

# Ramset Powder Loads

ITW (Ramset Australia)

Chemwatch: 22746

Version No: 7.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 06/05/2014

Print Date: 06/05/2014

Initial Date: Not Available

L.GHS.AUS.EN

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

### Product Identifier

Product name	Ramset Powder Loads
Chemical Name	Not Applicable
Synonyms	.22 calibre charge, .25 calibre charge, .27 calibre charge, PLBGR38N, PLBRD38N, PLBYW38N, PLCBR38N, PLCGR22S, PLCGR38N, PLCPU22N, PLCPU22S, PLCRD22N, PLCRD22S, PLCRD38N, PLCYW22N, PLCYW22S, PLCYW38N, PLDRD25L, PLDRD25X, PLDYW25, PLDYW25X, PLSGR22, PLSRD22, PLSRD27, PLSYW22, PLSYW27, Product Code: .38 calibre charge
Proper shipping name	CARTRIDGES, POWER DEVICE†
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	22, 25, 27, 38 calibre construction tool propellant containers for, explosive actuated tools (bolt guns),. These charges should be used only by registered qualified operators for use, in approved tools and as otherwise provided for in relevant State, Regulations; for example Victorian Occupational Health Safety, (Explosive-Powered Tools) Regulations 1985 and subsequent amendments.
--------------------------	---

### Details of the supplier of the safety data sheet

Registered company name	ITW (Ramset Australia)
Address	1 Ramset Drive Chirnside Park 3116 VIC Australia
Telephone	+61 3 9726 6222
Fax	+61 3 9726 8215
Website	www.ramset.com.au
Email	Not Available

### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	1800 039 008 (24 hrs)
Other emergency telephone numbers	1800 039 008 (24 hrs)

### CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
1800 039 008	+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

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the Model WHS Regulations and the ADG Code.

#### CHEMWATCH HAZARD RATINGS

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

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

Poisons Schedule	Not Applicable
GHS Classification [1]	Explosive Division 1.4, Acute Toxicity (Oral) Category 3, Acute Toxicity (Dermal) Category 3, Acute Toxicity (Inhalation) Category 3, Skin Sensitizer Category 1, Reproductive Toxicity Category 1, STOT - RE Category 2, Chronic Aquatic Hazard Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

### Label elements

GHS label elements



SIGNAL WORD

**DANGER****Hazard statement(s)**

<b>H204</b>	Fire or projection hazard
<b>H301</b>	Toxic if swallowed
<b>H311</b>	Toxic in contact with skin
<b>H331</b>	Toxic if inhaled
<b>H317</b>	May cause an allergic skin reaction
<b>H360</b>	May damage fertility or the unborn child
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure
<b>H410</b>	Very toxic to aquatic life with long lasting effects

**Supplementary statement(s)**

Not Applicable

**CLP classification (additional)**

Not Applicable

**Precautionary statement(s): Prevention**

<b>P101</b>	If medical advice is needed, have product container or label at hand.
<b>P102</b>	Keep out of reach of children.
<b>P103</b>	Read label before use.
<b>P201</b>	Obtain special instructions before use.
<b>P210</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>P260</b>	Do not breathe dust/fume/gas/mist/vapours/spray.
<b>P270</b>	Do not eat, drink or smoke when using this product.

**Precautionary statement(s): Response**

<b>P301+P310</b>	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider
<b>P308+P313</b>	IF exposed or concerned: Get medical advice/attention.
<b>P321</b>	Specific treatment (see advice on this label).
<b>P330</b>	Rinse mouth.

