

## 1. Identification of Substance & Company

### Product

<b>Product name</b>	Optimate Empower Protect
<b>Product code</b>	AGRI-0191
<b>HSNO approval</b>	HSR002521
<b>Approval description</b>	Animal Nutritional and Animal Care Products Group Standard 2020
<b>UN number</b>	3077
<b>Proper Shipping Name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide)
<b>Packaging group</b>	III
<b>DG code</b>	9
<b>Hazchem code</b>	2Z
<b>Uses</b>	Animal feed additive

### Company Details

<b>Company Address</b>	<b>Blue Pacific Minerals</b> 11-17 Huttloc Drive, Tokoroa 3420 New Zealand
<b>Website</b>	www.bpmnz.co.nz
<b>Telephone</b>	+64 7 885 0550
<b>Email</b>	info@bpmnz.co.nz

**Emergency Telephone Number: 0800 678 444**

## 2. Hazard Identification

### Approval

This product has been approved under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR002521, Animal Nutritional and Animal Care Products Group Standard 2020), and is classified as follows:

### GHS 7 Classes

Skin irritant cat 2  
Eye irritant cat 2  
Acute Aquatic cat 1  
Chronic aquatic cat 1

### Hazard Statements

H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.  
H400 - Very toxic to aquatic life.  
H410 - Very toxic to aquatic life with long lasting effects.

### SYMBOLS

## WARNING



### Other Classifications

No other classifications are known to apply.

### Precautionary Statements

<b>Prevention</b>	P103 - Read label before use. P261 - Avoid breathing dust/fume/gas/mist/vapours/spray*. P264 - Wash hands thoroughly after handling. P272 - Contaminated work clothing should not be allowed out of the workplace. P273 - Avoid release to the environment. P280 - Wear protective gloves/protective clothing/eye protection/face protection.
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<b>Response</b>	P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 - If eye irritation persists: Get medical advice/attention. P302+P352 - IF ON SKIN: Wash with plenty of soap and water. P333+P313 - If skin irritation or rash occurs: Get medical advice/attention. P363 - Wash contaminated clothing before reuse. P391 - Collect spillage.
<b>Storage</b>	No storage statements
<b>Disposal</b>	P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.

### 3. Composition / Information on Ingredients

Component	CAS/ Identification	Concentration
Zeolite – crystalline aluminosilicates may contains oxides including silica and aluminium oxide:	1318-02-1	30-60%
Bentonite – may contain crystalline silica	1302-78-9	1-10%
Zinc oxide	1314-13-2	1-10%
Ingredients not contributing to GHS 7 classes including minerals (Mg, Ca, Cr), flavours and probiotics	mixture	30-60%
Silica component may include		
Quartz (crystalline silica) - respirable	14808-60-7	<0.1%

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

### 4. First Aid

#### General Information

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been harmed or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

**Recommended first aid facilities** Ready access to running water is required. Accessible eyewash is required.

#### Exposure

<b>Swallowed</b>	IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. Give a glass of water to drink.
<b>Eye contact</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Skin contact</b>	IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/ attention. Take off contaminated clothing and wash before re-use.
<b>Inhaled</b>	Generally, inhalation of fumes/vapours/dusts is unlikely to result in adverse health effects. If coughing, dizziness or shortness of breath is experienced, remove the patient to fresh air immediately. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor.

#### Advice to Doctor

Treat symptomatically

### 5. Firefighting Measures

<b>Fire and explosion hazards:</b>	There are no specific risks for fire/explosion for this chemical. It is non-flammable.
<b>Suitable extinguishing substances:</b>	Carbon dioxide, extinguishing powder or water jet. Fight larger fires with water jet or alcohol resistant foam.
<b>Unsuitable extinguishing substances:</b>	Unknown.
<b>Products of combustion:</b>	Not known
<b>Protective equipment:</b>	No special measures are required.
<b>Hazchem code:</b>	2Z

## 6. Accidental Release Measures

<b>Containment</b>	If greater than 100kg is stored, secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent discharge to storm water.
<b>Emergency procedures</b>	In the event of large spillage alert the fire brigade to location and give brief description of hazard. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Sweep up the solid. Avoid creating dust. If appropriate, use a gentle water spray to wet material to minimise dust generation.
<b>Clean-up method</b>	Collect and seal in properly labelled containers or drums for disposal or recycling.
<b>Disposal</b>	Sweep up and collect recoverable material into labelled containers for recycling or salvage. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.
<b>Precautions</b>	Wear protective equipment to prevent skin and eye contamination and the inhalation of dusts. Work up wind or increase ventilation.

