



SAFETY DATA SHEET (SDS)

(In compliance with Regulation (EC) 1907/2006, Regulation (EC) 1272/2008 and Regulation (EC) 453/2010).

Version: 04.

Revision date: 10/01/2012.

PRODUCT NAME: PALABORA CRUDE VERMICULITE

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

1.1. Identification of the substance or preparation

Name: Naturally occurring vermiculite
REACH Registration N°: Exempted according to Article 2 § (7)
Trade Names: Palabora crude vermiculite
Chemical name: Vermiculite
Synonym: Jefferisite or Vaalite

1.2. Relevant identified uses of the substance or preparation and uses advised against

Crude vermiculite is normally heat expanded prior to use.

- 1.2.1. In the crude state vermiculite is used as functional filler in fire-resistant plasterboard formulations.
- 1.2.2. In the heat expanded or exfoliated form it is widely used in the construction and refractory industries as an insulation material and as a lightweight aggregate.
- 1.2.3. Vermiculite is also incorporated into factory made insulation and fire resistant boards and panels and high temperature refractory shapes and mouldings.
- 1.2.4. Vermiculite is also used in automotive friction linings as a functional additive.
- 1.2.5. Vermiculite is also widely used as an additive in growing media and as a soil improver.
- 1.2.6. Whilst vermiculite is widely used as a hazardous goods packaging material it not recommended for use in regular contact with strong acids or alkalis.

1.3. Details of the supplier of the safety data sheet

Name: Dineen Sales Ltd
Address: Wolfhill, Athy, Co. Kildare, Ireland
Phone No: + 353 (0) 59 8635557
Fax No: + 353 (0) 59 8635655

E-mail of responsible person for SDS: billprocter@eircom.net
Direct dial: +353 (0) 87 2415699.

1.4. Emergency telephone

Emergency telephone number: +353 (0) 87 2415699.
Emergency E-mail address: billprocter@eircom.net

Available outside office hours?

Yes, but number still to be nominated.



2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

This product Palabora Crude Vermiculite does not meet the criteria for classification as hazardous as defined in the Regulation EC 1272/2008, and in Directive 67/548 EEC and its amendments.

This product should be handled with care to avoid dust generation.

Classification EU (67/548/EC): No classification.

Regulation EC 1272/2008: No classification.

This product contains less than 0.1% quartz (total) and less than 0.0001% quartz (respirable).

2.2. Label elements

Hazard pictograms according to EC 1272/2008: Not applicable, no classification.

2.3. Other hazards

This product Palabora Crude Vermiculite is an inorganic substance and does not meet the criteria for PDT or vPvB in accordance with Annex XIII of REACH.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Vermiculite is the mineralogical name given to a group of hydrated laminar magnesium-aluminum-iron silicates which resemble mica in appearance. When subject to heat, crude vermiculite has the unusual property of exfoliating or expanding into worm-like particles (the name vermiculite is derived from the Latin 'vermiculare', meaning to breed worms.). Vermiculite is a member of the phyllosilicate group of minerals.

Main constituents:

Name	Chemical formula	Amount	CAS No	EINECS N°	EU N°/EU Classification
Vermiculite	$(\text{Mg, Fe}^{2+}, \text{Al})_3 (\text{Al, Si})\text{O}_{10} (\text{OH})_2 \cdot 4\text{H}_2\text{O}$	85 -95%	1318-00-09	310-127-6	EC N° 603-518-0
Apatite	$\text{Ca}_5 (\text{F, Cl}) (\text{PO}_4)_3$	<5%	---	N-A	---
Mica phlogopite	$\text{K}_2(\text{Mg, Fe}^{2+})_6 (\text{Si}_6\text{Al}_2)\text{O}_{20} (\text{OH, F})_4$	<5%	12001-26-2	310-127-6	---
Diopside	$\text{Ca}(\text{Mg, Fe}^{2+})\text{Si}_2\text{O}_6$	<5%	14483-19-3	N-A	---
Alpha cristobalite & Tridymite	SiO_2	<0.1%	14464-46-1	238-455-4	EHS Hazard XN:R48/20 If respirable.
Alpha Quartz	SiO_2	0.01–0.05%	14808-60-7	238-878-4	EHS Hazard XN:R48/20 If respirable.



