

CRC (NZ) 2087 Bright Zinc Aerosol

CRC Industries (CRC Industries New Zealand)

Chemwatch: 4826-38

Version No: 5.1.1.1

Safety Data Sheet according to HSNO Regulations

Chemwatch Hazard Alert Code: 4

Issue Date: 01/01/2013

Print Date: 20/07/2016

Initial Date: **Not Available**

S.GHS.NZL.EN

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

Product Identifier

Product name	CRC (NZ) 2087 Bright Zinc Aerosol
Synonyms	Not Available
Proper shipping name	AEROSOLS
Other means of identification	Not Available

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

Relevant identified uses	Application is by spray atomisation from a hand held aerosol pack To provide a bright silver anticorrosive coating to metal surfaces.
---------------------------------	--

Details of the supplier of the safety data sheet

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

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	+64 9 278-7913
Other emergency telephone numbers	Not Available

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. Classified as Dangerous Goods for transport purposes.

CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	4	
Toxicity	2	
Body Contact	3	
Reactivity	1	
Chronic	3	

0 = Minimum
1 = Low
2 = Moderate
3 = High
4 = Extreme

Classification ^[1]	Aerosols Category 1, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Reproductive Toxicity Category 2, Specific target organ toxicity - single exposure Category 3 (narcotic effects), Specific target organ toxicity - repeated exposure Category 2, Acute Aquatic Hazard Category 1, 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

2.1.2A, 6.1D (oral), 6.3A, 6.4A, 6.8B, 6.9 (narcotic), 6.9B (inhalation), 9.1A

Label elements

GHS label elements



SIGNAL WORD

DANGER

Hazard statement(s)

H222	Extremely flammable aerosol.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H361	Suspected of damaging fertility or the unborn child.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs.
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/sparks/open flames/hot surfaces. - No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Pressurized container: Do not pierce or burn, even after use.

Precautionary statement(s) Response

P308+P313	IF exposed or concerned: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
-------------	---

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
7440-66-6	10-25	zinc powder
108-88-3	10-25	toluene
1330-20-7	1-9	xylene
7429-90-5	1-3	aluminium flake
68476-85-7.	25-35	hydrocarbon propellant

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 aerosols come in contact with the eyes:</p> <ul style="list-style-type: none">▶ 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.
Skin Contact	<p>If solids or aerosol mists are deposited upon the skin:</p> <ul style="list-style-type: none">▶ 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.
Inhalation	<p>If aerosols, fumes or combustion products are inhaled:</p> <ul style="list-style-type: none">▶ 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.
Ingestion	<p>Not considered a normal route of entry.</p> <ul style="list-style-type: none">▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.▶ If swallowed do NOT induce vomiting.▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.▶ Observe the patient carefully.▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.▶ Seek medical advice.▶ Avoid giving milk or oils.▶ Avoid giving alcohol.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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	<ul style="list-style-type: none">▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
----------------------	--

Advice for firefighters

Fire Fighting	<ul style="list-style-type: none">▶ 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.
Fire/Explosion Hazard	<ul style="list-style-type: none">▶ 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. <p>Other combustion products include; carbon dioxide (CO2) other pyrolysis products typical of burning organic material</p>

