



MATERIALS SAFETY DATA SHEET

1. IDENTIFICATION OF SUBSTANCE / PREPARATION AND COMPANY

SUBSTANCES COVERED BY THIS DATA SHEET:

- ♦ Moist Mansil Sands
- ♦ Dry Mansil Sands
- ♦ Dried Industrial Sands
- ♦ Rendering Sands
- ♦ Building Sands
- ♦ Fill Sands
- ♦ Asphalt Sands
- ♦ Plastering Sands
- ♦ Loco Sand
- ♦ Dry Pavior Sand
- ♦ Concrete Sands
- ♦ Gravels and Ballasts

Manufacturer

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Source

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2. COMPOSITION/INFORMATION ON INGREDIENTS

CHEMICAL : SiO₂ (ca. 92.9%)
CAS-No : 14808-60-7
EINECS - No : 238-878-4
IUPAC_NAME : Silicon Dioxide
SYNONYMS : Silica Sand \ Quartz
EU-classification : No Classification

IMPURITIES IN EXCESS OF 0.5% OF TOTAL WEIGHT

CAS-No	EINECS-No	IUPAC-NAME	Formula	Contents %w/w
1344-28-1	215-691-6	Aluminium Oxide	Al ₂ O ₃	ca. 3.40%
1309-37-1	215-168-2	Iron Oxide	Fe ₂ O ₃	ca. 0.50 %
12136-45-7	235-227-6	Potassium Oxide	K ₂ O	ca. 2.30 %

Note: Impurities listed are contaminant oxides.

All natural and processed silica sands contain Al₂O₃ due to small quantities of Feldspar in the product. K₂O is associated with the Feldspar content.

All natural and processed silica sands contain Fe₂O₃ due to small quantities of iron rich contaminants remaining in the product.

3. HAZARD IDENTIFICATION

The main risk from Silica Sand is airborne dust. This can be released during manual handling, with potentially increased levels during mechanical processing.

Inhalation of respirable free silica over a prolonged period can give rise to silicosis/pneumoconiosis, a disease of the lungs leading to impaired breathing, symptoms of which include coughing and difficulty in breathing.

Occupational exposure to respirable crystalline silica dust should be monitored and controlled.

The Control of Substances Hazardous to Health Regulations, state sand containing free crystalline silica cannot be used as an abrasive for blasting articles in any blasting apparatus.

4. FIRST AID MEASURES

General:

Very unlikely to be needed under normal circumstances.

Eye Contact:

Irritation by abrasion will result from contact with the eyes and protective eye wear is recommended.

Irrigate with eyewash solution or clean water and seek medical attention if required.

Skin Contact:

Silica sand is an abrasive substance and protective clothing is recommended to prevent abrasion of the skin due to prolonged or repeated contact.

Ingestion:

Low toxicity.

Inhalation:

In the supplied form silica sand products contain negligible quantities of respirable silica dust. Certain applications may give rise to respirable free silica and if inhaled over a prolonged period of time may constitute a health hazard.

Remove affected person to fresh air and seek medical attention if required.

5. FIRE FIGHTING MEASURES

Non-flammable.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Avoid airborne dust generation. Suitable respiratory protection equipment should be worn to prevent inhalation of dust.

Environmental Precautions:

No special requirements.

Methods for Cleaning Up:

In the event of spillage or leakage, do not dry sweep. Cleaning methods using water spray or ventilated/high efficiency filtered vacuum systems are recommended.

7. HANDLING AND STORAGE

Such measures as necessary must be taken to prevent exposure to dangerous dust concentrations. Eye and skin protection (e.g. gloves and overalls) are recommended. Normal hygiene measures should be taken. Ingestion should be avoided.

Products should be stored in such a way as to prevent unacceptable spillage or windblown dust and in accordance with any local authority requirement.

Manual handling regulations should be taken into account when lifting bagged products.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Workplace Exposure Limits:

Source: HSE guidance EH40/2005

Respirable Crystalline Silica Dust 0.1 Mg/m³ Long-term Exposure Limit (8 hour Time Weighted Average (TWA))

In all circumstances where there is a risk of exposure to dangerous concentrations of dust, such exposure must be reduced to as low a level as reasonably practicable by the application of occupational hygiene principles and appropriate techniques (See HSE guidance note EH40 "Dust in the Workplace").

In any case, exposure must not exceed the critical concentration limits published by the HSE in their guidance note EH40 / 2005.

Respiratory Protection:

Where considered necessary, equipment must be used which is adequate for protection against respirable silica particles. Consult the equipment manufacturers for further advice.

General Protection:

Eye protection, gloves and overalls are recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Silica sand is granular in appearance and is odourless. It has negligible solubility in water.

Molecular Formula	:	(SiO ₂) _n
Purity range	:	ca. 92.9% SiO ₂
Substance Type	:	Naturally occurring solid
Specific Gravity	:	2.65 g

10. STABILITY AND REACTIVITY

Silica sands are stable and non-reactive in normal conditions. There are no known conditions or materials which must be avoided.

11. TOXICOLOGICAL INFORMATION

Silica sands are not considered toxic; however, prolonged and/or massive exposure to respirable quartz-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by the disposition in the lungs of fine respirable particles of crystalline silica.

The IARC (International Agency for Research on Cancer) believes that crystalline silica inhaled from occupational sources can cause lung cancer in humans. It however pointed out that not all occupational conditions nor all crystalline silica types were to be incriminated.

There is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis. According to current state of the art research worker protection against silicosis would be consistently assured by respecting present regulatory occupational limits.

References:

"Silica and Silica - Induced Lung Disease". V. Castranova, V. Vallyathan & W. E. Wallace, 1996 CRC Press, pp 418.

"Silica, Some Silicates, Coal Dust and Para- aramid Fibrils". I.A.R.C. monograph on the evaluation of carcinogenic risk to human, Volume 68, 1997, pp41-242.

A. Pilkington, W. Maclaren, A. Searl, J.M.G. Davis, J. F. Hurley & C.A. Soutar, 1996. Scientific Opinion on the Health Effects of Airborne Crystalline Silica. Institute of Occupational Medicine Report TM/96/08. pp.63.

C. A Soutar, A. Robertson, B. G. Miller & A. Searl, 1997. Epidemiological evidence on the carcinogenicity of silica: factors in scientific judgement. Institute of Occupational Medicine Report TM/97/09.pp.34.

12. ECOLOGICAL INFORMATION

No specific adverse effect known.

13. DISPOSAL CONSIDERATIONS

Silica sands may be disposed of by an approved solid waste disposal method in accordance with local authority requirements.

14. TRANSPORT INFORMATION

No special transportation arrangements required.

15. REGULATORY INFORMATION

Not classified at EU level, under regulations relating to dangerous substances and preparations.

16. OTHER INFORMATION

This material safety data sheet does not constitute the user's own assessment of workplace risk as required by other health and safety legislation.

It is the user's responsibility to obtain technical data on materials to be used with silica sands.

The addition of such materials may alter the waste disposal and environmental considerations.

No liability can be accepted in respect of other materials used in conjunction with silica sands, or for finished products or mixtures where sand is a constituent material.

LIABILITY:

Such information is to the best of the company's knowledge and is believed to be accurate and reliable at the date of issue.

However, no representation, warranty or guarantee is made as to its accuracy, reliability or completeness. It is the user's responsibility to satisfy themselves as to the suitability and completeness of such information for their own particular application.