

# Ausperl

## Australian Perlite Pty Limited

ABN: 51 152 727 028  
ACN: 122 364 238

Supplier of premium perlite filter aid



T +61 2 9316 0051  
F +61 2 9316 0050  
E [info@ausperl.com.au](mailto:info@ausperl.com.au)

[www.ausperl.com.au](http://www.ausperl.com.au)

## OUR COMPANY

Australian Perlite Pty Limited (AUSPERL) was incorporated in 2006 to take control of the perlite and vermiculite processing business previously operated by FERNZ and then ORICA in Australia. The business is privately owned. We also act as a distributor of other industrial minerals.



### Perlite

Our company has preferential supply agreements for sourcing ore from Australian, New Zealand and Turkish suppliers. The ore is processed at our Banksmeadow, NSW facility into a range of expanded and milled grades for application in various industries including as a filtration media, a light-weight filler, a soil-less growing media and as cryogenic insulation. The processing plant operates seven days per week, 24 hours per day. Products are supplied to markets in Australia and overseas.



### Vermiculite

We have preferential supply agreements with ore suppliers in Western Australia and South Africa from where we source various grades of ore for exfoliation at Banksmeadow. Applications for exfoliated product include fire proofing, refractory blocks, brake linings and horticulture. Products are supplied to markets in Australia and overseas.

### Pumice

AUSPERL is the preferred distributor in Australia of Industrial Processors Limited (INPRO) of New Zealand. Various grades of pumice are supplied including those for horticulture and construction, and highly processed and milled grades for mild abrasive applications (i.e. printed circuit board cleaning, soaps, dentistry and exfoliants).

### Basalt

AUSPERL is also the preferred distributor of INPRO's basalt range including grades for application in the water filtration, abrasive blasting and mineral fertilizers markets.

### Other

Our business is exploring opportunities to expand our mineral processing and trading range.

## COMPETITIVE ADVANTAGES

We consider the following to be the primary qualifications to consider our products as premium in the Australian market place:

- Ø Our company can supply on demand with a minimum of delay or fuss.
- Ø We have an established and long history in the processed and trading of industrial minerals.
- Ø Our products are always professionally packed and shipped.
- Ø Our quality control procedures maintain the supplied products in specification at all times.
- Ø We have access to the premium grades of ore in the marketplace.
- Ø AUSPERL has the longest trading history in the Australian perlite and vermiculite markets.
- Ø We are an Australian company producing specifically for the Australian market.



## COMPANY INFORMATION

Name: Australian Perlite Pty Limited (as trustee of the Aust Perlite Trust)  
ABN: 51 152 727 028  
ACN: 122 364 238  
Postal Address: PO Box 305,  
Botany,  
NSW 1455,  
Australia  
Tel +61 2 9316 0051  
Fax +61 2 9316 0050  
Email [info@ausperl.com.au](mailto:info@ausperl.com.au)



Website: [www.ausperl.com.au](http://www.ausperl.com.au)

Office Address: 20-22 McPherson Street,  
Banksmeadow,  
NSW 2019.



Factory Address: 18 McPherson Street,  
Banksmeadow,  
NSW 2019.

Warehouses: Brisbane, QLD  
Mildura, VIC  
Melbourne, VIC  
Banksmeadow, NSW  
Griffith, NSW  
Adelaide, SA  
Perth, WA



### Company Representatives:

Managing Director:	Matthew Malaghan
Commercial Manager:	Andrew Anderson
Office Manager:	Sonia Cassidy
Production Manager:	Adam Grant
Logistics Coordinator:	Gary Blocksage
Horticultural Sales:	Paul Smith

Accountants: Hayes Knight, Melbourne, VIC

Soliditors: Australian Business Lawyers, NSW

Bankers: National Australia Bank, Tarren Point, NSW



*Australian Perlite is proud to be a member of the Perlite Institute.*



## AUSTRALIAN PERLITE PTY LTD

ABN: 51 152 727 028  
PO Box 305, Botany, NSW 1455  
AUSTRALIA  
Tel. +61 2 9316 0054  
Fax. +61 2 9316 0050  
Email. info@ausperl.com.au



### **FILTER AID**

#### Introduction

Perlite is a generic name for a naturally occurring siliceous volcanic rock. A unique property of perlite is that it expands up to twenty times its original volume when it is heated to its softening range.