4. FIRST AID MEASURES

4.1. Description of first aid measures

Eye contact: Rinse with copious quantities of water and seek medical attention if irritation persists.

Inhalation: Movement of the exposed individual from the area to fresh air is recommended.

Contact with skin: Harmless & non-irritant.

4.2. Most important symptoms and effects both acute and delayed

No acute and delayed symptoms and effects are observed.

4.3. Indication of any immediate medical attention and special treatment needed

No specific actions are required.

FIRE-FIGHTING MEASURES

5.1. Extinguishing media

No specific extinguishing media is needed.

5.2. Special hazards arising from the substance or mixture

Non-combustible. No hazardous thermal decomposition.

5.3. Advice for fire-fighters

No specific fire-fighting protection is required.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid airborne dust generation, wear personal protective equipment in compliance with National legislation. Dust masks of type FFP2 minimum standard are recommended.

6.2. Environmental precautions

No special requirements.

6.3. Methods and material for containment and cleaning up

Avoid dry sweeping and use water-spraying or vacuum cleaning systems to prevent airborne dust generation. Wear personal protective equipment in compliance with National legislation.

6.4. Reference for other sections

See sections 8 and 13.



7. HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid airborne dust generation. Provide appropriate exhaust ventilation at places where airborne dust is generated. In case of insufficient ventilation, wear suitable respiratory equipment. Handle packed products carefully to prevent accidental bursting. If you require advice on safe handling techniques, please contact Dineen Sales Ltd, or check the Good Practice Guide referred to in section 16.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures/Precautions: Minimise airborne dust generation and prevent wind dispersal during loading and unloading. Keep containers closed and store packaged products so as to prevent accidental bursting.

7.3. Specific end use(s)

If you require advice on specific use please contact Dineen Sales Ltd, or check the Good Practice Guide referred to in section 16.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Control parameters

Follow workplace regulatory exposure limits for all types of airborne dust (e.g., total dust, respirable dust, respirable crystalline silica dust).

The OEL's (Occupational Exposure Limits) for respirable crystalline silica (RCS) dust in Europe range from 0.025 mg/m³ to 0.3 mg/m³, with an average of 0.1 mg/m³ as an 8 hr TWA (Time Weighted Average). In the UK the Work Place Exposure Limit (WEL) or OEL for respirable crystalline silica (including quartz and cristobalite), was reduced (in line with the HSE recommendations) to 0.1 mg/m³ (8hr TWA) on 1st October 2006. For the equivalent limits in other countries, please consult a competent occupational hygienist or local regulatory authority.

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Minimise airborne dust generation. Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below specified exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne particles below exposure limit. Apply suitable organisational measures, e.g., by isolating personnel from dusty areas. Remove and wash soiled clothing.

8.2.2. Individual protection measures, such as personal protective equipment

(a) Eye protection: Wear safety glasses with side shields or suitable goggles in circumstances where there is a risk of penetrative eye injuries.

(b) Skin protection: No specific requirement. For hands, see below.

Hand protection: Appropriate protection (e.g., gloves, barrier cream) is recommended for workers who suffer from dermatitis or sensitive skin. Wash hands at the end of each work session.

(c) Respiratory protection: In case of prolonged exposure to airborne dust concentrations, wear respiratory protective equipment that complies with the requirements of European or National legislation.



8.2.3. Environmental exposure controls

Avoid wind dispersal.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance: golden brown flakes

Odour: odourless

Odour threshold: not relevant

pH: 8.0 to 9.0. (40g/l water at 20°C)

Melting point: above 1330°C

Relative density (S.G): 2.5 (Water = 1)

Solubilities: Insoluble in water. Insoluble in organic solvents. Soluble in strong mineral acids.

Decomposition temperature: Stable liquidus state is achieved at temperatures of circa 1570°C and sintering occurs at temperatures above 1600°C. The decomposition temperature has never been determined.