**Precautionary statement(s): Storage**

<b>P403+P233</b>	Store in a well-ventilated place. Keep container tightly closed.
<b>P405</b>	Store locked up.
<b>P401</b>	Store according to local regulations for explosives

**Precautionary statement(s): Disposal**

<b>P501</b>	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
	NotSpec.	shell as
7440-50-8	50-65	<a href="#">copper</a>
7440-66-6	15-30	<a href="#">zinc</a>
	NotSpec.	propellant as
9004-70-0	7-12	<a href="#">nitrocellulose</a>
55-63-0	0.5-2	<a href="#">nitroglycerin</a>
84-74-2	0.5-2	<a href="#">dibutyl phthalate</a>
109-27-3	1-10	<a href="#">guanyl nitrosaminoguanyltetrazene</a>
63918-97-8	0.5-2	<a href="#">lead styphnate</a>

10022-31-8	0.5-2	<a href="#">barium nitrate</a>
	NotSpec.	ingredients determined not to be hazardous [Mfr]

## SECTION 4 FIRST AID MEASURES

### Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
Inhalation	<ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>
Ingestion	<ul style="list-style-type: none"> <li>▶ <b>IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.</b></li> <li>▶ For advice, contact a Poisons Information Centre or a doctor.</li> <li>▶ Urgent hospital treatment is likely to be needed.</li> <li>▶ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.</li> <li>▶ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the MSDS should be provided. Further action will be the responsibility of the medical specialist.</li> <li>▶ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the MSDS.</li> </ul> <p><b>Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:</b></p> <ul style="list-style-type: none"> <li>▶ <b>INDUCE</b> vomiting with fingers down the back of the throat, <b>ONLY IF CONSCIOUS</b>. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> </ul> <p><b>NOTE:</b> Wear a protective glove when inducing vomiting by mechanical means.</p>

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

	Treat symptomatically.
--	------------------------

## SECTION 5 FIREFIGHTING MEASURES

### Extinguishing media

	Flooding quantities of water only.
--	------------------------------------

### Special hazards arising from the substrate or mixture

Fire Incompatibility	Avoid acid or alkali atmospheres.
----------------------	-----------------------------------

### Advice for firefighters

Fire Fighting	<p>Alert Fire Brigade and tell them location and nature of hazard.</p> <ul style="list-style-type: none"> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses.</li> </ul>
Fire/Explosion Hazard	<p>Explosive Dangerous hazard when exposed to heat or flame</p> <p>Decomposes on heating and produces toxic fumes of: carbon monoxide (CO) nitrogen oxides (NOx) and metal oxides</p>

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Minor Spills	<p>Clean up all spills immediately. Avoid contact with skin and eyes. Wear impervious gloves and safety glasses. Remove all ignition sources.</p>
--------------	---

Ramset Powder Loads

<b>Major Spills</b>	<p>Clear area of personnel and move upwind Alert Fire Brigade and tell them location and nature of hazard.</p> <ul style="list-style-type: none"> <li>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses.</li> </ul>
---------------------	--

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

**SECTION 7 HANDLING AND STORAGE**

**Precautions for safe handling**

<b>Safe handling</b>	<p>Avoid all personal contact, including inhalation Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area</p> <ul style="list-style-type: none"> <li>▶ Avoid smoking, naked lights, heat or ignition sources</li> </ul> <p>Avoid contact with incompatible materials. <b>When handling, DO NOT eat, drink or smoke.</b> Must not be struck by metal implements.</p>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed as supplied.</li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> <li>▶ Store in a cool, dry, well ventilated area.</li> </ul>

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

<b>Suitable container</b>	Locked metal containers.[Charges shall be clearly colour marked to indicate their relative strength.][Check that containers are clearly labelled.
<b>Storage incompatibility</b>	Avoid storage in acid or alkali atmospheres.

**PACKAGE MATERIAL INCOMPATIBILITIES**

Not Available

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Control parameters**

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

**INGREDIENT DATA**

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	copper	Copper, dusts & mists (as Cu) / Copper (fume)	1 (mg/m3) / 0.2 (mg/m3)	Not Available	Not Available	Not Available
Australia Exposure Standards	zinc	Fume (thermally generated) (respirable dust)	2 (mg/m3)	Not Available	Not Available	(see Silica - Amorphous);Containing no asbestos and < 1% crystalline silica (see Chapter 14).
Australia Exposure Standards	nitrocellulose	Fume (thermally generated) (respirable dust)	2 (mg/m3)	Not Available	Not Available	(see Silica - Amorphous);Containing no asbestos and < 1% crystalline silica (see Chapter 14).
Australia Exposure Standards	nitroglycerin	Nitroglycerin (NG)	0.46 (mg/m3) / 0.05 (ppm)	Not Available	Not Available	Not Available
Australia Exposure Standards	dibutyl phthalate	Dibutyl phthalate	5 (mg/m3)	Not Available	Not Available	Not Available
Australia Exposure Standards	guanyl nitrosaminoguanyltetrazene	Fume (thermally generated) (respirable dust)	2 (mg/m3)	Not Available	Not Available	(see Silica - Amorphous);Containing no asbestos and < 1% crystalline silica (see Chapter 14).
Australia Exposure Standards	barium nitrate	Barium, soluble compounds (as Ba)	0.5 (mg/m3)	Not Available	Not Available	Not Available