This expansion process is caused by the presence of water in the crude rock. When perlite ore is rapidly heated to above 850c, this water vaporizes and causes the softened rock to expand. Tiny glass like bubbles are produced which account for the light weight and exceptional physical properties of expanded perlite.

It is these light weight glasslike bubbles that are milled and classified under stringent quality control conditions to produce perlite filter aids. This material exhibits a unique, jagged interlocking structure with myriads of microscopic channels affording optimum flow rates and clarities for a wide variety of applications. Perlite filter aids do not impart taste, colour or odour to liquids being filtered and they are virtually insoluble in mineral and organic acids at all temperatures. Solubility in strong alkalis varies depending on temperature and concentration.

#### Benefits

##### Australian Materials, Australian Processed

- AUSPERL filter aid is produced using Australian sourced perlite or processed in Banksmeadow, Sydney. That means that we can deliver filter aid just in time minimizing warehousing and distribution costs. Further as an Australian produce our prices are stable and not susceptible to foreign currency exchange.

##### Cost advantage

- AUSPERL perlite filter aids provide the user with a density advantage between 20-50% over other filter aids which is an important consideration when comparing costs.
- AUSPERL perlite filter cake density is 110-270kg/m<sup>3</sup>. The dry density of perlite filter aid ranges from 100-200kg/m<sup>3</sup>. Experience in a variety of applications in many industries has shown that users of filter aids can substantially reduce filtration costs without sacrificing performance by converting to perlite filter aids.

##### Usable with standard equipment

- AUSPERL perlite filter aids can be used with both pressure and vacuum filtration equipment by merely replacing present filter aid. Plant or laboratory filtration studies will enable the selection of the optimum filter aid to be specified and the dosage that is required. Of special note is the fact that when AUSPERL perlite filter aids are used with rotary vacuum filters, filter cakes exhibit less cracking than when other filter aids are used.

##### High flow rates

- Due to their unique physical structure, AUSPERL perlite filter aids offer high flow rates with optimum density. They are especially applicable to highly viscous liquids such as syrup or gelatinous slurries requiring fast flow rates. Productivity, clarity and flow rates may be increased through the use of AUSPERL perlite filter aids.

##### Full range of grades

- AUSPERL perlite filter aids are produced in a full range of grades to economically meet the flow rate and clarity requirements of almost every industry. Grades produced are as follows:

		AP10	AP20	AP40	AP60	AP70
		Slow	Slow	Medium	Fast	Fast
Relative Flow Rate	Seconds	250-500	100-230	50-80	25-35	15-25
Bulk Density	kg/m <sup>3</sup>	200-300	125-160	120-150	110-145	110-140
Wet Cake Density	kg/m <sup>3</sup>		250-336	210-290	200-280	180-250
Permeability	Darcies		0.21-0.27	0.64-1.02	1.46-2.04	2.04-3.41
Ph in 10% slurry	Ph	7-8	7-8	7-8	7-8	7-8
Average Particle Size	microns	27	43	51	78	85
Median Size	microns	19	28	34	55	68
90% passing	microns	60	87	106	162	166

#### Easy cake release

- Because they remain porous and do not compact, AUSPERL perlite filter aids afford easy cake release at the completion of the filtration cycle. Not only does this facilitate filter cleaning, but it reduces manpower requirements and increases productivity.

#### Inert-Codex approved

- AUSPERL perlite filter aids are sterile and inert and are widely used for filtering liquids in the beverage, food and pharmaceutical industries. They do not impart taste, odour or colour and are listed in the U.S. Food Chemicals Codex which is published by the National Academy of Sciences. This publication which is a source of information on the quality and purity of food grade substances is officially recognized by the U.S. Food & Drug Administration and has been adopted by many government agencies around the world.