## 7. Storage & Handling

<b>Storage</b>	Stable under normal use and storage conditions.
<b>Handling</b>	Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Do not breathe dust.

## 8. Exposure Controls / Personal Protective Equipment

### Workplace Exposure Standards



A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m<sup>3</sup> for respirable particulates and 10mg/m<sup>3</sup> for inhalable particulates when limits have not otherwise been established.

NZ Workplace Exposure Stds	Ingredient	WES-TWA	WES-STEL
	Silicon dioxide	see crystalline silica	data unavailable
	Aluminium oxide	10mg/m <sup>3</sup>	data unavailable
	Magnesium oxide	10mg/m <sup>3</sup> (fume)	data unavailable
	Crystalline Silica – all forms	0.025mg/m <sup>3</sup>	data unavailable
	Zinc oxide	0.1mg/m <sup>3</sup> (respirable), 2mg/m <sup>3</sup>	data unavailable

### Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify processes or increase ventilation.

### Personal Protective Equipment

<b>General</b>		Personal Protective Equipment (PPE) should not be used as the primary means of exposure protection, except in the event of an accident or emergency situation or where all other means of protection have proven to inadequate. Clean PPE after use or dispose of as appropriate. Store PPE for re-use in a clean place. Regular training on the correct use of PPE should be provided. In particular the correct fitting and use of respirators and where applicable the cleaning of respirators should be undertaken.
<b>Eyes</b>		Avoid contact with eyes. Use safety glasses and or chemical splash goggles if splashes are possible. Select eye protection in accordance with AS/NZS 1337.
<b>Skin</b>		Avoid repeated or prolonged skin contact. Wear overalls, rubber boots and impervious gloves. Nitrile gloves are recommended. Protective gloves or suitably resistant material must comply with AS 2161. Replace frequently. Gloves should be checked for tears or holes before use. Protective clothing must comply with AS 2919, AS3765.1 or AS3765.2. PVC or rubber boots must comply with AS/NZS 2210.2 and selected and maintained in accordance with AS/NS2210.1. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking. Wash hands after handling.
<b>Respiratory</b>		A respirator when airborne concentrations approach the WES (section 8). Respirators must have filters appropriate to the duty and comply with AS/NZS1716 and selected,

used and maintained in accordance with AS/NS 1715. Use respirator with a dust/particulate filter. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. Fit testing and clear guidelines and training for use and maintenance of PPE are necessary.

#### WES Additional Information

Not applicable

### 9. Physical & Chemical Properties

<b>Appearance</b>	Granules
<b>Odour</b>	no odour
<b>Odour Threshold</b>	no data
<b>pH</b>	no data
<b>Freezing/melting point</b>	no data
<b>Boiling Point</b>	no data
<b>Flashpoint</b>	no data
<b>Flammability</b>	not flammable
<b>Upper &amp; lower flammable limits</b>	NA
<b>Vapour pressure</b>	no data
<b>Vapour density</b>	no data
<b>Specific gravity/density</b>	bulk density: 0.8-1.0
<b>Solubility</b>	not fully soluble in water, will disperse
<b>Partition coefficient</b>	no data
<b>Auto-ignition temperature</b>	no data
<b>Decomposition temperature</b>	no data
<b>Viscosity</b>	no data
<b>Particle Characteristics</b>	no data

### 10. Stability & Reactivity

<b>Stability</b>	Stable
<b>Conditions to be avoided</b>	Containers should be kept closed in order to avoid contamination. Avoid the creation of dust.
<b>Incompatible groups</b>	None known
<b>Substance Specific Incompatibility</b>	None known
<b>Hazardous decomposition products</b>	None known
<b>Hazardous reactions</b>	None known

### 11. Toxicological Information

#### Summary

IF IN EYES: Fine dust may cause irritation when in direct contact.