**EMERGENCY LIMITS**

Ingredient	TEEL-0	TEEL-1	TEEL-2	TEEL-3
copper	1(ppm)	1(ppm)	1(ppm)	100(ppm)
zinc	10(ppm)	30(ppm)	50(ppm)	200(ppm)
nitrocellulose	10(ppm)	30(ppm)	50(ppm)	500(ppm)
nitroglycerin	0.1(ppm)	0.1(ppm)	2(ppm)	75(ppm)
dibutyl phthalate	5(ppm)	15(ppm)	500(ppm)	500(ppm)
barium nitrate	0.952(ppm)	2.5(ppm)	15(ppm)	95.2(ppm)

Ingredient	Original IDLH	Revised IDLH
copper	N.E.(mgm3)N.E.(ppm)	100(mgm3)
nitroglycerin	500(mgm3)	75(mgm3)


**Ramset Powder Loads**

dibutyl phthalate	9,300(mgm3)	4,000(mgm3)
lead styphnate	700(mgm3)	100(mgm3)
barium nitrate	1,100(mgm3)	50(mgm3)

**MATERIAL DATA**

None assigned.

**Exposure controls**

<b>Appropriate engineering controls</b>	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hand protection</b>	<ul style="list-style-type: none"> <li>▶ Wear physical protective gloves, e.g. leather.</li> <li>▶ Wear safety footwear.</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	Overalls. Hard hat. Ear protection. Leather apron.
<b>Thermal hazards</b>	Not Available

**Recommended material(s)**

**GLOVE SELECTION INDEX**

Glove selection is based on a modified presentation of the:

**"Forsberg Clothing Performance Index".**

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

Ramset Powder Loads Not Available

Material	CPI
----------	-----

\* 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.

**Respiratory protection**

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	A-AUS P2	-	A-PAPR-AUS / Class 1 P2
up to 50 x ES	-	A-AUS / Class 1 P2	-
up to 100 x ES	-	A-2 P2	A-PAPR-2 P2 ^

^ - Full-face

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

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

<b>Appearance</b>	Cylindrical brass cartridge (containing black powder) for explosive powering of construction tools. Colour coded to indicate strength of charge.		
<b>Physical state</b>	Manufactured	<b>Relative density (Water = 1)</b>	Not Applicable
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	Not Applicable	<b>Decomposition temperature</b>	Not Available

Ramset Powder Loads

Melting point / freezing point (°C)	Not Applicable	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Applicable	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Applicable	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)	Not Applicable
Vapour pressure (kPa)	Not Applicable	Gas group	Not Available
Solubility in water (g/L)	Not Applicable	pH as a solution(1%)	Not Applicable
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> <li>▶ Presence of shock and friction</li> <li>▶ Presence of open flame</li> </ul> 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	The material is discomforting to the upper respiratory tract
Ingestion	Considered an unlikely route of entry in commercial/industrial environments The material is discomforting to the gastro-intestinal tract and harmful if swallowed
Skin Contact	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.
Eye	The material is discomforting to the eyes
Chronic	Principal routes of exposure are usually by inhalation of generated dust skin contact / eye contact with the material