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	<ul style="list-style-type: none">▶ 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.
Major Spills	<ul style="list-style-type: none">▶ 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 NOT attempt to operate damaged valve.▶ 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	<ul style="list-style-type: none"> ▶ Containers, even those that have been emptied, may contain explosive vapours. ▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers. ▶ DO NOT allow clothing wet with material to stay in contact with skin ▶ Electrostatic discharge may be generated during pumping - this may result in fire. ▶ Ensure electrical continuity by bonding and grounding (earthing) all equipment. ▶ Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (≤ 1 m/sec until fill pipe submerged to twice its diameter, then ≤ 7 m/sec). ▶ Avoid splash filling. ▶ Atmospheres must be tested and O.K. before work resumes after leakage. ▶ Obtain a work permit before attempting any repairs. ▶ Do not attempt repair work on lines, vessels under pressure. ▶ Avoid generation of static electricity. Earth all lines and equipment. ▶ DO NOT transfer gas from one cylinder to another. ▶ 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	<ul style="list-style-type: none"> ▶ Store in an upright position. ▶ Outside or detached storage is preferred. ▶ Store below 38 deg. C. ▶ 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	<ul style="list-style-type: none"> ▶ Aerosol dispenser. ▶ Check that containers are clearly labelled.
Storage incompatibility	<ul style="list-style-type: none"> ▶ Many metals may incandesce, react violently, ignite or react explosively upon addition of concentrated nitric acid. ▶ Reacts violently with caustic soda, other alkalies - generating heat, highly flammable hydrogen gas. ▶ If alkali is dry, heat generated may ignite hydrogen - if alkali is in solution may cause violent foaming ▶ Segregate from alcohol, water. ▶ 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	Particulates not otherwise classified	10 Inhalable dust; 3 Respirable dust mg/m ³	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	toluene	Toluene	188 mg/m ³ / 50 ppm	Not Available	Not Available	Skin absorption
New Zealand Workplace Exposure Standards (WES)	xylene	Xylene (o-, m-, p-isomers)	217 mg/m ³ / 50 ppm	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	aluminium flake	Aluminium, as Al Metal dust / Aluminium, as Al Pyro powders / Aluminium, as Al Welding fumes	10 mg/m ³ / 5 mg/m ³	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	hydrocarbon propellant	LPG (Liquefied petroleum gas)	1800 mg/m ³ / 1000 ppm	Not Available	Not Available	Not Available


EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
------------	---------------	--------	--------	--------

zinc powder	Zinc	1.9 mg/m3	21 mg/m3	120 mg/m3
toluene	Toluene	Not Available	Not Available	Not Available
xylene	Xylenes	Not Available	Not Available	Not Available
aluminium flake	Aluminum	3 mg/m3	33 mg/m3	200 mg/m3
hydrocarbon propellant	Liquified petroleum gas; (L.P.G.)	3,000 ppm	3200 ppm	19000 ppm

Ingredient	Original IDLH	Revised IDLH
zinc powder	Not Available	Not Available
toluene	2,000 ppm	500 ppm
xylene	1,000 ppm	900 ppm
aluminium flake	Not Available	Not Available
hydrocarbon propellant	19,000 [LEL] ppm	2,000 [LEL] ppm

Exposure controls

Appropriate engineering controls	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.
Skin protection	See Hand protection below
Hands/feet protection	<p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Suitability and durability of glove type is dependent on usage.</p> <ul style="list-style-type: none"> ▶ 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	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ 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. <p>BREThERICK: Handbook of Reactive Chemical Hazards.</p> <p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> ▶ Overalls. ▶ Skin cleansing cream. ▶ Eyewash unit.
Thermal hazards	Not Available

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

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

CRC (NZ) 2087 Bright Zinc Aerosol

Material	CPI
PE/EVAL/PE	A
PVA	A

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
------------------------------------	----------------------	----------------------	------------------------

VITON	A
TEFLON	B
BUTYL	C
BUTYL/NEOPRENE	C
HYPALON	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PVC	C
VITON/NEOPRENE	C

* 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. -

* 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.

up to 10 x ES	AX-AUS / Class 1	-	AX-PAPR-AUS / Class 1
up to 50 x ES	Air-line*	-	-
up to 100 x ES	-	AX-3	-
100+ x ES	-	Air-line**	-