IF ON SKIN: Material may cause drying out of skin.

IF INHALED: May cause respiratory irritation. Also see chronic effects.

IF SWALLOWED: No adverse effects anticipated under normal use conditions.

CHRONIC EFFECTS: The adverse health effects from respirable crystalline silica exposure-silicosis, cancer, scleroderma, tuberculosis, and nephrotoxicity- are chronic effects. This product is granular, but may become a respirable dust through sanding/grinding.

#### Supporting Data

<b>Acute</b>	<b>Oral</b>	Using LD <sub>50</sub> 's for ingredients, the Acute Toxicity Estimate (ATE) (oral) for the mixture is >2,000 mg/kg.
	<b>Dermal</b>	Using LD <sub>50</sub> 's for ingredients, the Acute Toxicity Estimate (ATE) (dermal) for the mixture is >2,000 mg/kg.
	<b>Inhaled</b>	Using LD <sub>50</sub> 's for ingredients, the Acute Toxicity Estimate (ATE) (inhalation) for the mixture is >5mg/L/4h.
	<b>Eye</b>	The mixture is considered to be an eye irritant.
	<b>Skin</b>	The mixture is considered to be a mild skin irritant.
<b>Chronic</b>	<b>Sensitisation</b>	No ingredient present >0.1% is considered a sensitizer.
	<b>Mutagenicity</b>	No ingredient present at concentrations > 0.1% is considered a mutagen.
	<b>Carcinogenicity</b>	Zeolites have been classed by IARC as group 3 – cannot be evaluated as to their carcinogenicity to humans. However, there is evidence that this material does contain quartz and cristobalite. Crystalline silica inhaled in the form of quartz or cristobalite from

**Reproductive /  
Developmental  
Systemic**

occupational sources is carcinogenic to humans (IARC Group 1). Crystalline Silica triggers carcinogen cat 1 classification (confirmed carcinogen). The carcinogenicity of silica is related to long term (e.g., 10 years) inhalation of very fine particulate (e.g., from sand blasting or dry cutting of quartz containing substrates). Carcinogenicity of silica appears linked to development of silicosis (see systematic below) followed by complications and, eventually lung cancer

No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation.

The respirable fraction of the dust of this product is considered to be a target organ toxicant, because of the presence of crystalline silica at greater than 1%. Crystalline silica triggers STOT RE cat 1 classification if it is in the form of a fine respirable dust in an occupational (chronic exposure) setting. This is due to the development of acute silicosis which can occur following exposure to extremely high levels of fine silica dust. Silicosis is a type of pneumoconiosis – a disease of the lung that causes inflammation, scar tissue, lesions and fibrosis in the lung (alveolar). Symptoms include shortness of breath, cough, fever, loss of appetite and cyanosis (bluish skin). Silicosis can occur following prolonged exposure (e.g., 10 years) to relatively high levels of fine crystalline silica dust.

Based on limited animal research, it is possible that repeated inhalation of cellulose fibre dust may lead to inflammation and scarring of the lung.

**Aggravation of  
existing conditions**

None known

## 12. Ecological Data

### Summary

This mixture is considered to be very ecotoxic towards aquatic organisms with long lasting effects. In all cases prevent run-off to drains, sewers and waterways.

### Supporting Data

<b>Aquatic</b>	Using EC <sub>50</sub> 's for ingredients, the calculated EC <sub>50</sub> for the mixture is <1 mg/L. Data considered includes: Zinc oxide: 0.098 mg/l (48hr, daphnia magna), 0.03 mg/l (algae).
<b>Bioaccumulation</b>	No data
<b>Degradability</b>	No data
<b>Soil</b>	No considered ecotoxic in the soil environment.
<b>Terrestrial vertebrate</b>	Not toxic towards terrestrial vertebrates
<b>Terrestrial invertebrate</b>	Not toxic towards terrestrial invertebrates
<b>Biocidal</b>	Not biocidal
<b>Environmental effect levels</b>	No EELs are available for this mixture or ingredients

## 13. Disposal Considerations

<b>Restrictions</b>	There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.
<b>Disposal method</b>	Disposal of this product must comply with the Hazardous Substances (Disposal) Notice 2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment.
<b>Contaminated packaging</b>	Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging.

