

# The Clay Minerals Society

## Safety Data Sheet

### 1. Identification

**Trade name:** Illite – Smectite Mixed Layer (70/30)  
**Product code:** ISCz-1  
**Recommended use:** Raw material  
**Supplier:** The Clay Minerals Society  
The Source Clays Repository  
3635 Concorde Pkwy, Suite 500  
Chantilly, VA 20151-1110 - United States of America  
T (703) 652-9960  
[cms@clays.org](mailto:cms@clays.org)

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### 2. Hazard(s) identification

#### Classification:

Physical hazards	Health hazards
Not classified	Carcinogenicity Category 1A Specific target organ toxicity (repeated exposure) Category 1

#### GHS US labeling:

Danger!



CONTAINS: Quartz

Hazard statements (GHS US)	Precautionary statements (GHS US)
H350 - May cause cancer H372 - Causes damage to organs through prolonged or repeated exposure	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P260 - Do not breathe dust. P264 - Wash hands thoroughly after handling. P270 - Do not eat, drink or smoke when using this product. P280 - Wear protective gloves. P308+P313 - If exposed or concerned: Get medical advice/attention. P314 - Get medical advice/attention if you feel unwell. P405 - Store locked up. P501 - Dispose of contents or container to federal, state, and local

**3: Composition/Information on ingredients**

Component	CAS-No.	Amount (%)
Smectite	12199-37-0	<98
Illite	12173-60-3	<98
Quartz	14808-60-7	<5

\*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

**4. First-aid measures**

**Inhalation:** Move the affected person to the fresh air. Get medical attention if symptoms occur.

**Skin:** Gently wash with plenty of soap and water. Get medical advice if skin irritation persists.

**Eyes:** Rinse eyes with water as a precaution. Get medical attention if irritation develops and persists.

**Ingestion:** Call a poison center or a doctor if you feel unwell.

**Most important symptoms:** May cause cancer, if inhaled. Causes damage to organs (lungs) (through prolonged or repeated exposure by inhalation).

**Immediate medical attention and special treatment, if necessary:** Not required.

**5. Fire-fighting measures**

**Suitable extinguishing media:** Use extinguishing media appropriate for surrounding fire.

**Unsuitable extinguishing media:** None.

**Specific Hazards Arising from the Chemical:** This product is not classified as flammable or combustible.

**Special protective equipment and precautions for fire-fighters:** Do not attempt to take action without suitable protective equipment.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures:** Wear suitable protective clothing. Avoid contact with eyes, skin and clothing.

**Methods and material for containment and cleaning up:** Mechanically recover the product. Minimize generation of dust. Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).

**7. Handling and storage**

**Precautions for safe handling:** Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Avoid contact with eyes, skin and clothing. Wash hands with water and soap. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Do not breathe dust. Do not rely on your sight to determine if dust is in the air. Silica may be in the air without a visible dust cloud. Use normal precautions against bag breakage or spills of bulk material. Avoid creation of respirable dust. Use good housekeeping in storage and use areas to prevent accumulation of dust in work area.

To reduce the risk of developing silicosis, lung cancer and other adverse health effects, the ACGIH recommends that the industrial hygienist use every means available to keep exposures below the recommended TLV. NIOSH recommends reducing airborne exposure levels as low as possible below NIOSH's recommended exposure limit, substituting less hazardous materials when feasible, using appropriate respiratory protection when source controls cannot keep exposures below the recommended limit and making medical examinations available to exposed workers.

Use adequate ventilation and dust collection. To minimize exposure, wear a respirator approved for silica dust when using, handling, storing or disposing of this product or bag. Refer to the most recent government and local regulations when selecting a respirator. Maintain, clean and fit test respirators in accordance with the most recent government and

local regulations. Maintain and test ventilation and dust collection equipment. Launder clothing that has become dusty. Empty containers (bags, bulk containers, storage tanks, etc.) retain silica residue and must be handled in accordance with the provisions of this Material Safety Data Sheet. WARN and TRAIN employees in accordance with state and federal regulations.

Refer to the OSHA Respirable Crystalline Silica standards; 29CFR1910.1053, 1915.1053 and 1926.1053 for specific requirements for use and handling.

