

DAP Sulphur Super

Ballance Agri-Nutrients

Chemwatch: 5174-21
Version No: 2.1.1.1
Safety Data Sheet according to HSNO Regulations

Chemwatch Hazard Alert Code: 3

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S.GHS.NZL.EN

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

Product Identifier

Product name	DAP Sulphur Super
Other means of identification	Not Available

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

Relevant identified uses	Use according to manufacturer's directions.
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Details of the manufacturer/importer

Registered company name	Ballance Agri-Nutrients
Address	Hewletts Road Mount Maunganui New Zealand
Telephone	+64 7 572 7900
Fax	+64 7 575 6233
Website	Not Available
Email	Not Available

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	0800 2436 2255
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Not considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Not regulated for transport of Dangerous Goods.


CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	0	
Toxicity	1	
Body Contact	3	
Reactivity	0	
Chronic	0	

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

GHS Classification ^[1]	Skin Corrosion/Irritation Category 2, Serious Eye Damage Category 1, STOT - SE (Resp. Irr.) Category 3, Chronic Aquatic Hazard Category 4
Legend:	1. Classified by Chemwatch; 2. Classification drawn from CCID EPA NZ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI
Determined by Chemwatch using GHS/HSNO criteria	6.3A, 6.9 (respiratory), 8.3A, 9.1D

Label elements

GHS label elements	
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SIGNAL WORD	DANGER
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Hazard statement(s)

H315	Causes skin irritation
H318	Causes serious eye damage

DAP Sulphur Super

H335	May cause respiratory irritation
H413	May cause long lasting harmful effects to aquatic life

Precautionary statement(s) Prevention

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P273	Avoid release to the environment.

Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/physician/first aider
P302+P352	IF ON SKIN: Wash with plenty of water and soap
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Precautionary statement(s) Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
7783-28-0	30-60	<u>diammonium phosphate</u>
10101-41-4	10-30	<u>calcium sulfate</u>
7758-23-8	10-30	<u>calcium phosphate, monobasic</u>
7704-34-9.	<10	<u>sulfur granules, pellets, prills, flakes, pastilles</u>
Not Available	<10	unreacted rock
Not Available	<5	fluoride, as
7789-75-5		<u>calcium fluoride</u>
7732-18-5	<5	<u>water</u>

SECTION 4 FIRST AID MEASURES

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

Description of first aid measures

Eye Contact	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with 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. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ 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 skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ 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. ▶ 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. ▶ Transport to hospital, or doctor, without delay.
Ingestion	<ul style="list-style-type: none"> ▶ 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.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

for phosphate salts intoxication:

- ▶ All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.
- ▶ Ingestion of large quantities of phosphate salts (over 1.0 grams for an adult) may cause an osmotic catharsis resulting in diarrhoea and probable abdominal cramps. Larger doses such as 4-8 grams will almost certainly cause these effects in everyone. In healthy individuals most of the ingested salt will be excreted in the faeces with the diarrhoea and, thus, not cause any systemic toxicity. Doses greater than 10 grams hypothetically may cause systemic toxicity.
- ▶ Treatment should take into consideration both anionic and cation portion of the molecule.
- ▶ All phosphate salts, except calcium salts, have a hypothetical risk of hypocalcaemia, so calcium levels should be monitored.

For acute or short term repeated exposures to ammonia and its solutions:

- ▶ Mild to moderate inhalation exposures produce headache, cough, bronchospasm, nausea, vomiting, pharyngeal and retrosternal pain and conjunctivitis. Severe inhalation produces laryngospasm, signs of upper airway obstruction (stridor, hoarseness, difficulty in speaking) and, in excessively, high doses, pulmonary oedema.
- ▶ Warm humidified air may soothe bronchial irritation.
- ▶ Test all patients with conjunctival irritation for corneal abrasion (fluorescein stain, slit lamp exam)
- ▶ Dyspneic patients should receive a chest X-ray and arterial blood gases to detect pulmonary oedema.

SECTION 5 FIREFIGHTING MEASURES**Extinguishing media**

- ▶ There is no restriction on the type of extinguisher which may be used.
- ▶ Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility None known.

Advice for firefighters**Fire Fighting**

- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ Wear breathing apparatus plus protective gloves in the event of a fire.
- ▶ Prevent, by any means available, spillage from entering drains or water courses.
- ▶ Use fire fighting procedures suitable for surrounding area.