TRACE ELEMENTS	PERCENTAGE ( % )
Arsenic	<0.001
Barium	<0.1
Boron	<0.01
Chlorine	<0.0005
Chromium	<0.0075
Copper	<0.0015
Gallium	<0.05
Lead	<0.001
Manganese	<0.03
Molybdenum	<0.002
Nickel	<0.002
Sulfur	<0.2
Titanium	<0.1
Zirconium	<0.003

#### Use of spent filter cake

- A unique benefit to manufacturers using AUSPERL perlite filter aids in the food processing is that spent filter cake is used as a component in animal feed in many countries throughout the world. This reduces spent filter aid disposal costs. In the U.S., this application has been approved by the Association of American Feed Control Officials (AAFCO)

#### Applications

##### 1. Food Processing

- a. Wine
- b. Corn syrup
- c. Fruit juice
- d. Sugar
- e. Pectin
- f. Citric Acid
- g. Vegetable Oils & Juices
- h. Beer
- i. Cider
- j. Lard
- k. Molasses
- l. Soft Drinks
- m. Casein

##### 2. Pharmaceuticals

- a. Enzymes
- b. Epsom Salts
- c. Penicillin
- d. Streptomycin
- e. Tetramycin

##### 3. Industrial

- a. Water treatment
- b. Sizing's
- c. Oil recovery
- d. Pool water
- e. Greases
- f. Solvent recovery
- g. Disposal wells

##### 4. Chemical

- a. Inorganic & organic chemicals
- b. Resins
- c. Sulphuric acid
- d. Polymers
- e. Polyethylene
- f. Brine
- g. Adhesives
- h. Titanium dioxide
- i. Fertilizers
- j. Waste Disposal

##### 5. Paints/Coatings/Textiles

- a. Waxes
- b. Oils
- c. Varnish
- d. Gums
- e. Shellac
- f. Paint



**PERLFLO**  
**FILTER AID**  
**TECHNICAL DATA**

EXPANDED PERLITE			
Typical Chemical Analysis		Typical Physical Properties	
Silica	74.0%	Specific Gravity (g/ml)	2-2.1 g/ml
Aluminum Oxide	14.0%	Colour	Light Brown
Ferric Oxide	1.0%	Fusion Point	1260 – 1340c
Calcium Oxide	1.3 %	Softening Point	871 – 1093c
Magnesium Oxide	0.3%	<b>Test Methods</b>	
Sodium Oxide	3.0%	1	Chemical by XRF
Potassium Oxide	4.0%	2	Moisture by drying 110 C for 1.5 hrs
Titanium Oxide	0.1%	3	LOI - muffle furnace at 1100 C/1.5 hrs
Heavy metals	Trace	4	Spec gravity by water immersion
Sulphate	Trace	5	PSD by dry sieve on BS410 sieves
Moisture	0.5%	6	Loose bulk density by DIN 53194
Loss in Ignition	3.2%		
pH (water extract)	6.5 - 8.0		

		AP10	AP20	AP40	AP50	AP60	AP70
		Very Slow	Slow	Medium	Medium	Fast	Fast
Relative Flow Rate	Seconds		100-230	50-80	35-50	25-35	15-25
Bulk Density	kg/m3	230-300	125-160	120-150	120-150	110-145	110-140
Wet Cake Density	kg/m3		250-336	210-290	200-280	200-280	180-250
Permeability	Darcies		0.21-0.27	0.64-1.02	1.02-1.46	1.46-2.04	2.04-3.41
Ph in 10% slurry	Ph	7-8	7-8	7-8	7-8	7-8	7-8
Average Particle Size	microns	27	43	51	46	78	85
Median Size	microns	19	28	34	35	55	68
90% passing	microns	60	87	106	92	162	166

The figures quoted in this data sheet are, to the best of our knowledge, representative of the product. Natural products do vary, so these figures are approximations for guidance only. As conditions of use beyond our control, no liability is accepted for any loss or damage sustained arising from the use of this information or any products. Because of on-going developments, the product parameters may be changed without notice.



