

Neutrog Strike Back for Orchids Pellets

Neutrog Australia

Chemwatch Hazard Alert Code: 2

Chemwatch: 28-3467

Version No: 4.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Issue Date: 01/11/2019

Print Date: 05/05/2020

S.GHS.AUS.EN

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

Product Identifier

Product name	Neutrog Strike Back for Orchids Pellets
Synonyms	Not Available
Other means of identification	Not Available

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

Relevant identified uses	Fertiliser.
--------------------------	-------------

Details of the supplier of the safety data sheet

Registered company name	Neutrog Australia
Address	288 Mine Road Kanmantoo SA 5252 Australia
Telephone	+61 8 8538 3500
Fax	+61 8 8538 3522
Website	Not Available
Email	Not Available

Emergency telephone number


Association / Organisation	Neutrog Australia
Emergency telephone numbers	+61 8 8538 5077
Other emergency telephone numbers	0409728738, 131126 (AH)

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification [1]	Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 3 (respiratory tract irritation), Acute Aquatic Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
---------------------	---

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

Hazard statement(s)

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H402	Harmful to aquatic life.

Precautionary statement(s) Prevention

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

Neutrog Strike Back for Orchids Pellets

Precautionary statement(s) Response

P321	Specific treatment (see advice on this label).
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.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.

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 hazardous or special waste collection point in accordance with any local regulation.
-------------	--

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
Not Available	>40	chicken manure
7783-20-2	<20	<u>ammonium sulfate</u>
7778-80-5	<25	<u>potassium sulfate</u>
7783-28-0	<11	<u>diammonium phosphate</u>
Not Available	<5	seaweed
Not Available	<3	rock phosphate
7758-98-7	<1	<u>copper sulfate</u>
10101-68-5	<1	<u>manganese sulfate, hydrate</u>
7487-88-9	<3	<u>magnesium sulfate, anhydrous</u>
7720-78-7	<2	<u>ferrous sulfate anhydrous</u>
7631-95-0	<1	<u>sodium molybdate</u>
1303-96-4	<1	<u>sodium borate, decahydrate</u>
7733-02-0	<1	<u>zinc sulfate</u>

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"> ▶ Wash out immediately 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. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none"> ▶ Immediately give a glass of water. ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
-----------------------------	--

Advice for firefighters

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

Continued...

Neutrog Strike Back for Orchids Pellets

	<ul style="list-style-type: none"> ▶ 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	<ul style="list-style-type: none"> ▶ Non combustible. ▶ Not considered a significant fire risk, however containers may burn. <p>Other decomposition products include: carbon monoxide (CO) carbon dioxide (CO₂) nitrogen oxides (NO_x) ammonia sulfur oxides (SO_x) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes.</p>
HAZCHEM	Not Applicable

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none"> ▶ Clean up all spills immediately. ▶ Avoid contact with skin and eyes. ▶ Wear impervious gloves and safety glasses. ▶ Use dry clean up procedures and avoid generating dust.
Major Spills	<ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Control personal contact with the substance, by using protective equipment and dust respirator. ▶ Prevent spillage from entering drains, sewers or water courses.

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"> ▶ Limit all unnecessary personal contact. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ Avoid contact with incompatible materials.
Other information	<ul style="list-style-type: none"> ▶ 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	<p>Multi-ply paper bag with sealed plastic liner or heavy gauge plastic bag.</p> <p>NOTE: Bags should be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse. Check that all containers are clearly labelled and free from leaks. Packing as recommended by manufacturer.</p>
Storage incompatibility	Avoid contamination of water, foodstuffs, feed or seed.

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	manganese sulfate, hydrate	Manganese, dust & compounds (as Mn)	1 mg/m ³	Not Available	Not Available	Not Available
Australia Exposure Standards	ferrous sulfate anhydrous	Iron salts, soluble (as Fe)	1 mg/m ³	Not Available	Not Available	Not Available
Australia Exposure Standards	sodium molybdate	Molybdenum, soluble compounds (as Mo)	5 mg/m ³	Not Available	Not Available	Not Available
Australia Exposure Standards	sodium borate, decahydrate	Borates, tetra, sodium salts (pentahydrate)	1 mg/m ³	Not Available	Not Available	Not Available
Australia Exposure Standards	sodium borate, decahydrate	Borates, tetra, sodium salts (decahydrate)	5 mg/m ³	Not Available	Not Available	Not Available
Australia Exposure Standards	sodium borate, decahydrate	Borates, tetra, sodium salts (anhydrous)	1 mg/m ³	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
ammonium sulfate	Ammonium sulfate	13 mg/m ³	140 mg/m ³	840 mg/m ³