Fire/Explosion Hazard

- ▶ Non combustible.
 - ▶ Not considered a significant fire risk, however containers may burn.
- Decomposition may produce toxic fumes of; nitrogen oxides (NOx) phosphorus oxides (POx) sulfur oxides (SOx) May emit poisonous fumes May emit corrosive fumes.

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

- ▶ Remove all ignition sources.
- ▶ Clean up all spills immediately.
- ▶ Avoid contact with skin and eyes.
- ▶ Control personal contact with the substance, by using protective equipment.

Major Spills

- Moderate hazard.
- ▶ **CAUTION:** Advise personnel in area.
 - ▶ Alert Emergency Services and tell them location and nature of hazard.
 - ▶ Control personal contact by wearing protective clothing.

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

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

- ▶ Store in original containers.
- ▶ Keep containers securely sealed.
- ▶ Store in a cool, dry area protected from environmental extremes.
- ▶ Store away from incompatible materials and foodstuff containers.

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

- ▶ Glass container is suitable for laboratory quantities
- ▶ **DO NOT use aluminium or galvanised containers**
- ▶ **DO NOT use mild steel or galvanised containers**
- ▶ **DO NOT use unlined steel containers**
- ▶ Polyethylene or polypropylene container.
- ▶ Check all containers are clearly labelled and free from leaks.

Storage incompatibility

- Calcium sulfate:
- ▶ reacts violently with reducing agents, acrolein, alcohols, chlorine trifluoride, diazomethane, ethers, fluorine, hydrazine, hydrazinium perchlorate, hydrogen peroxide, finely divided aluminium or magnesium, peroxyfuroic acid, red phosphorus, sodium acetylide
 - ▶ sensitises most organic azides which are unstable shock- and heat- sensitive explosives
 - ▶ may form explosive materials with 1,3-di(5-tetrazolyl)triazene
 - ▶ is incompatible with glycidol, isopropyl chlorocarbonate, nitrosyl perchlorate, sodium borohydride

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- ▶ is hygroscopic; reacts with water to form gypsum and Plaster of Paris
- Diammonium phosphate (syn: ammonium phosphate, dibasic)
- ▶ slowly forms anhydrous ammonia on contact with air
 - ▶ forms anhydrous ammonia gas on contact with caustics
 - ▶ reacts violently with strong oxidisers, magnesium, potassium chlorate, strong bases
 - ▶ reacts with antimony(V) pentafluoride, lead diacetate, magnesium, silver nitrate, zinc acetate
- Sulfur:
- ▶ is both an oxidising agent and a reducing agent
 - ▶ when finely divided and dry, forms explosive mixtures with air
 - ▶ when molten can generate hydrogen sulfide and carbon disulfide when in contact with some organic materials.
 - ▶ is a flammable substance in both the solid and liquid states; the dust is characterised by a very low ignition point of 190 C compared to other combustible dusts - dust clouds are readily ignited by weak frictional sparks if the oxygen content is above 8%.
 - ▶ vapours react violently with lithium carbide
 - ▶ forms explosive and extremely sensitive mixtures with most oxidising substances such as chlorates, nitrates, perchlorates and permanganates; mixtures may be extremely sensitive to friction or vibration.
 - ▶ reacts violently with many substances, including strong oxidisers, aluminium powders, boron, bromine pentafluoride, bromine trifluoride, calcium hypochlorite, carbides, caesium, chlorates, chlorine dioxide, chlorine trifluoride, chromic acid, chromyl chloride, dichlorine oxide, diethylzinc, fluorine, halogen compounds, hexalithium disilicide, lampblack, lead chlorite, lead dioxide, lithium powdered nickel, nickel catalysts, red phosphorus, phosphorus trioxide, potassium, potassium chlorite, potassium iodate, potassium peroxoferrate, rubidium acetylide, ruthenium tetroxide, sodium, sodium chlorite, sodium peroxide, tin, uranium, zinc, zinc(II) nitrate, hexahydrate
 - ▶ forms friction-, impact- and shock- sensitive explosive or pyrophoric mixtures with ammonia, ammonium nitrate, barium bromate, bromates, calcium carbide, charcoal, hydrocarbons, iodates, iodine pentafluoride, iodine pentoxide, iron, lead chromate, mercurous oxide, mercury nitrate, mercury oxide, nitril fluoride, nitrogen dioxide, inorganic perchlorates, potassium bromate, potassium nitride, potassium perchlorate, silver nitrate, sodium hydride, sulfur dichloride
 - ▶ is incompatible with barium carbide, calcium, calcium carbide, calcium phosphide, chromates, chromic acid, chromic anhydride, 1,5-dinitronaphthalene, hafnium, indium, iodates, iodic acid, iodine oxide, lead chlorate, lithium acetylide, mercury oxide, mercuric nitrate, palladium, potassium permanganate, silver bromate, silver chlorate, silver oxide, sodium, strontium carbide, thallium oxide, thorium, thorium dicarbide
 - ▶ attacks copper, mercury, silver
 - ▶ when molten reacts with air forming sulfur dioxide, and with hydrogen, forming hydrogen sulfide; explosion may occur
 - ▶ may accumulate static electrical charges; vapours may ignite

