



ATTAPULGITE MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/COMPANY

1.1 Product identifiers

Product name: Attapulgite clay (hydrated magnesium aluminium silicate)
Brand: Metadynamics

1.2 Details of the supplier of the safety data sheet

Company: Metadynamics CC
108 Pebble Lane, Clayville ext. 14, Olifantsfontein, SA
Tel: +27 11 316 4390 (SA) or +27 87 351 4886 (VOIP)
Fax: +27 11 316 4395
www.metadynamics.co.za

2. HAZARDS IDENTIFICATION

2.1 Hazardous components

Silica, crystalline (quartz).

2.2 Classification

This product is not dangerous preparation according to Directive 1999/45/EC. Constituents/compounds not listed in Annex VI of the Regulation (EC) 1982/2008.

2.3 Potential adverse human health effects

This product may generate dust during handling and use. As any natural occurring mineral, attapulgite may contain quartz (crystalline silica). Long term overexposure to crystalline silica dust may cause silicosis. This product, because of its coarse particle size, has very low respirable fraction and the content in respirable crystalline silica is negligible.

2.4 Target organs

Eyes and skin (irritation risk).
Pulmonary system (irritation and chronic risk).

2.5 Potential adverse environmental effects

No specific adverse effects are known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Toxicological data on ingredients

QUARTZ

LD50: Not available.

LC50: Not available.

HYDRATED MAGNESIUM ALUMINIUM SILICATE

LD50: Not available.

LC50: Not available.



4. FIRST AID MEASURES

4.1 Description of first aid measures

IF INHALED

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

IN CASE OF SKIN CONTACT

Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.

IN CASE OF EYE CONTACT

Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.

IF SWALLOWED

Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

5. FIRE FIGHTING MEASURES

5.1 Flammability

May be combustible at high temperature.

5.2 Auto-ignition temperature

Data not available.

5.3 Flash points

Data not available.

5.4 Flammable limits

Data not available.

5.5 Products of combustion

Data not available.

5.6 Fire hazards in presence of various substances

Slightly flammable to flammable in presence of heat. Non-flammable in presence of open flames and sparks, shocks, reducing materials, combustible materials, organic materials, metals, acids, alkalis, and moisture.

5.7 Fire fighting media and instructions

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

5.8 Special remarks on fire hazards

Powerful oxidisers may cause fire or explosions (quartz).



6. ACCIDENTAL RELEASE MEASURES

6.1 Small spill

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

6.2 Large spills

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV with local authorities.

7. HANDLING AND STORAGE

7.1 Precautions

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not breathe dust. Wear suitable protective clothing. If you feel unwell, seek medical attention and show the label when possible.

7.2 Storage

Keep container tightly closed and in a cool, well-ventilated area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Engineering controls

Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

8.2 Personal protection

Safety glasses, lab coat, dust respirator, gloves. Be sure to use an approved/certified respirator or equivalent.

8.3 Exposure limits

QUARTZ

TWA: 0.05 (mg/m³) from ACGIH (TLV) [United States] [1999] inhalation respirable.

TWA: 0.1 (mg/m³) from OSHA (PEL) [United States] inhalation respirable.

TWA: 0.3 (mg/m³) [United Kingdom (UK)] inhalation respirable.

TWA: 0.2 (mg/m³) [Australia] inhalation respirable.

TWA: 0.1 (mg/m³) [Canada] inhalation respirable.

HYDRATED MAGNESIUM ALUMINIUM SILICATE

TWA: 15 mg/m³ (Inhalation, total dust); 5 mg/m³ (Inhalation, respirable fraction) from OSHA [United States].

TWA: 10 mg/m³ (Inhalation, total dust); 3 mg/m³ (Inhalation, respirable fraction) from ACGIH [United States].

Consult local authorities for acceptable exposure limits.



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- a) Colour: grey
- b) SG: 2.5
- c) Bulk density: 0.8
- d) Oil absorption: 8.4 – 9 %
- e) Moisture content: <1 %

10. STABILITY AND REACTIVITY

10.1 Stability

Stable.

10.2 Instability temperature

Data not available.

10.3 Conditions of instability

Excess heat, incompatible materials, dust generation.