9.2. Other information

No other information.

10. STABILITY AND REACTIVITY

10.1. Reactivity

Inert, not reactive.

10.2. Chemical stability

Chemically stable.

10.3. Possibility of hazardous reactions

No hazardous reactions.

10.4. Conditions to avoid

Not relevant.

10.5. Incompatible materials

No particular incompatibility.

10.6. Hazardous decomposition products

Not relevant.



11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

- (a) **Acute toxicity:** Based on available data, the classification criteria are not met.
- (b) **Skin corrosion/irritation:** Based on available data, the classification criteria are not met.
- (c) **Serious eye damage/irritation:** Based on available data, the classification criteria are not met.
- (d) **Respiratory or skin sensitisation:** Based on available data, the classification criteria are not met.
- (e) **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
- (f) **Carcinogenicity:** Based on available data, the classification criteria are not met.
- (g) **Reproductive toxicity:** Based on available data, the classification criteria are not met.
- (h) **STOT - single exposure:** Based on available data, the classification criteria are not met.
- (i) **STOT - repeated exposure:** Based on available data, the classification criteria are not met.
- (j) **Aspiration hazard:** Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Not relevant.

12.2. Persistence and degradability

Not relevant.

12.3. Bioaccumulative potential

Not relevant.

12.4. Mobility in soils

Negligible.

12.5. Results of PBT and vPvB assessment

Not relevant.

12.6. Other adverse effects

No specific adverse effects known.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues/unused products:

Where possible, recycling is preferable to disposal. Can be disposed of in compliance with National and local regulations.

Packaging: Dust formation from residues in packaging should be avoided and suitable worker protection assured. Store used packaging in enclosed receptacles.

**Packaging (continued):**

The re-use of packaging is not recommended. Recycling and disposal of packaging should be carried out by an authorised waste management company. Recycling and disposal of packaging should be carried out in compliance with National and local regulations.

14. TRANSPORT INFORMATION

14.1. UN Number

Not relevant.

14.2. UN proper shipping name

Not relevant.

14.3. Transport hazard classes

UN number: Not relevant.

ADR: Not classified.

IMDG: Not classified.

ICAO/IATA: Not classified.

RID: Not classified.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

Not relevant.

14.6. Special precautions for user

No special precautions.

14.7. Transport in bulk according to Annex II of MARPOL73/78

Not relevant.

15. REGULATORY INFORMATION

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

National legislation/requirements: The occupational exposure limits of the respirable dust (inert dust, quartz, cristobalite and tridymite) in EU, Norway and Switzerland are listed at: http://www.ima-europe.eu/fileadmin/downloads/publications/other/OEL_TABLE_Dust-QCT_May_2010_Jan09.pdf

Not classified as hazardous under CHIP Regulations.

Material classified as non-hazardous.

Water hazard Classification (Germany):

NWG



15.2. Chemical safety assessment

Exempted from REACH Registration in accordance with Annex V.7.

16. OTHER INFORMATION

- 1) Compiles according to the CHIP Regulations 1994. (Directive 91/155/EEC).
- 2) N/A = not applicable. < = smaller or less than.
CAS = Chemical Abstract Services.
- 3) Further H & S data is available from Dineen Sales Ltd.

Indication of the changes made to the previous version of the SDS:

This version 04 of the Palabora crude vermiculite SDS has been redrafted in accordance with the requirements of: Regulation (EC) 1907/2006, Regulation (EC) 1272/2008 and Regulation (EC) 453/2010.

Third party materials:

Insofar as materials not supplied by Dineen Sales Ltd are used in conjunction with, or instead of Dineen Sales Ltd material, it is the responsibility of the customer themselves to obtain, from the manufacturer or supplier, all technical data and other properties relating to these and other materials and to obtain all necessary information relating to them. No liability can be accepted in respect of the use of Palabora crude vermiculite in conjunction with materials from another supplier.

Liability:

Such information is to the best of Dineen Sales Ltd's knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy themselves as to the ~~sub~~ ^{quality} and completeness of such information for their own particular use.