Ramset Powder Loads	TOXICITY	IRRITATION
	Not Available	Not Available
copper	TOXICITY	IRRITATION
	Oral (human) TDLo: 0.12 mg/kg	Nil Reported
	Oral (rat) LD50: 5800 mg/kg	Not Available
zinc	TOXICITY	IRRITATION
	Not Available	Not Available
nitrocellulose	TOXICITY	IRRITATION
	Not Available	Not Available
nitroglycerin	TOXICITY	IRRITATION
	Intraperitoneal (Mouse) LD50: 104 mg/kg	
	Intraperitoneal (Rabbit) LD50: 189 mg/kg	
	Intraperitoneal (Rat) LD50: 102 mg/kg	

**Ramset Powder Loads**

	Intraperitoneal (Rat) TDLo: 10 mg/kg	
	Intravenous (Cat) LD: 5 mg/kg	
	Intravenous (Cat) TDLo: 0.5 mg/kg	
	Intravenous (Cat) TDLo: 1 mg/kg	
	Intravenous (Dog) LD50: 19 mg/kg	
	Intravenous (Mouse) LD50: 10.6 mg/kg	
	Intravenous (Mouse) LD50: 30 mg/kg	
	Intravenous (Rabbit) LD50: 45 mg/kg	
	Intravenous (Rabbit) TDLo: 0.34 mg/kg	
	Intravenous (Rat) LD50: 23.2 mg/kg	
	Intravenous (Rat) TDLo: 0.008 mg/kg	
	Oral (Guinea pig) LD50: 1450 mg/kg	
	Oral (Human) TDLo: 0.008 mg/kg	
	Oral (Human) TDLo: 0.0083 mg/kg	
	Oral (Human) TDLo: 5 mg/kg	
	Oral (Mouse) LD50: 115 mg/kg	
	Oral (Rabbit) LD50: 1607 mg/kg	
	Oral (Rat) LD50: 105 mg/kg	
	Oral (Rat) TDLo: 1360 mg/kg	
	Subcutaneous (Cat) LD: 150 mg/kg	
	Subcutaneous (Mouse) LD50: 110 mg/kg	
	Subcutaneous (Mouse) TDLo: 6.359 mg/kg	
	Subcutaneous (Rabbit) LD: 400 mg/kg	
	Subcutaneous (Rat) LD50: 94 mg/kg	
	Not Available	Not Available
<b>dibutyl phthalate</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Inhalation (rat) LD50: 4250 mg/m3	
	Oral (human) TDLo: 140 mg/kg	
	Oral (rat) LD50: 8000 mg/kg	
	Not Available	Not Available
<b>guanyl nitrosaminoguanilyltetrazene</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>lead styphnate</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>barium nitrate</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (rat) LD50: 355 mg/kg	Eye (rabbit):100 mg/24h - moderate Skin (rabbit): 500 mg/24h - mild
	Not Available	Not Available

\* Value obtained from manufacturer's msds  
unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

<b>Ramset Powder Loads</b>	Not available.
<b>COPPER</b>	for copper and its compounds (typically copper chloride): <b>Acute toxicity:</b> There are no reliable acute oral toxicity results available. In an acute dermal toxicity study (OECD TG 402), one group of 5 male rats and 5 groups of 5 female rats received doses of 1000, 1500 and 2000 mg/kg bw via dermal application for 24 hours. The LD50 values of copper monochloride were 2,000 mg/kg bw or greater for male (no deaths observed) and 1,224 mg/kg bw for female. Four females died at both 1500 and 2000 mg/kg bw, and one at 1,000 mg/kg bw. <b>WARNING:</b> Inhalation of high concentrations of copper fume may cause "metal fume fever", an acute industrial disease of short duration. Symptoms are tiredness, influenza like respiratory tract irritation with fever.
<b>ZINC</b>	The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