NOTE: Dusts containing 25% or more elemental sulfur may be almost as explosive as pure sulfur.

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
New Zealand Workplace Exposure Standards (WES)	calcium sulfate	Calcium sulphate	10 mg/m3	Not Available	Not Available	The value for inhalable dust containing no asbestos and less than 1% free silica.
New Zealand Workplace Exposure Standards (WES)	sulfur granules, pellets, prills, flakes, pastilles	Particulates not otherwise classified	10 Inhalable dust; 3 Respirable dust mg/m3	Not Available	Not Available	Not Available
New Zealand Workplace Exposure Standards (WES)	calcium fluoride	Fluorides, as F	2.5 mg/m3	Not Available	Not Available	Exposure can also be estimated by biological monitoring.

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
diammonium phosphate	Ammonium phosphate dibasic; (Diammonium phosphate)	30 mg/m3	330 mg/m3	2000 mg/m3
calcium sulfate	Calcium(II) sulfate dihydrate (1:1:2)	10 mg/m3	10 mg/m3	21 mg/m3
calcium sulfate	Calcium sulfate anhydrous; (Drierite; Gypsum; Plaster of Paris)	30 mg/m3	330 mg/m3	2000 mg/m3
sulfur granules, pellets, prills, flakes, pastilles	Sulfur	2.8 mg/m3	31 mg/m3	190 mg/m3
calcium fluoride	Calcium fluoride	15 mg/m3	32 mg/m3	1000 mg/m3


Ingredient	Original IDLH	Revised IDLH
diammonium phosphate	Not Available	Not Available
calcium sulfate	Not Available	Not Available
calcium phosphate, monobasic	Not Available	Not Available
sulfur granules, pellets, prills, flakes, pastilles	Not Available	Not Available
unreacted rock	Not Available	Not Available
fluoride, as	Not Available	Not Available
calcium fluoride	500 mg/m3	250 mg/m3
water	Not Available	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:

Continued...

	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.
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	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. 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. Suitability and durability of glove type is dependent on usage.
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C. apron. ▶ Barrier cream.
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:

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Material	CPI
BUTYL	C
NATURAL RUBBER	C
NEOPRENE	C
PVA	C
VITON	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.

Respiratory protection

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

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

* - Negative pressure demand ** - Continuous flow

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

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Brown/black granules; slightly soluble in water.		
Physical state	Divided Solid	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 Applicable
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	Not Applicable	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Applicable	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Applicable	Volatile Component (%vol)	Not Available

Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Partly miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ 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
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Levels above 10 ug/m3 of suspended inorganic sulfates in the air may cause an excess risk of asthmatic attacks in susceptible persons. There is no evidence of poisoning from inhalation of sulfur dust. However, sulfur vapour irritates the airways and may cause cough, inflamed eyes (conjunctivitis), nausea, vomiting, chest tightness and fluid in the lungs in extreme cases.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual. Ingestion of 10 to 20 grams of sulfur can cause irritation of the stomach and intestines as well as kidney damage. Individuals with known allergies to sulfide drugs may also have allergic reactions to elemental sulfur. Swallowing large amounts may cause nausea and vomiting.
Skin Contact	This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition. Four students received severe hand burns whilst making moulds of their hands with dental plaster substituted for Plaster of Paris. The dental plaster known as "Stone" was a special form of calcium sulfate hemihydrate containing alpha-hemihydrate crystals that provide high compression strength to the moulds. Beta-hemihydrate (normal Plaster of Paris) does not cause skin burns in similar circumstances.
Eye	If applied to the eyes, this material causes severe eye damage.
Chronic	Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence that inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population. Sensitive persons can experience skin irritation from repeated exposure to the sulfur dust.