## 14. Transport Information

### Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007

Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

<b>UN number:</b>	3077	<b>Proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (zinc oxide)
<b>Class(es)</b>	9	<b>Packing group:</b>	9
<b>Precautions:</b>	NA	<b>Hazchem code:</b>	2Z

### IMDG

<b>UN number:</b>	3077	<b>Proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, n.o.s. (zinc oxide)
<b>Class(es)</b>	9	<b>Packing group:</b>	III
<b>Precautions:</b>	Marine pollutant	<b>EmS</b>	F-A, S-F

### IATA

<b>UN number:</b>	3077	<b>Proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, n.o.s. (zinc oxide)
<b>Class(es)</b>	9	<b>Packing group:</b>	III
<b>Precautions:</b>	Marine pollutant		

## 15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR002521, Animal Nutritional and Animal Care Products Group Standard 2020. All ingredients appear on the New Zealand Inventory of Chemicals NZIoC.

### Specific Controls

Key workplace requirements are:

SDS	To be available within 10 minutes in workplaces storing any quantity.
Inventory	An inventory of all hazardous substances must be prepared and maintained.
Packaging	All hazardous substances should be appropriately packaged including substances that manufactured for own use or have been supplied
Labelling	Must comply with the Hazardous Substances (Labelling) Notice 2017.
Emergency plan	Required if > 100kg is stored.
Certified handler	Not required.
Tracking	Not required.
Bunding & secondary containment	Not required (non-pooling substance)
Signage	Required if > 100kg is stored.
Location compliance certificate	Not required.
Flammable zone	Not required.
Fire extinguisher	Not required.

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

### Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

## 16. Other Information

### Abbreviations

<b>Approval Code</b>	Approval HSR002521, Animal Nutritional and Animal Care Products Group Standard 2020 Controls, EPA. <a href="http://www.epa.govt.nz">www.epa.govt.nz</a>
<b>CAS Number</b>	Unique Chemical Abstracts Service Registry Number
<b>EC<sub>50</sub></b>	Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)
<b>EPA</b>	Environmental Protection Authority (New Zealand)
<b>GHS</b>	Globally Harmonised System of Classification and Labelling of Chemicals, 7 <sup>th</sup> revised edition, 2017, published by the United Nations.
<b>HAZCHEM Code</b>	Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters
<b>HSNO</b>	Hazardous Substances and New Organisms (Act and Regulations)
<b>IARC</b>	International Agency for Research on Cancer
<b>LEL</b>	Lower Explosive Limit
<b>LD<sub>50</sub></b>	Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).
<b>LC<sub>50</sub></b>	Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)
<b>NZIoC</b>	New Zealand Inventory of Chemicals
<b>STEL</b>	Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded
<b>STOT RE</b>	System Target Organ Toxicity – Repeated Exposure
<b>STOT SE</b>	System Target Organ Toxicity – Single Exposure
<b>TWA</b>	Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)
<b>UEL</b>	Upper Explosive Limit
<b>UN Number</b>	United Nations Number
<b>WES</b>	Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone.

### References

<b>Data</b>	Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID).
<b>Controls</b>	EPA notices, <a href="http://www.epa.govt.nz">www.epa.govt.nz</a> , Health and Safety at Work (Hazardous Substances) Regulations 2017, <a href="http://www.legislation.govt.nz">www.legislation.govt.nz</a>
<b>WES</b>	The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – <a href="http://www.worksafe.govt.nz">www.worksafe.govt.nz</a> .
<b>Other References:</b>	Suppliers SDS

### Review

Date	Reason for review
November 2025	Not applicable – new SDS

### Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely GHS 7 classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email [info@datachem.co.nz](mailto:info@datachem.co.nz) or phone: +64 21 1040951.