* - Continuous-flow; ** - Continuous-flow or positive pressure demand
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	Supplied as an aerosol pack. Contents under PRESSURE . Contains highly flammable hydrocarbon propellant.		
Physical state	Liquid	Relative density (Water = 1)	Not Available
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	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	-81	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)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Elevated temperatures. ▶ Presence of open flame. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	<p>Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. 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.</p> <p>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.</p> <p>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.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> <p>If exposure to highly concentrated solvent atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and possible death.</p> <p>WARNING: Intentional misuse by concentrating/inhaling contents may be lethal.</p> <p>Xylene is a central nervous system depressant</p>
Ingestion	<p>Not normally a hazard due to physical form of product.</p> <p>Considered an unlikely route of entry in commercial/industrial environments</p> <p>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.</p> <p>Not a likely route of entry into the body in commercial or industrial environments. The liquid may produce considerable gastrointestinal discomfort and be harmful or toxic if swallowed.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p>
Skin Contact	<p>Skin contact with the material may be harmful; systemic effects may result following absorption.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Spray mist may produce discomfort</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>The material may cause moderate inflammation of the skin either following direct contact or after a delay of some time.</p> <p>Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.</p>
Eye	<p>If applied to the eyes, this material causes severe eye damage.</p> <p>The liquid produces a high level of eye discomfort and is capable of causing pain and severe conjunctivitis. Corneal injury may develop, with possible permanent impairment of vision, if not promptly and adequately treated.</p>
Chronic	<p>Principal route of occupational exposure to the gas is by inhalation.</p> <p>There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.</p> <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>Harmful: danger of serious damage to health by prolonged exposure through inhalation.</p> <p>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.</p> <p>There is some evidence from animal testing that exposure to this material may result in toxic effects to the unborn baby. Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis).</p> <p>Metallic dusts generated by the industrial process give rise to a number of potential health problems. The larger particles, above 5 micron, are nose and throat irritants.</p> <p>Chronic solvent inhalation exposures may result in nervous system impairment and liver and blood changes. [PATTYS]</p>

CRC (NZ) 2087 Bright Zinc Aerosol	TOXICITY	IRRITATION
	Not Available	Not Available
zinc powder	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 1130 mg/kg ^[2]	Not Available
	Oral (rat) LD50: >2000 mg/kg ^[1]	
toluene	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 12124 mg/kg ^[2]	Eye (rabbit): 2mg/24h - SEVERE
	Inhalation (rat) LC50: >26700 ppm/1hr ^[2]	Eye (rabbit): 0.87 mg - mild
	Inhalation (rat) LC50: 49 mg/L/4hr ^[2]	Eye (rabbit): 100 mg/30sec - mild
	Oral (rat) LD50: 636 mg/kg ^[2]	Skin (rabbit): 20 mg/24h - moderate
		Skin (rabbit): 500 mg - moderate