10.4 Incompatibility with various substances

Slightly reactive to reactive with oxidising agents.

10.5 Corrosivity

Data not available.

10.6 Special remarks on reactivity

Incompatibility with powerful oxidisers: fluorine, chlorine trifluoride, manganese trioxide, oxygen difluoride, hydrogen peroxide, etc. Incompatible with acetylene and ammonia. This chemical is attacked by hydrogen fluoride. Silica will dissolve in hydrofluoric acid and produce the corrosive gas silicon tetrafluoride (SiF₄). May be attacked by strong alkalis, especially with hot quartz.

10.7 Special remarks on corrosivity

Data not available.

10.8 Polymerisation

Will not occur.

11. TOXICOLOGICAL INFORMATION

11.1 Routes of entry

Inhalation and ingestion.

11.2 Toxicity to animals

LD50: Not available.

LC50: Not available.

11.3 Chronic effects on humans

CARCINOGENIC EFFECTS: Classified 2B (possible for human) by IARC [Palygorskite (attapulgit)] (long fibres, >5 micrometers) Classified 3 (not classifiable as to carcinogenicity to human) by IARC [Palygorskite (attapulgit)] (short fibres, <5 micrometers); Classified 1 (proven for human) by IARC,



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1 (clear evidence) by NTP, + (proven) by NIOSH. Classified A2 (suspected for human) by ACGIH. [Quartz (silica, crystalline)] may cause damage to the following organs: lungs, upper respiratory tract.

11.4 Other toxic effects on humans

Slightly hazardous in case of skin contact (irritant), ingestion or inhalation.

11.5 Special remarks on toxicity to animals

Data not available.

11.6 Special remarks on chronic effects on humans

May cause cancer.

11.7 Acute potential health effects

SKIN

May cause mechanical irritation of the skin.

EYES

May cause mechanical irritation of the eyes.

INHALATION

Can cause irritation to the respiratory tract. This product contains quartz (crystalline silica). Acute pneumoconiosis or silicosis from overwhelming exposure to crystalline silica dust has occurred. Coughing and irritation of the throat are early symptoms. May also cause difficulty breathing or shortness of breath.

INGESTION

May cause gastrointestinal tract irritation with nausea or diarrhoea. It is not absorbed from the gastrointestinal tract.

11.8 Chronic potential health effects

INHALATION

May cause lung damage if exposure is repeated or prolonged. Prolonged or repeated inhalation may cause cancer. Risk of cancer depends upon duration and level of exposure. It can also cause silicosis or pneumoconiosis, a form of lung scarring that can cause shortness of breath or reduced lung function. May also affect blood (changes in white blood cell count).

AGGRAVATION OF PRE-EXISTING CONDITIONS

Inhalation may increase the progression of tuberculosis; susceptibility is apparently not increased. Persons with impaired respiratory function may be more susceptible to the effects of this substance. Smoking can increase the risk of lung injury.

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Data not available.

12.2 BOD5 and COD

Data not available.



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12.3 Products of biodegradation

Possibly hazardous short-term degradation products are not likely. However, long-term degradation products may arise.

12.4 Toxicity of the products of biodegradation

Data not available.

12.5 Special remarks on the products of biodegradation

Data not available.

13. DISPOSAL CONSIDERATIONS

13.1 Waste disposal

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. TRANSPORT INFORMATION

14.1 DOT classification

Not a DOT controlled material (United States).

14.2 Identification

Not applicable.

14.3 Special provisions for transport

Not applicable.

15. REGULATORY INFORMATION

15.1 EEC labelling

Not classified.

15.2 Symbol(s)

None.

15.3 R-Phrases

None.

15.4 S-Phrases

None.

15.5 Annex I number

Not applicable.

15.6 EEC Number(s)

Not applicable.



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16. OTHER INFORMATION

The information in this Material Safety Data Sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. This information has been prepared for the guidance of plant engineering, operations, management and for people working with or handling these products. This information is believed to be reliable and updated at 24/07/14 and represents the best information currently available and known by Metadynamics. However, Metadynamics makes no guarantee or warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. The information related herein is based on proper handling and anticipated uses and is for the material without chemical additions/alterations. Users should make their own investigations to determinate the suitability of the information for their particular purposes.