Ramset Powder Loads

<b>NITROGLYCERIN</b>	<p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis.</p> <p>Substance has been investigated as a tumorigen, mutagen and reproductive effector. Equivocal tumorigen by RTECS criteria. Reproductive effector in rats.</p>
<b>DIBUTYL PHTHALATE</b>	<p>For dibutyl phthalate (DBP):</p> <p>In studies on rats, DBP is absorbed through the skin, although in <i>in vitro</i> studies human skin has been found to be less permeable than rat skin to this compound. Studies in laboratory animals indicate that DBP is rapidly absorbed from the gastrointestinal tract, distributed primarily to the liver and kidneys of rats and excreted in urine as metabolites following oral or intravenous administration. Following inhalation, it was consistently detected at low concentrations in the brain. Available data indicate that in rats, following ingestion, DBP is metabolised by nonspecific esterases mainly in the small intestine to yield mono- <i>n</i>-butyl phthalate (MBP) with limited subsequent biochemical oxidation of the alkyl side chain of MBP.</p>
<b>LEAD STYPHNATE</b>	<p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.</p>
<b>BARIUM NITRATE</b>	<p>The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis.</p>
<b>NITROCELLULOSE, GUANYL NITROSAMINOQUANYLTETRAZENE</b>	<p>No significant acute toxicological data identified in literature search.</p>

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

CMR STATUS

<b>CARCINOGEN</b>	dibutyl phthalate	Australia Exposure Standards - Carcinogens	Repr. 1B
<b>SKIN</b>	nitroglycerin	Australia Exposure Standards - Skin	Sk

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

NOT AVAILABLE

Ingredient	Endpoint	Test Duration	Effect	Value	Species	BCF
Ramset Powder Loads	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available

Persistence and degradability

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

Bioaccumulative potential

Ingredient	Bioaccumulation
Not Available	Not Available

Mobility in soil

Ingredient	Mobility
Not Available	Not Available

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods



<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Consult manufacturer for recycling options and recycle where possible .</li> <li>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Incinerate residue at an approved site.</li> <li>▶ Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul>
-------------------------------------	---

SECTION 14 TRANSPORT INFORMATION



Ramset Powder Loads

Labels Required

	
Marine Pollutant	
HAZCHEM	Not Applicable

Land transport (ADG)

UN number	0323
Packing group	Not Available
UN proper shipping name	CARTRIDGES, POWER DEVICE†
Environmental hazard	No relevant data
Transport hazard class(es)	Class 1.4S Subrisk
Special precautions for user	Special provisions limited quantity 0

Air transport (ICAO-IATA / DGR)

UN number	0323
Packing group	Not Available
UN proper shipping name	Cartridges, power device †
Environmental hazard	No relevant data
Transport hazard class(es)	ICAO/IATA Class 1.4S ICAO / IATA Subrisk ERG Code 3L
Special precautions for user	Special provisions A165 Cargo Only Packing Instructions 134 Cargo Only Maximum Qty / Pack 100 kg Passenger and Cargo Packing Instructions 134 Passenger and Cargo Maximum Qty / Pack 25 kg Passenger and Cargo Limited Quantity Packing Instructions Forbidden Passenger and Cargo Limited Maximum Qty / Pack Forbidden

Sea transport (IMDG-Code / GGVSee)

UN number	0323
Packing group	Not Available
UN proper shipping name	CARTRIDGES, POWER DEVICE
Environmental hazard	No relevant data
Transport hazard class(es)	IMDG Class 1.4S IMDG Subrisk
Special precautions for user	EMS Number F-B,S-X Special provisions 347 Limited Quantities 0

SECTION 15 REGULATORY INFORMATION

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

copper(7440-50-8) is found on the following regulatory lists	"Australia Inventory of Chemical Substances (AICS)", "Australia Hazardous Substances Information System - Consolidated Lists", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (AQUA/1 to 6 - inorganic chemicals)", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause
--	---