**WARN YOUR EMPLOYEES (AND YOUR CUSTOMERS AND USERS IN CASE OF RESALE) BY POSTING, AND OTHER MEANS, OF THE HAZARDS AND OSHA AND ANY OTHER APPLICABLE REGULATORY PRECAUTIONS TO BE USED. PROVIDE TRAINING FOR YOUR EMPLOYEES ABOUT OSHA PRECAUTIONS.**

Dust can accumulate electrostatic charges due to friction from transfer and mixing operations and cause an electrical spark (ignition source) which can ignite flammable liquids and atmospheres. Provide adequate precautions when adding this product to flammable and combustible mixtures like paints and coating, such as electrical grounding and bonding, inert atmosphere or non-sparking tools. However, bonding and grounds may not eliminate the hazard for static accumulation.

See also American Society for Testing and Materials (ASTM) Standard Practice E1132-99a, “Standard Practice for Health Requirements Relating to Occupational Exposure to Respirable Crystalline Silica”.

Additional information on silica hazards and precautionary measures can be found at the following websites:  
 NIOSH Joint Campaign on Silicosis Prevention <http://www.cdc.gov/niosh/topics/silica/default.html>  
 OSHA Crystalline Silica Website <http://www.osha.gov/dsg/topics/silicacrystalline/index.html>  
 MSHA Silicosis Prevention Website <https://arlweb.msha.gov/S&HINFO/SILICO/SILICAX.pdf>  
 NIOSH Hazard Review – Health Effects of Occupational Exposure to Respirable Crystalline Silica Website <http://www.cdc.gov/niosh/docs/2002-129/>.

**Storage conditions:** Store locked up.

**8. Exposure controls/personal protection**

<b>Exposure guidelines:</b>	
Illite (as PNOC)	5 mg/m <sup>3</sup> TWA OSHA PEL (Respirable) 15 mg/m <sup>3</sup> TWA OSHA PEL (Total dust)
Smectite (as PNOC)	5 mg/m <sup>3</sup> TWA OSHA PEL (Respirable) 15 mg/m <sup>3</sup> TWA OSHA PEL (Total dust)
Quartz	0.05 mg/m <sup>3</sup> respirable dust TWA OSHA PEL; 0.025 mg/m <sup>3</sup> (R - Respirable particulate matter) TWA ACGIH TLV;

**Appropriate engineering controls:** Use local exhaust as required to maintain exposures as far as possible below applicable occupational exposure limits. See also ACGIH "Industrial Ventilation - A Manual for Recommended Practice" (current edition). Control of exposure to dust must be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general or local exhaust ventilation and substitution of less toxic materials). Refer to the OSHA Respirable Crystalline Silica standards; 29CFR1910.1053, 1915.1053 and 1926.1053 for specific requirements for engineering controls.

**Environmental exposure controls:** Avoid creating or spreading dust.

**Personal protective equipment:**

**Hand protection:** Wear suitable gloves

**Eye protection:** Use suitable eye protection

**Skin and body protection:** Wear suitable protective clothing

**Respiratory protection:** Wear respiratory protection. In operations where exposure limits are exceeded or exposure levels are excessive, an approved respirator should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.

**9. Physical and chemical properties**

**Appearance:** Buff or tan rock with yellow, black specks.

<b>Physical state</b>	: Solid	<b>Relative density</b>	: 2.2
<b>Color</b>	: Buff or tan rock with yellow, black specks	<b>Solubility</b>	: No data available
<b>Odor</b>	: None	<b>Log Pow</b>	: No data available
<b>Odor threshold</b>	: No data available	<b>Auto-ignition temperature</b>	: Not applicable
<b>pH</b>	: No data available	<b>Decomposition temperature</b>	: No data available
<b>Melting point</b>	: No data available	<b>Viscosity, kinematic</b>	: Not applicable
<b>Freezing point</b>	: No data available	<b>Viscosity, dynamic</b>	: No data available
<b>Boiling point</b>	: No data available	<b>Explosion limits</b>	: Not applicable
<b>Flash point</b>	: Not applicable	<b>Explosive properties</b>	: No data available
<b>Relative evaporation rate (butyl acetate=1)</b>	: No data available	<b>Oxidizing properties</b>	: No data available
<b>Flammability (solid, gas)</b>	: Not applicable.		
<b>Vapor pressure</b>	: No data available		
<b>Relative vapor density at 20 °C</b>	: No data available		