Neutrog Strike Back for Orchids Pellets

potassium sulfate	Potassium sulfate (2:1); (Dipotassium sulfate)	20 mg/m ³	220 mg/m ³	1,300 mg/m ³
diammonium phosphate	Ammonium phosphate dibasic; (Diammonium phosphate)	20 mg/m ³	210 mg/m ³	1,300 mg/m ³
copper sulfate	Copper sulfate; (Copper(II) sulfate)	7.5 mg/m ³	9.9 mg/m ³	59 mg/m ³
manganese sulfate, hydrate	Manganese(II) sulfate monohydrate	9.2 mg/m ³	15 mg/m ³	90 mg/m ³
manganese sulfate, hydrate	Manganous sulfate	8.2 mg/m ³	14 mg/m ³	430 mg/m ³
magnesium sulfate, anhydrous	Magnesium sulfate (1:1)	20 mg/m ³	220 mg/m ³	1,300 mg/m ³
ferrous sulfate anhydrous	Ferrous sulfate	8.2 mg/m ³	41 mg/m ³	250 mg/m ³
sodium molybdate	Sodium molybdate dihydrate; (Disodium molybdate dihydrate)	3.8 mg/m ³	34 mg/m ³	210 mg/m ³
sodium molybdate	Molybdic acid, disodium salt; (Disodium molybdate)	3.2 mg/m ³	17 mg/m ³	100 mg/m ³
sodium borate, decahydrate	Sodium borate decahydrate (Borax)	6 mg/m ³	190 mg/m ³	1,100 mg/m ³
sodium borate, decahydrate	Sodium borate; (Disodium tetraborate)	6 mg/m ³	88 mg/m ³	530 mg/m ³
zinc sulfate	Zinc sulfate heptahydrate (1:1:7)	27 mg/m ³	170 mg/m ³	1,000 mg/m ³
zinc sulfate	Zinc sulfate	15 mg/m ³	97 mg/m ³	580 mg/m ³

Ingredient	Original IDLH	Revised IDLH
ammonium sulfate	Not Available	Not Available
potassium sulfate	Not Available	Not Available
diammonium phosphate	Not Available	Not Available
copper sulfate	Not Available	Not Available
manganese sulfate, hydrate	500 mg/m ³	Not Available
magnesium sulfate, anhydrous	Not Available	Not Available
ferrous sulfate anhydrous	Not Available	Not Available
sodium molybdate	1,000 mg/m ³	Not Available
sodium borate, decahydrate	Not Available	Not Available
zinc sulfate	Not Available	Not Available


OCCUPATIONAL EXPOSURE BANDING

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
ammonium sulfate	E	≤ 0.01 mg/m ³
diammonium phosphate	E	≤ 0.01 mg/m ³
copper sulfate	E	≤ 0.01 mg/m ³
zinc sulfate	E	≤ 0.01 mg/m ³

Notes:

Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

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. 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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.
Skin protection	See Hand protection below
Hands/feet protection	Wear general protective gloves, eg. light weight rubber gloves.
Body protection	See Other protection below
Other protection	<p>No special equipment needed when handling small quantities.</p> <p>OTHERWISE:</p> <ul style="list-style-type: none"> ▶ Overalls. ▶ Barrier cream. ▶ Eyewash unit.

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
------------------------------------	----------------------	----------------------	------------------------

Neutrog Strike Back for Orchids Pellets

up to 10 x ES	P1 Air-line*	- -	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

* - Negative pressure demand ** - Continuous flow

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

- ▶ Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- ▶ The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- ▶ Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- ▶ Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- ▶ Use approved positive flow mask if significant quantities of dust becomes airborne.
- ▶ Try to avoid creating dust conditions.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Brown pellets approximately 6mm x 10mm ; very slightly soluble in water.		
Physical state	Divided Solid	Relative density (Water = 1)	0.7 approx.
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 Available
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	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	<p>Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.</p> <p>If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.</p> <p>Allergic responses may result from inhalation of dust or mist from these products. These range from mild to severe and may involve pneumonia.</p>
Ingestion	<p>Accidental ingestion of the material may be damaging to the health of the individual.</p> <p>Ingestion may result in nausea, abdominal irritation, pain and diarrhoea</p>

Neutrog Strike Back for Orchids Pellets

Skin Contact	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. 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.
Eye	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
Chronic	Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis, caused by particles less than 0.5 micron penetrating and remaining in the lung.