	<p>environmental harm (Aquatic habitat)", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (IRRIg)", "OSPAR National List of Candidates for Substitution – Norway", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (STOCK)", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (IRRIg - inorganic chemicals)", "International Maritime Dangerous Goods Requirements (IMDG Code) - Marine Pollutants", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm - Domestic water supply quality", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (STOCK - inorganic chemicals)", "WHO Guidelines for Drinking-water Quality - Guideline values for chemicals that are of health significance in drinking-water", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (Domestic water supply - inorganic chemicals)", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia Drinking Water Guideline Values For Physical and Chemical Characteristics", "United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments", "OECD Existing Chemicals Database", "Australia ADI list - Acceptable daily intakes for agricultural and veterinary chemicals", "OECD List of High Production Volume (HPV) Chemicals", "Australia High Volume Industrial Chemical List (HVICL)", "Sigma-AldrichTransport Information", "Acros Transport Information", "Australia Exposure Standards", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "Australia National Pollutant Inventory", "UNECE - Kiev Protocol on Pollutant Release and Transfer Registers - Annex II", "Australia National Environment Protection (Ambient Air Quality) Measure - Schedule 2 Table 1: Standards and Goal for Pollutants other than Particles as PM2.5", "Australia National Environment Protection (Ambient Air Quality) Measure - Schedule 1: Pollutants", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix A", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4"</p>
<p><b>zinc(7440-66-6) is found on the following regulatory lists</b></p>	<p>"Australia Inventory of Chemical Substances (AICS)", "Australia Hazardous Substances Information System - Consolidated Lists", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (AQUA/1 to 6 - inorganic chemicals)", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (Aquatic habitat)", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (STOCK)", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (STOCK)", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (IRRIg - inorganic chemicals)", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm - Domestic water supply quality", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (STOCK - inorganic chemicals)", "WHO Guidelines for Drinking-water Quality - Chemicals for which guideline values have not been established", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (Domestic water supply - inorganic chemicals)", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia Drinking Water Guideline Values For Physical and Chemical Characteristics", "United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments", "OECD Existing Chemicals Database", "OECD List of High Production Volume (HPV) Chemicals", "Australia High Volume Industrial Chemical List (HVICL)", "FisherTransport Information", "Sigma-AldrichTransport Information", "Australia - New South Wales Protection of the Environment Operations (Waste) Regulation 2005 - Characteristics of trackable wastes", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes", "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)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "Australia National Pollutant Inventory", "UNECE - Kiev Protocol on Pollutant Release and Transfer Registers - Annex II", "Australia National Environment Protection (Ambient Air Quality) Measure - Schedule 2 Table 1: Standards and Goal for Pollutants other than Particles as PM2.5", "Australia National Environment Protection (Ambient Air Quality) Measure - Schedule 1: Pollutants", "Australia Exposure Standards"</p>
<p><b>nitrocellulose(9004-70-0) is found on the following regulatory lists</b></p>	<p>"Australia Inventory of Chemical Substances (AICS)", "Australia Hazardous Substances Information System - Consolidated Lists", "United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments", "OECD List of High Production Volume (HPV) Chemicals", "Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be Transported", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia Explosives Code (AE Code)", "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)", "International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "Australia National Pollutant Inventory", "UNECE - Kiev Protocol on Pollutant Release and Transfer Registers - Annex II", "Australia National Environment Protection (Ambient Air Quality) Measure - Schedule 2 Table 1: Standards and Goal for Pollutants other than Particles as PM2.5", "Australia National Environment Protection (Ambient Air Quality) Measure - Schedule 1: Pollutants", "Australia Exposure Standards"</p>
<p><b>nitroglycerin(55-63-0) is found on the following regulatory lists</b></p>	<p>"Australia Inventory of Chemical Substances (AICS)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 3", "Australia Hazardous Substances Information System - Consolidated Lists", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix G", "OECD List of High Production Volume (HPV) Chemicals", "WHO Model List of Essential Medicines - Adults", "Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be Transported", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft", "Australia Exposure Standards", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia Explosives Code (AE Code)", "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)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "Australia - Victoria Occupational Health and Safety Regulations - Schedule 9: Materials at Major Hazard Facilities (And Their Threshold Quantity) Table 2", "Australia National Pollutant Inventory"</p>
<p><b>dibutyl phthalate(84-74-2) is found on the following regulatory lists</b></p>	<p>"Australia Inventory of Chemical Substances (AICS)", "International Chemical Secretariat (ChemSec) SIN List ("Substitute It Now!)", "Australia Hazardous Substances Information System - Consolidated Lists", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (AQUA/1 to 6 - non-pesticide anthropogenic organics)", "Australia National Pollutant Inventory", "International Maritime Dangerous Goods Requirements (IMDG Code) - Marine Pollutants", "OSPAR List of Substances of Possible Concern", "OECD Existing Chemicals Database", "OECD List of High Production Volume (HPV) Chemicals", "FisherTransport Information", "Sigma-AldrichTransport Information", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "Australia Exposure Standards", "Australia - New South Wales Protection of the Environment Operations (Waste) Regulation 2005 - Characteristics of trackable wastes", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes", "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)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "OSPAR List of Chemicals for Priority Action", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (Aquatic habitat)", "Australia Customs (Prohibited Exports) Regulations 1958 - Schedule 15 Ozone depleting substances - Part 6"</p>