**10. Stability and reactivity**

**Reactivity:** The product is non-reactive under normal conditions of use, storage and transport.

**Chemical stability:** Stable under normal conditions.

**Possibility of hazardous reactions:** No dangerous reactions known under normal conditions of use.

**Conditions to avoid:** None known.

**Incompatible materials :** None known.

**Hazardous decomposition products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**11. Toxicological information**

**Inhalation:** May cause minor irritation to the respiratory tract and to other mucous membranes.

**Skin:** Prolonged or repeated contact may cause skin to become dry.

**Eyes:** Contact may cause mechanical irritation and possible injury.

**Ingestion:** None under normal conditions.

<b>Carcinogenicity:</b>	May cause cancer.
Illite:	This component is not listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, OSHA or the EU CLP.
Smectite:	This component is not listed as a carcinogen or suspected carcinogen by IARC, NTP, ACGIH, OSHA or the EU CLP.
Quartz:	IARC 1 - Carcinogenic to humans; NTP Known Human Carcinogens; OSHA Carcinogen
<b>Germ cell mutagenicity:</b>	Not classified
<b>Reproductive toxicity:</b>	Not classified
<b>Numerical measures of toxicity:</b>	Oral rat LD50- > 2000 mg/kg; Dermal rabbit LD50- > 2000 mg/kg;

**The following are the toxicity values for the components:**

Illite:	No data available
Smectite:	No data available
Quartz:	Oral rat LD50- > 22500 mg/kg;
<b>Skin corrosion/irritation</b>	Not classified
<b>Serious eye damage/irritation</b>	Not classified
<b>Respiratory or skin sensitization</b>	Not classified
<b>STOT-single exposure</b>	Not classified
<b>STOT-repeated exposure</b>	Causes damage to organs through prolonged or repeated exposure.

Quartz: Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling and sometimes fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop mycobacterial infections (tuberculous and non-tuberculous) and fungal infections. Inhalation of air with a very high concentration of respirable silica dust can cause the most serious forms of silicosis in a matter of months or a few years. Some epidemiologic studies have concluded that there is significant risk of developing silicosis even at airborne exposure levels that are equal to the recommended NIOSH REL, and ACGIH TLV. Other Data with Possible Relevance to Human Health: There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by fibrosis of the lungs, skin and other internal organs) rheumatoid arthritis, systemic lupus, erythematosis, sarcoidosis, chronic bronchitis, chronic obstructive pulmonary disease (COPD), emphysema, chronic kidney disease and end-stage renal disease. For further information consult "Adverse Effects of Crystalline Silica Exposure" published by the American Thoracic Society Medical Section of the American Lung Association, American Journal of Respiratory and Critical Care Medicine, Volume 155, pages 761-768, 1997, and see also NIOSH Hazard Review – Health Effects of Occupational Exposure to Respirable Crystalline Silica, April 2002 (see Section 7 for NIOSH Hazard Review Website).

## 12. Ecological information

**Ecology - general:** The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

**Ecotoxicity:**

Quartz 10000 mg/L Fish LC50

**Persistence and degradability:** No data available

Quartz: Not biodegradable.

**Bioaccumulative potential:** No data available

**Mobility in soil:** No data available

**Other adverse effects:**

No data available

## 13. Disposal considerations

**Regional legislation (waste):** Dispose of in accordance with applicable federal, state, and local regulations.

## 14. Transport information

**Department of Transportation (DOT)**

Not regulated for transport

**Transport by sea**

Not regulated for transport

**Air transport**

Not regulated for transport

## 15. Regulatory information

**SARA Section 313 - Emission Reporting:** Not subject to reporting requirements of the United States SARA Section 313

**CERCLA Section 103:**


This product is not subject to reporting under CERCLA. However, many states have more stringent reporting requirements. Report all spills in accordance with local, state, and federal regulations.

**SARA 302:**

Not applicable

**SARA Section 311/312 Hazard Classes:** Refer to Section 2 for OSHA Hazard Classification.

**California Proposition 65:**

 **WARNING:** This product can expose you to Quartz, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**TSCA:** All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

**INTERNATIONAL INVENTORIES**

**Australia AICS:** All the components are listed.

**Canada DSL:** All the components are listed.

**Japan ENCS:** All the components are listed.

<b>16. Other information</b>
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**NOTICE**

This above information is believed to be correct but does not propose to be all inclusive and shall be used only as a guide. The company listed in Section 1 shall not be held liable for any damage resulting from handling or from contact with the above product. This information relates only to the product designated herein and does not relate to its use in combination with any other material or process.