DAP Sulphur Super	TOXICITY	IRRITATION
	Not Available	Not Available
diammonium phosphate	TOXICITY	IRRITATION
	dermal (rat) LD50: >5000 mg/kg ^[1]	Nil reported * [CCINFO:MONSANTO]
	Oral (rat) LD50: >1000 mg/kg ^[1]	
calcium sulfate	TOXICITY	IRRITATION
	Oral (rat) LD50: >1581 mg/kg ^[1]	Not Available
calcium phosphate, monobasic	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	* [Monsanto]
	Oral (rat) LD50: >2000 mg/kg ^[1]	Eye : Severe
sulfur granules, pellets, prills, flakes, pastilles	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (human): 8 ppm irritant
	Inhalation (rat) LC50: >5.43 mg/L4 h ^[1]	
	Oral (rat) LD50: >2000 mg/kg ^[1]	
calcium fluoride	TOXICITY	IRRITATION
	Oral (rat) LD50: 4250 mg/kg ^[2]	Nil reported
water	TOXICITY	IRRITATION
	Oral (rat) LD50: >90000 mg/kg ^[2]	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's msds. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

WATER	No significant acute toxicological data identified in literature search.
DAP Sulphur Super & DIAMMONIUM PHOSPHATE & CALCIUM SULFATE & CALCIUM PHOSPHATE, MONOBASIC & CALCIUM FLUORIDE	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.

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 required to make classification available
 ✘ – Data available but does not fill the criteria for classification
 ☹ – Data Not Available to make classification

CMR STATUS

Not Applicable

SECTION 12 ECOLOGICAL INFORMATION**Toxicity**

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
calcium sulfate	HIGH	HIGH
sulfur granules, pellets, prills, flakes, pastilles	LOW	LOW
water	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
calcium sulfate	LOW (LogKOW = -2.2002)
sulfur granules, pellets, prills, flakes, pastilles	LOW (LogKOW = 0.229)
water	LOW (LogKOW = -1.38)

Mobility in soil

Ingredient	Mobility
calcium sulfate	LOW (KOC = 6.124)
sulfur granules, pellets, prills, flakes, pastilles	LOW (KOC = 14.3)
water	LOW (KOC = 14.3)

SECTION 13 DISPOSAL CONSIDERATIONS**Waste treatment methods**

Product / Packaging disposal	<p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> ▶ Reduction ▶ Reuse ▶ Recycling ▶ Disposal (if all else fails) <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</p>
	Ensure that the disposal of material is carried out in accordance with Hazardous Substances (Disposal) Regulations 2001.

SECTION 14 TRANSPORT INFORMATION**Labels Required**

Continued...

Marine Pollutant	NO
HAZCHEM	Not Applicable

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

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

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

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

Source	Ingredient	Pollution Category
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	diammonium phosphate	Z
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	sulfur granules, pellets, prills, flakes, pastilles	Z

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

Not Available

HSR Number	Group Standard
diammonium phosphate(7783-28-0) is found on the following regulatory lists	"New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"
calcium sulfate(10101-41-4) is found on the following regulatory lists	"New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Workplace Exposure Standards (WES)"
calcium phosphate, monobasic(7758-23-8) is found on the following regulatory lists	"New Zealand Inventory of Chemicals (NZIoC)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"
sulfur granules, pellets, prills, flakes, pastilles(7704-34-9.) is found on the following regulatory lists	"New Zealand Inventory of Chemicals (NZIoC)", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"
calcium fluoride(7789-75-5) is found on the following regulatory lists	"New Zealand Inventory of Chemicals (NZIoC)", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "New Zealand Workplace Exposure Standards (WES)", "New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals"
water(7732-18-5) is found on the following regulatory lists	"New Zealand Inventory of Chemicals (NZIoC)"

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
Not Applicable	Not Applicable	Not Applicable

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
Not Applicable	Not Applicable

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (water; sulfur granules, pellets, prills, flakes, pastilles)
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
calcium sulfate	10101-41-4, 7778-18-9
calcium phosphate, monobasic	10031-30-8, 7758-23-8
calcium fluoride	14542-23-5, 7789-75-5

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

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