	Hydrobromofluorocarbons", "Australia Customs (Prohibited Imports) Regulations 1956 - Schedule 10 - Ozone-depleting substances"
<b>guanyl nitrosaminoguanyltetrazene(109-27-3) is found on the following regulatory lists</b>	"Australia Inventory of Chemical Substances (AICS)", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia Explosives Code (AE Code)", "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)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "Australia National Pollutant Inventory", "UNECE - Kiev Protocol on Pollutant Release and Transfer Registers - Annex II", "Australia National Environment Protection (Ambient Air Quality) Measure - Schedule 2 Table 1: Standards and Goal for Pollutants other than Particles as PM2.5", "Australia National Environment Protection (Ambient Air Quality) Measure - Schedule 1: Pollutants", "Australia Exposure Standards"
<b>lead styphnate(63918-97-8) is found on the following regulatory lists</b>	"Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be Transported", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "Australia Explosives Code (AE Code)", "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)", "International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "Australia Inventory of Chemical Substances (AICS)", "International Chemical Secretariat (ChemSec) SIN List (*Substitute It Now!)", "Australia Hazardous Substances Information System - Consolidated Lists", "Australia National Pollutant Inventory", "OSPAR List of Chemicals for Priority Action", "UNECE - Kiev Protocol on Pollutant Release and Transfer Registers - Annex II", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix I", "Australia - Tasmania - Work Health and Safety Regulations 2012 - Restricted hazardous chemicals", "Australia - South Australia - Work Health and Safety Regulations 2012 - Restricted hazardous chemicals", "United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments", "Australia Work Health and Safety Regulations 2011 - Restricted hazardous chemicals", "Australia - Northern Territories Work Health and Safety National Uniform Legislation Regulations- Restricted hazardous chemicals", "Australia - New South Wales - Work Health and Safety Regulation 2011 Restricted hazardous chemicals", "Australia - Queensland Work Health and Safety Regulation - Restricted hazardous chemicals", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs"
<b>barium nitrate(10022-31-8) is found on the following regulatory lists</b>	"Australia Inventory of Chemical Substances (AICS)", "OECD List of High Production Volume (HPV) Chemicals", "Sigma-Aldrich Transport Information", "Acros Transport Information", "International Maritime Dangerous Goods Requirements (IMDG Code) - Substance Index", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Maritime Dangerous Goods Requirements (IMDG Code)", "Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes", "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)", "Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "Australia Hazardous Substances Information System - Consolidated Lists", "Australia Exposure Standards", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix I", "Australia National Pollutant Inventory", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (STOCK)", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm - Domestic water supply quality", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (STOCK - inorganic chemicals)", "Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (Domestic water supply - inorganic chemicals)", "Australia Drinking Water Guideline Values For Physical and Chemical Characteristics", "Australia - Tasmania - Work Health and Safety Regulations 2012 - Restricted hazardous chemicals", "Australia - South Australia - Work Health and Safety Regulations 2012 - Restricted hazardous chemicals", "Australia Work Health and Safety Regulations 2011 - Restricted hazardous chemicals", "Australia - Northern Territories Work Health and Safety National Uniform Legislation Regulations- Restricted hazardous chemicals", "Australia - New South Wales - Work Health and Safety Regulation 2011 Restricted hazardous chemicals", "Australia - Queensland Work Health and Safety Regulation - Restricted hazardous chemicals", "Australia - Western Australia Hazardous Substances Prohibited for Specified Uses or Methods of Handling"

## SECTION 16 OTHER INFORMATION

### Other information

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

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

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

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

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.