Neutrog Strike Back for Orchids Pellets	TOXICITY	IRRITATION
		Not Available
ammonium sulfate	TOXICITY	IRRITATION
	Oral (rat) LD50: >2000 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
potassium sulfate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1] Oral (rat) LD50: >2000 mg/kg ^[1]	Not Available
diammonium phosphate	TOXICITY	IRRITATION
	dermal (rat) LD50: >5000 mg/kg ^[1] Oral (rat) LD50: >2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
copper sulfate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1] Oral (rat) LD50: 300 mg/kg ^[2]	Not Available
manganese sulfate, hydrate	TOXICITY	IRRITATION
	Oral (rat) LD50: 2150 mg/kg ^[2]	Not Available
magnesium sulfate, anhydrous	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1] Oral (rat) LD50: >2000 mg/kg ^[1]	Not Available
ferrous sulfate anhydrous	TOXICITY	IRRITATION
	dermal (rat) LD50: >881 mg/kg ^[1] Oral (rat) LD50: 13 mg/kg ^[1]	Not Available
sodium molybdate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1] Inhalation (rat) LC50: >2.08 mg/l/4h ^[2]	Not Available
	Oral (rat) LD50: 250 mg/kg ^[2]	
sodium borate, decahydrate	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >10,000 mg/kg ^[2] Oral (rat) LD50: >250 mg/kg ^[1]	Eye: adverse effect observed (irritating) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
zinc sulfate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1] Oral (rat) LD50: >1000-2000 mg/kg ^[1]	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

AMMONIUM SULFATE	For ammonium sulfate: Acute toxicity: Ammonium sulfate has relatively low acute toxicity. In healthy humans, inhaling high concentrations caused mild reduction in lung function. Animal testing has not shown ammonium sulfate to cause irritation to the skin and eyes. There is no available data on sensitization. Repeat dose toxicity: Testing in animals has not shown any chronic toxic effects, except for diarrhoea.
POTASSIUM SULFATE	For sodium sulfate: The acute toxicity of sodium sulfate has not been established, but existing data indicate very low acute toxicity. Very high doses cause severe diarrhea. Sodium sulfate is not irritating to the skin, and only slightly irritating to the eyes. It is highly unlikely to cause sensitizing effects. There is no data regarding genetic toxicity except for a single negative test.
DIAMMONIUM PHOSPHATE	No significant acute toxicological data identified in literature search.

Neutrog Strike Back for Orchids Pellets

COPPER SULFATE	For copper sulfate Copper sulfate is corrosive. Side effects are diverse and multi-systemic, and include severe gastrointestinal symptoms and signs, metallic taste in the mouth, burning pain in the chest, headache, sweating, shock and damage to brain, liver and kidneys. It has been reported as a cause of human suicide. On exposure, it can cause dose dependent damage to the skin and eye, also, eczema and allergic reactions.
MANGANESE SULFATE, HYDRATE	Not available.
MAGNESIUM SULFATE, ANHYDROUS	Intravenous (woman) LDLo: 80 mg/kg/2m-l
SODIUM BORATE, DECAHYDRATE	Oral (rat) LD50: 4500-5000 mg/kg Eyes (rabbit) (-) Mild [Orica BORAX-Europe] Reproductive effector in rats Mutagenic towards bacteria
ZINC SULFATE	Oral (human) TDL0: 45 mg/kg/7d-C Eye (rabbit): 0.42 mg moderate Oral (man) TDL0: 180 mg/kg/6w-I Equivocal tumorigenic agent by RTECS criteria. for zinc sulfate heptahydrate Sleep, ataxia, respiratory stimulation, somnolence, coma, diarrhoea, changes in endocrine pancreas recorded. Exposure may produce irreversible effects*. NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.
AMMONIUM SULFATE & DIAMMONIUM PHOSPHATE & COPPER SULFATE & SODIUM MOLYBDATE & SODIUM BORATE, DECAHYDRATE	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.

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 either not available or does not fill the criteria for classification
 ✓ – Data available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Neutrog Strike Back for Orchids Pellets	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

ammonium sulfate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.068mg/L	4
	EC50	48	Crustacea	73.05mg/L	2
	EC50	96	Algae or other aquatic plants	254000mg/L	3
	NOEC	216	Fish	0.064mg/L	4

potassium sulfate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	3-550mg/L	2
	EC50	48	Crustacea	=890mg/L	1
EC50	72	Algae or other aquatic plants	=2900mg/L	1	

diammonium phosphate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.001-0.32mg/L	2
	EC50	48	Crustacea	>100mg/L	2
	EC50	72	Algae or other aquatic plants	>100mg/L	2
NOEC	72	Algae or other aquatic plants	100mg/L	2	

copper sulfate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.000057mg/L	4
	EC50	48	Crustacea	0.001-0.213mg/L	2
	EC50	72	Algae or other aquatic plants	0.0004mg/L	4
	BCF	1440	Fish	1800.00mg/L	4
	EC10	32	Crustacea	0.000085mg/L	4
NOEC	384	Fish	0.00005mg/L	4	

manganese sulfate, hydrate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	3.17mg/L	2
EC50	72	Algae or other aquatic plants	61mg/L	2	

Continued...