xylene	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >1700 mg/kg ^[2]	Eye (human): 200 ppm irritant
	Inhalation (rat) LC50: 5000 ppm/4hr ^[2]	Eye (rabbit): 5 mg/24h SEVERE
	Oral (rat) LD50: 4300 mg/kg ^[2]	Eye (rabbit): 87 mg mild
		Skin (rabbit):500 mg/24h moderate
aluminium flake	TOXICITY	IRRITATION
	Oral (rat) LD50: >2000 mg/kg ^[1]	Not Available
hydrocarbon propellant	TOXICITY	IRRITATION
	Inhalation (mouse) LC50: >15.6-<17.9 mm/l/2hr ^[1]	Not Available
	Inhalation (mouse) LC50: >15.6-<17.9 mm/l/2hr ^[1]	
	Inhalation (mouse) LC50: 410000 ppm/2hr ^[1]	
	Inhalation (mouse) LC50: 410000 ppm/2hr ^[1]	
	Inhalation (rat) LC50: >800000 ppm15 min ^[1]	
	Inhalation (rat) LC50: >800000 ppm15 min ^[1]	
	Inhalation (rat) LC50: 1354.944 mg/L15 min ^[1]	
	Inhalation (rat) LC50: 1355 mg/l15 min ^[1]	
	Inhalation (rat) LC50: 1442.738 mg/L15 min ^[1]	
	Inhalation (rat) LC50: 1442.738 mg/L15 min ^[1]	
	Inhalation (rat) LC50: 1443 mg/l15 min ^[1]	
	Inhalation (rat) LC50: 1443 mg/l15 min ^[1]	
	Inhalation (rat) LC50: 570000 ppm15 min ^[1]	
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
TOLUENE	<p>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.</p> <p>For toluene:</p> <p>Acute Toxicity</p> <p>Humans exposed to intermediate to high levels of toluene for short periods of time experience adverse central nervous system effects ranging from headaches to intoxication, convulsions, narcosis, and death. Similar effects are observed in short-term animal studies.</p> <p>Humans - Toluene ingestion or inhalation can result in severe central nervous system depression, and in large doses, can act as a narcotic. The ingestion of about 60 mL resulted in fatal nervous system depression within 30 minutes in one reported case.</p>
XYLENE	<p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</p> <p>The substance is classified by IARC as Group 3:</p> <p>NOT classifiable as to its carcinogenicity to humans.</p> <p>Evidence of carcinogenicity may be inadequate or limited in animal testing.</p> <p>Reproductive effector in rats</p>
ALUMINIUM FLAKE	No significant acute toxicological data identified in literature search.
HYDROCARBON PROPELLANT	No significant acute toxicological data identified in literature search. inhalation of the gas

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: ✗ – Data available but does not fill the criteria for classification
✓ – Data required to make classification available
⊘ – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
zinc powder	BCF	360	Algae or other aquatic plants	9mg/L	4
zinc powder	EC50	72	Algae or other aquatic plants	0.106mg/L	4
zinc powder	LC50	96	Fish	0.00272mg/L	4
zinc powder	EC50	120	Fish	0.00033mg/L	5
zinc powder	EC50	48	Crustacea	0.04mg/L	5
zinc powder	NOEC	72	Algae or other aquatic plants	0.000084981mg/L	2
toluene	BCF	24	Algae or other aquatic plants	10mg/L	4
toluene	EC50	3	Algae or other aquatic plants	0.1336030mg/L	4
toluene	EC50	48	Crustacea	0.01151750mg/L	4
toluene	EC50	72	Algae or other aquatic plants	12.5mg/L	4
toluene	LC50	96	Fish	0.0031704mg/L	4
toluene	NOEC	168	Crustacea	0.74mg/L	2
xylene	EC50	24	Crustacea	0.711mg/L	4
xylene	LC50	96	Fish	0.0013404mg/L	4
xylene	EC50	48	Crustacea	>3.4mg/L	2
xylene	EC50	72	Algae or other aquatic plants	4.6mg/L	2
xylene	NOEC	73	Algae or other aquatic plants	0.44mg/L	2
aluminium flake	BCF	360	Algae or other aquatic plants	9mg/L	4
aluminium flake	EC50	120	Fish	0.000051mg/L	5
aluminium flake	LC50	96	Fish	0.078-0.108mg/L	2
aluminium flake	EC50	48	Crustacea	0.7364mg/L	2
aluminium flake	EC50	96	Algae or other aquatic plants	0.0054mg/L	2
aluminium flake	NOEC	72	Algae or other aquatic plants	>=0.004mg/L	2
hydrocarbon propellant	LC50	96	Fish	24.11mg/L	2
hydrocarbon propellant	EC50	96	Algae or other aquatic plants	7.71mg/L	2
hydrocarbon propellant	EC50	96	Algae or other aquatic plants	8.57mg/L	2
hydrocarbon propellant	LC50	96	Fish	24.11mg/L	2
hydrocarbon propellant	EC50	96	Algae or other aquatic plants	7.71mg/L	2
hydrocarbon propellant	EC50	96	Algae or other aquatic plants	8.57mg/L	2

