solubilities.

Aquatic/Terrestrial Fate: When released to dry soil, most metals will exhibit limited mobility and remain in the upper layer; some will leach locally into ground water and/ or surface water ecosystems when soaked by rain or melt ice. A metal ion is considered infinitely persistent because it cannot degrade further. For Aromatic Substances Series:

Environmental Fate: Large, molecularly complex polycyclic aromatic hydrocarbons, or PAHs, are persistent in the environment longer than smaller PAHs. Atmospheric Fate: PAHs are 'semi-volatile substances' which can move between the atmosphere and the Earth's surface in repeated, temperature-driven cycles of deposition and volatilization. Terrestrial Fate: BTEX compounds have the potential to move through soil and contaminate ground water, and their vapors are highly flammable and explosive.

Ecotoxicity - Within an aromatic series, acute toxicity increases with increasing alkyl substitution on the aromatic nucleus.

For Xylenes:

log Koc: 2.05-3.08; Koc: 25.4-204; Half-life (hr) air: 0.24-42; Half-life (hr) H2O surface water: 24-672; Half-life (hr) H2O ground: 336-8640; Half-life (hr) soil: 52-672; Henry's Pa m3 /mol: 637-879; Henry's atm m3 /mol-7.68E-03; BOD 5 if unstated - 1.4,1%; COD - 2.56,13% ThOD - 3.125: BCF: 23; log BCF: 1.17-2.41. Environmental Fate: Most xylenes released to the environment will occur in the atmosphere and volatilisation is the dominant environmental fate process. Soil - Xylenes are expected to have moderate mobility in soil evaporating rapidly from soil surfaces. The extent of the degradation is expected to depend on its concentration, residence time in the soil, the nature of the soil, and whether resident microbial populations have been acclimated.

For Toluene: log Kow: 2.1-3; log Koc: 1.12-2.85; Koc: 37-260; log Kom: 1.39-2.89; Half-life (hr) air: 2.4-104;

Half-life (hr) H2O surface water: 5.55-528; Half-life (hr) H2O ground: 168-2628;

Half-life (hr) soil : <48-240; Henry's Pa m3 /mol : 518-694; Henry's atm m3 /mol : 5.94;

E-03BOD 5 0.86-2.12, 5%COD - 0.7-2.52,21-27%;

ThOD - 3.13; BCF - 1.67-380;

log BCF - 0.22-3.28.

Atmospheric Fate: The majority of toluene evaporates to the atmosphere from the water and soil. The main degradation pathway for toluene in the atmosphere is reaction with photochemically produced hydroxyl radicals. The estimated atmospheric half life for toluene is about 13 hours.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air	
toluene	LOW (Half-life = 28 days)	LOW (Half-life = 4.33 days)	
xylene	HIGH (Half-life = 360 days)	LOW (Half-life = 1.83 days)	
dioctyl terephthalate	LOW	LOW	

Bioaccumulative potential

Ingredient	Bioaccumulation	
toluene	LOW (BCF = 90)	
xylene	MEDIUM (BCF = 740)	
dioctyl terephthalate	LOW (LogKOW = 8.3918)	

Mobility in soil

Ingredient	Mobility
toluene	LOW (Log KOC = 268)
dioctyl terephthalate	LOW (Log KOC = 162100)

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging

disposal

- DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
 - · Consult State Land Waste Management Authority for disposal.
 - Discharge contents of damaged aerosol cans at an approved site.
 - · Allow small quantities to evaporate.
 - DO NOT incinerate or puncture aerosol cans.

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

Disposal Requirements

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

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

SECTION 14 Transport information

Labels Required



Marine Pollutant



HAZCHEM

Not Applicable

Land transport (UN)

14.1. UN number or ID number	1950	
14.2. UN proper shipping name	AEROSOLS	
14.3. Transport hazard class(es)	Class	2.1

Subsidiary Hazard Not Applicable

14.4. Packing group

14.5. Environmental hazard

14.6. Special precautions for user

Subsidiary Hazard Not Applicable

Environmentally hazardous

63; 190; 277; 327; 344; 381

Limited quantity 1000ml

Air transport (ICAO-IATA / DGR)

14.1. UN number	1950		
14.2. UN proper shipping name	Aerosols, flammable		
14.3. Transport hazard class(es)	ICAO/IATA Class ICAO / IATA Subsidiary Hazard ERG Code	2.1 Not Applicable 10L	
14.4. Packing group	Not Applicable		
14.5. Environmental hazard	Environmentally hazardous		
	Special provisions		A145 A167 A802
	Cargo Only Packing Instructions		203
	Cargo Only Maximum Qty / Pack		150 kg
14.6. Special precautions for user	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)

14.1. UN number	1950	
14.2. UN proper shipping name	AEROSOLS	
14.3. Transport hazard class(es)	IMDG Class IMDG Subsidiary Ha	2.1 azard Not Applicable
14.4. Packing group 14.5 Environmental hazard	Not Applicable Marine Pollutant	
14.6. Special precautions for user	EMS Number Special provisions Limited Quantities	F-D , S-U 63 190 277 327 344 381 959 1000 ml

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

Not Applicable

14.7.2. Transport in bulk in accordance with MARPOL Annex ${\bf V}$ and the IMSBC Code

Product name	Group
zinc powder	Not Available
toluene	Not Available
xylene	Not Available
dioctyl terephthalate	Not Available
LPG (liquefied petroleum gas)	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
zinc powder	Not Available
toluene	Not Available

Product name Ship Type

xylene Not Available
dioctyl terephthalate Not Available

LPG (liquefied petroleum
qas) 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

HSR002515 Aerosols Flammable Group Standard 2020

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

zinc powder is found on the following regulatory lists

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

New Zealand Approved Hazardous Substances with controls

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

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

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

toluene is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

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

New Zealand Approved Hazardous Substances with controls

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

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

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

xylene is found on the following regulatory lists

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

New Zealand Approved Hazardous Substances with controls

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

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

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

dioctyl terephthalate is found on the following regulatory lists

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

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

LPG (liquefied petroleum gas) is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

New Zealand Approved Hazardous Substances with controls

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

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

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

Additional Regulatory Information

Not Applicable

Hazardous Substance Location

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

Hazard Class	Quantity (Closed Containers)	Quantity (Open Containers)	
2.1.2A	3 000 L (aggregate water capacity)	3 000 L (aggregate water capacity)	

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

Class of substance Quantities

Not Applicable Not Applicable

Refer Group Standards for further information

Maximum quantities of certain hazardous substances permitted on passenger service vehicles

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

Hazard Class	Gas (aggregate water capacity in mL)	Liquid (L)	Solid (kg)	Maximum quantity per package for each classification
2.1.2A				1L (aggregate water capacity)

Tracking Requirements

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (zinc powder; toluene; xylene; dioctyl terephthalate; LPG (liquefied petroleum gas))
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (zinc powder)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date 10/03/2023	
Initial Date 12/11/2001	

SDS Version Summary

Version	Date of Update	Sections Updated
11.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification
12.1	10/03/2023	Classification change due to full database hazard calculation/update.

Other information

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

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

Definitions and abbreviations

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

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

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.