Neutrog Strike Back for Orchids Pellets

	NOEC	840	Fish	0.004-0.49689mg/L	2
	LC50	96	Fish	3.17mg/L	2
	EC50	48	Crustacea	8.28mg/L	4
	EC50	96	Algae or other aquatic plants	25.7mg/L	4
	BCF	840	Algae or other aquatic plants	5mg/L	4
	EC10	840	Fish	0.004-0.6291mg/L	2
	NOEC	840	Fish	0.004-0.49689mg/L	2
magnesium sulfate, anhydrous	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	15-mg/L	2
	EC50	48	Crustacea	343.56mg/L	4
	EC50	72	Algae or other aquatic plants	2-700mg/L	2
	NOEC	504	Crustacea	360mg/L	4
ferrous sulfate anhydrous	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.41mg/L	4
	EC50	48	Crustacea	7.2mg/L	4
	EC50	96	Algae or other aquatic plants	254000mg/L	3
	NOEC	48	Algae or other aquatic plants	0.0001260853mg/L	4
sodium molybdate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	18.452mg/L	3
	EC50	48	Crustacea	3618mg/L	4
	EC50	96	Algae or other aquatic plants	49.705mg/L	3
	BCF	168	Algae or other aquatic plants	0.025mg/L	4
	NOEC	Not Available	Algae or other aquatic plants	4.6mg/L	2
sodium borate, decahydrate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	74mg/L	2
	EC50	96	Algae or other aquatic plants	15.4mg/L	2
	NOEC	768	Fish	0.009mg/L	2
zinc sulfate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.001-0.81mg/L	2
	EC50	48	Crustacea	0.001-0.014mg/L	2
	EC50	96	Algae or other aquatic plants	0.0101mg/L	4
	BCF	336	Fish	3469.930mg/L	4
	EC15	24	Crustacea	0.0021mg/L	4
	NOEC	96	Fish	0.000017mg/L	4

Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - 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

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
ammonium sulfate	HIGH	HIGH
copper sulfate	HIGH	HIGH
magnesium sulfate, anhydrous	HIGH	HIGH
ferrous sulfate anhydrous	HIGH	HIGH
sodium molybdate	HIGH	HIGH
zinc sulfate	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
ammonium sulfate	LOW (LogKOW = -2.2002)
copper sulfate	LOW (LogKOW = -2.2002)
magnesium sulfate, anhydrous	LOW (LogKOW = -2.2002)
ferrous sulfate anhydrous	LOW (BCF = 52)
sodium molybdate	LOW (LogKOW = 2.229)
zinc sulfate	LOW (BCF = 112)

Continued...

Neutrog Strike Back for Orchids Pellets

Mobility in soil

Ingredient	Mobility
ammonium sulfate	LOW (KOC = 6.124)
copper sulfate	LOW (KOC = 6.124)
magnesium sulfate, anhydrous	LOW (KOC = 6.124)
ferrous sulfate anhydrous	LOW (KOC = 6.124)
sodium molybdate	LOW (KOC = 48.64)
zinc sulfate	LOW (KOC = 6.124)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	
	<ul style="list-style-type: none"> ▶ Recycle wherever possible. ▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified. ▶ Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material) ▶ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): 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 and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

AMMONIUM SULFATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

POTASSIUM SULFATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

DIAMMONIUM PHOSPHATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

COPPER SULFATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Inventory of Chemical Substances (AICS)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4

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

MANGANESE SULFATE, HYDRATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Inventory of Chemical Substances (AICS)

MAGNESIUM SULFATE, ANHYDROUS IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 3

FERROUS SULFATE ANHYDROUS IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4

Australia Inventory of Chemical Substances (AICS)

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 2

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

SODIUM MOLYBDATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

SODIUM BORATE, DECAHYDRATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Neutrog Strike Back for Orchids Pellets

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
 Australia Inventory of Chemical Substances (AICS)
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
 Chemical Footprint Project - Chemicals of High Concern List

ZINC SULFATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
 Australia Inventory of Chemical Substances (AICS)

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (ammonium sulfate; potassium sulfate; copper sulfate; manganese sulfate, hydrate; magnesium sulfate, anhydrous; sodium molybdate; sodium borate, decahydrate; zinc sulfate)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Revision Date	01/11/2019
Initial Date	21/09/2011

SDS Version Summary

Version	Issue Date	Sections Updated
3.1.1.1	04/12/2017	Classification
4.1.1.1	01/11/2019	One-off system update. NOTE: This may or may not change the GHS classification

Other information

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

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

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit.
 IDLH: Immediately Dangerous to Life or Health Concentrations
 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.