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

For Hydrocarbons: log Kow 1. BCF~10.
For Aromatics: log Kow 2-3.
BCF 20-200.
Drinking Water Standards: hydrocarbon total: 10 ug/l (UK max.).
DO NOT discharge into sewer or waterways.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.
Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

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)

Bioaccumulative potential

Ingredient	Bioaccumulation
toluene	LOW (BCF = 90)
xylene	MEDIUM (BCF = 740)

Mobility in soil

Ingredient	Mobility
toluene	LOW (KOC = 268)

SECTION 13 DISPOSAL CONSIDERATIONS



Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> 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 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)

UN number	1950	
UN proper shipping name	AEROSOLS	
Transport hazard class(es)	Class	2.1
	Subrisk	Not Applicable
Packing group	Not Applicable	
Environmental hazard	Not Applicable	
Special precautions for user	Special provisions	63; 190; 277; 327; 344; 381
	Limited quantity	1000ml

Air transport (ICAO-IATA / DGR)

UN number	1950	
UN proper shipping name	Aerosols, flammable; Aerosols, flammable (engine starting fluid)	
Transport hazard class(es)	ICAO/IATA Class	2.1
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	10L
Packing group	Not Applicable	
Environmental hazard	Not Applicable	
Special precautions for user	Special provisions	A145A167A802; A1A145A167A802
	Cargo Only Packing Instructions	203
	Cargo Only Maximum Qty / Pack	150 kg
	Passenger and Cargo Packing Instructions	203; Forbidden
	Passenger and Cargo Maximum Qty / Pack	75 kg; Forbidden

	Passenger and Cargo Limited Quantity Packing Instructions	Y203; Forbidden
	Passenger and Cargo Limited Maximum Qty / Pack	30 kg G; Forbidden

Sea transport (IMDG-Code / GGVSee)

UN number	1950		
UN proper shipping name	AEROSOLS		
Transport hazard class(es)	IMDG Class	2.1	
	IMDG Subrisk	Not Applicable	
Packing group	Not Applicable		
Environmental hazard	Marine Pollutant		
Special precautions for user	EMS Number	F-D, S-U	
	Special provisions	63 190 277 327 344 959	
	Limited Quantities	1000ml	

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

Not Applicable

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 2006
HSR002552	Cosmetic Products Group Standard 2006
HSR100628	Straight-chained Lepidopteran Sex Pheromone Group Standard 2012

ZINC POWDER(7440-66-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft

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

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

TOLUENE(108-88-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

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

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

XYLENE(1330-20-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

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

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

ALUMINIUM FLAKE(7429-90-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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

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

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

HYDROCARBON PROPELLANT(68476-85-7.) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft

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

New Zealand Inventory of Chemicals (NZIoC)

New Zealand Workplace Exposure Standards (WES)

Location Test Certificate

Subject to Regulation 55 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations, a location test certificate is required when quantity greater than or equal to those indicated below are present.

Hazard Class	Quantity beyond which controls apply for closed containers	Quantity beyond which controls apply when use occurring in open containers
2.1.2A	3 000 L (aggregate water capacity)	3 000 L (aggregate water capacity)

Approved Handler

Subject to Regulation 56 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations and Regulation 9 of the Hazardous Substances (Classes 6, 8, and 9 Controls) Regulations, the substance must be under the personal control of an Approved Handler when present in a quantity greater than or equal to those indicated below.

Class of substance	Quantities
9.1A, 9.2A, 9.3A, and 9.4A	Any quantity
2.1.2A	3 000 L aggregate water capacity

Refer Group Standards for further information

Tracking Requirements

Subject to Hazardous Substances (Tracking) Regulation 2001

- Refer to the regulation for more information

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (toluene; xylene; hydrocarbon propellant; aluminium flake; zinc powder)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (aluminium flake; zinc powder)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Other information

Ingredients with multiple cas numbers

Name	CAS No
hydrocarbon propellant	68476-85-7., 68476-86-8.

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

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

www.chemwatch.net

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

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

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.