### Characteristics of AUSPERL filter aid

		AP20	AP40	AP60	AP70
		Slow	Medium	Fast	Fast
Relative Flow Rate	Seconds	100-230	50-80	25-35	15-25
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### Table of Filter Aid Earth Equivalents

AUSPERL	DICALITE	CELITE	CELATOM DE	CELATOM Perlite	KENI TE
Perlite	Diatomite	Diatomite	Diatomite	Perlite	Diatomite
AP10C	215 Super-Aid	Filtercel/500 505	FN-2 FP-1		100
AP10	UF	577	FW-2		
AP20	Speed- flow	Std. Super- cell	FP-4	1200P	200
AP20	231	512	FW-6		290/300
AP40	341	Hy-flo	FW-12	1400P/R	
AP40	Speed-plus	501	FW-14		297/700
AP40	375	503	FW-18		900
AP60	Speed-ex	535	FW-20	2000P/R	1000
AP60	2500	545	FW-40		2000
AP70	4200	550	FW-50	5000P/R	2500
AP70	4500	555	FW-60		3000
AP80	5000	560	FW-70	6000P/R	5500
	5000	580	FW-80		



## What is Perlite?

Perlite is formed from a volcanic magma flow of pure alumina silicate glass deposited onto the surface of the earth where the molten glass cools and subsequently hydrates water. The purity of the perlite mineral itself, and the extent to which it is intermingled with pre-existing surface materials, varies considerably from deposit to deposit.

When granulated perlite ore is heated to 1,600 - 2,400 degrees Fahrenheit, it becomes molten glass, and the water of hydration within each granule is released as expanded water vapour. Accomplished rapidly and under carefully controlled conditions, this combination glass liquefaction/water vaporization event results in the virtual instantaneous explosive formation of partially fractured, low bulk density multicellular particles. Perlite's manufacturing process exploits the expansion characteristics of perlite ore, ensuring the consistent production of thin-walled particles which can be milled and/or air classified into very low density filter aids with highly predictable physical and chemical properties.



## What is DE?

Diatomaceous earth, or D.E., is the skeletal remains of single-celled plants called diatoms. These microscopic algae have the unique capability of extracting silica from water to produce their skeletal structure. When diatoms die, their skeletons settle to form a diatomite deposit.

Diatomite is a soft powdery mineral resembling chalk and is distinguished by a variety of shapes. This raw material is processed by drying, milling, sintering and air classification to give a finished filter aid which is predominantly silica.

Particle size removal is virtually identical using Perlite instead of D.E. The major advantages of Perlite over D.E. are handling, disposal and health risks. D.E. has been deemed a carcinogen and must be disposed of as a hazardous waste, according to some Health Departments. According to the FDA, Perlite is classified the same as household flour (nuisance dust) and does not pose any health risks. Perlite does not have any stringent disposal criteria and may be suitable for discharge into sanitary sewers.



**Bottom Line!** Filter grade D.E. is a crystalline silicate. Crystalline silicates can cut the throat and lungs if inhaled. Perlite is an amorphous (un-crystallized) silicate, containing less than one tenth of one percent (.001) crystalline and is much safer to handle.



# MATERIAL SAFETY DATA SHEET



## IDENTIFICATION

Product Name:  
Other Names:

### AUSPERL PERFLO

Perflo AP10; Perflo AP15; Perflo AP15 White; Perflo AP 0; Perflo AP20 White; Perflo AP40;  
Perflo AP40 White; Perflo AP50; Perflo AP60; Perflo AP60 White; Perflo AP70; Perflo AP70 Grey; Perflo AP70 White;  
Bags Perflo AP60 Blue; Perlite Perflo Filter Aid AP40  
Extender, flattening agent, filter aid..

Product Use:

## PHYSICAL DATA

Appearance: Off-white, odourless, free flowing powder.  
Melting Point: Approx. 1250c  
Boiling Point: Not applicable  
Vapor Pressure: Not applicable  
Specific Gravity: 200-250kg/m3  
Flash Point: Not applicable  
Flamm. Limit LEL: Not applicable  
Explosion Data: Not applicable

## OTHER PROPERTIES

Description: Perlite is essentially an amorphous, hydrated glassy volcanic rock of rhyolitic composition, consisting primarily of fused sodium potassium aluminium silicate.

Form: Powder

Ingredients:	Name	CAS	Proportion
	May contain, crystalline silica:		14464-46-1; less than 0.1%
	Cristobalite Quartz:		14808-60-1; less than 0.1%

## HEALTH HAZARD INFORMATION

Acute – Ingestion: No adverse effects expected.  
Acute – Eye: Exposure to the dust may cause discomfort due to the particulate nature.  
Acute – Skin: Not expected to be a skin irritant.  
Acute – Inhalation: Inhalation of dust may result in respiratory irritation.

## FIRST AID

Ingestion: Rinse mouth with water - give plenty of water to drink. If vomiting occurs give further water. Seek medical advice.  
Eye: Irrigate with copious quantities of water for 15 minutes. In all cases of eye contamination it is a sensible precaution to seek medical advice.  
Skin: Wash contaminated skin with plenty of soap and water. If irritation occurs seek medical advice. Remove victim from exposure - avoid becoming a casualty.  
Inhalation: Remove contaminated clothing and loosen remaining clothing. Patient to assume most comfortable position and keep at rest until fully recovered.  
Advice to Doctor: Treat symptomatically.

## PRECAUTIONS FOR USE

Exposure Limits:	Name	STEL mg/m3 ppm	TWA mg/m3 ppm
TWA Footnote:			May contain Crystalline silica: 0.1

Other Exposure Info: No value assigned for this specific material by the Occupational Health & Safety

Engineering Controls: Ensure ventilation is adequate to maintain air concentrations below exposure Standard. Avoid generating and inhaling dust. Keep containers closed when not in use.

Protective Equipment: No specific safety equipment required. Preferable to avoid skin and eye contact and inhalation of dust. Wear overalls, safety glasses and impervious gloves. Avoid generating and inhaling dust. If dust exists, wear dust mask/respirator meeting the requirements of AS1715 and AS1716. Always wash hands before eating, drinking or using the toilet.

Fire Hazards: Perlite is a fully oxidized non-flammable mineral. It is non-combustible

## REACTIVITY

Stability: Stable  
Incompatibility: None (reacts with hydrofluoric acid; soluble in HF)  
Hazardous Polymerization: Will not occur.  
Conditions to avoid: None

## SAFE HANDLING INFORMATION

Storage Precautions: Not defined as a Dangerous Good. Store in a dry place.  
Spills and Leaks: Spills: Use respirators suitable for nuisance dust & eye protection. Sweep up, but avoid generating dust.  
Disposal: Dispose in bulk or containerised according to local regulations. Normally approved for disposal at approved land waste sites.

## OTHER INFORMATION

Toxicology: Inhaling crystalline silica-containing dust can aggravate upper respiratory conditions such as asthma or emphysema. Long term exposure to mineral dust which contains crystalline silica can cause the lung disease silicosis. A recent review by the International Agency for Research into Cancer of public literature on the carcinogenic risk of silica and silicates has concluded that there is limited evidence for the carcinogenicity of crystalline silica in humans.

## CONTACT POINT

In the case of an emergency contact the Technical Manager on (02) 9316 0051 or for additional information on this or other products contact by fax on (02) 9316 0050. This material safety data sheet and the information contained herein is provided for the sole purpose of enabling persons handling and using the product to do so with safety.