Safety Data Sheet

A3 Dry Clay

SECTION 1. IDENTIFICATION

Product Identifier A3-99

Restrictions on Use None Applicable

Initial Supplier Identification

NSC Minerals Ltd
2241 Speers Ave
Saskatoon, SK
Canada
S7L 5X6
Website: www.nscminerals.ca
Email: nsc@nscminerals.com

Emergency Telephone Number 1-306-934-6477 / 1-888-668-7258

SECTION 2. HAZARD IDENTIFICATION

Hazard Classification

- Carcinogenicity (inhalation) – Category 1A
- Specific target organ toxicity exposure – Category 3 (Respiratory System)
- Specific target organ repeat toxicity exposure – Category 1 (Respiratory System)

Signal Word Warning

Hazard Pictograms

Hazard Statements

- May cause cancer
- Harmful if inhaled
- Causes mild skin irritation
- Causes eye irritation
- May cause respiratory irritation

Precautionary Statements

- Avoid breathing dust/fumes/gas/mist/vapours/spray. [As modified by IV ATP]
- Wear protective gloves/protective clothing/eye protection/face protection. [As modified by IV ATP]

OSHA/HCS Status *Clay mixture in dry form is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)*

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition

Component	CAS#	Approx % by Weight
Quartz (in raw clays)	14808-60-7	<20%
Kaolinite	1318-74-7	<15%
Feldspar	13244-96-5	<15%
Ball Clay	1332-58-7	<20%
Barium Carbonate	513-77-9	<0.3%

Ingredients/Information *Mixture – A trade secret claim is made for this item*

SECTION 4. FIRST AID MEASURES

General	Never give anything by mouth to an unconscious person. If you feel unwell seek medical attention
Inhalation	Move victim to well ventilated area. If coughing and irritation persists, seek medical attention.
Skin contact	Wash affected area with water. Obtain medical attention if irritation persists.
Eye contact	Remove contact lenses (if present and easy to do). Rinse cautiously with water for several minutes. Obtain medical attention if pain, blinking or redness persists.
Ingestion	Unlikely to be toxic unless large amounts have in ingested. Rinse mouth. Do NOT induce vomiting. If discomfort persists, seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms/Effects: Eye contact	Prolong contact with large amounts of dust may cause mechanical irritation.
Symptoms/Effects: Skin Contact	Prolonged contact with large amounts of dust may cause mechanical irritation.
Symptoms/Effects: Inhalation	Inhalation of high concentrations of dry clay dust may cause mechanical irritation and discomfort. Long term exposure may cause chronic effects (see section 11).
Symptoms/Effects: Ingestion	Large quantities ingested may cause gastrointestinal irritation.
Chronic Symptoms	Repeated or prolonged exposure to respirable crystalline silica dust may cause lung damage in for form of silicosis. Symptoms include shortness of breath, fever, fatigue, loss of appetite, dry non-productive cough.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	This product is not combustible. Use dry chemical or water.
Unsuitable extinguishing media	No restrictions on extinguishing media.
Hazardous thermal decomposition products	Decomposition products include steam (as the product dries), water vapor (as it dehydrates), carbon dioxide, tiny amounts of sulphur (as temperatures exceed 1500F, or 816C).
Protective equipment and precautions for fire-fighters	Clay can become slippery when wet.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions and protective equipment	Avoid inhalation of dust during clean-up. Wear approved respirators when dust levels exceed exposure limits. Wet clay is slippery, exercise caution when walking on it.
Emergency procedures	There are no emergency procedures required for this material
Methods of materials for containment and cleaning up	For normal cleanup, use wet methods (hose, mop) to avoid dust generation. Use dry methods to collect powdered or granular clay materials only if significant amounts must be collected. Do not use compressed air. Avoid generating dust.
Environmental precautions	Clay is natural material and will not cause adverse effects to most systems. However, it can plug pipes and sumps so do not dump muddy water into your drains. Allow it to settle in containers, then pour off the water and dry out the sediment for disposal.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling Use proper lifting techniques to avoid physical injury. Wear approved respirators when working in areas where clay products having dust on the packaging are being moved.

Conditions for safe storage Keep pugged clay out of direct sunlight. Do not freeze. Stack pugged material only as high as it will be stable. Keep hallways and passage way floors clean and dust free.

SECTION 8. EXPOSURE TO CONTROLS/PERSONAL PROTECTION

Hazardous Ingredient	CAS#	Occupational Exposure Limits
Quartz, (Crystalline Silica) SiO2	14808-60-7	ACGIH TLV: TWA 0.025 mg/ m3 (respirable) OSHA PEL: TWA 10 mg/m3/ divided by the value %SiO2 + 2 (respirable) OSHA PEL: TWA 30 mg/m3/ divided by the value %SiO2 + 2 (total dust) CAL OSHA PEL: TWA .1 mg/ m3 (respirable) CAL OSHA PEL: TWA .3 mg/ m3 (total)
Kaolinite (Al2O3.2SiO2.2H2O)	1332-58-7	ACGIH TLV: TWA 2 mg/ m3 (respirable) / particulate matter containing no asbestos and <1% crystalline silica (respirable) OSHA PEL: TWA 5 mg/m3 (respirable) OSHA PEL: TWA 15 mg/m3 (total) CAL OSHA PEL: TWA 2 mg/ m3 (respirable)
Barium Carbonate - BaCO3	513-77-9	ACGIH TLV: TWA 3 mg/ m3 (respirable) (as Ba) OSHA PEL: TWA 0.5 mg/ m3 (total dust) (as Ba)
Mica - (Na,K)2O.2Al2O3.6SiO2.2H2O	12001-26-2	ACGIH TLV: TWA 3 mg/ m3 (respirable) OSHA PEL: TWA 3 mg/m3 (respirable) OSHA PEL: TWA 20 mppcf See Appendix C (Mineral Dusts) See Section 16) CAL OSHA PEL: TWA 3 mg/ m3 (respirable)

Engineering Measures Clay mixture in moist form poses no inhalation health risk. Once clay mixture has dried, there may be dust generated by cleaning and working processes. In the event that dust is generated, use local exhaust ventilation or other engineering controls as required to maintain exposures below applicable occupational exposure limits (TLV).

Personal Protective Equipment (PPE)

Exhaust system:
When sanding or finishing dry ware, use local exhaust to reduce the level of respirable dust that can be breathed or that will settle on floors and objects.

Respiratory Protection:
Respirable dust should be monitored and levels in excess of appropriate exposure limits should be reduced by better ventilation, changing production methods, keeping floors cleaner, periodically cleaning shelves and other objects on which dust settles. When controls are not feasible wear NIOSH/OSHA approved respirators where airborne concentration exceeds PEL, otherwise wear an N95 particulate respirator.

Eye Protection:
Use safety glasses where appropriate. Avoid working in areas having crystalline silica dust if you wear contact lenses.
Skin Protection: Protective clothing is not essential. Use gloves and/or protective clothing if abrasion or allergic reactions are experienced.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Powder
Color	Grey
Odor	Earthy
Odor Threshold	Not Applicable
pH	6 – 8
Melting Point	>1200C
Freezing Point	<0C (32F)
Flash Point	Not Applicable
Evaporation Rate	No Data Available
Flamability	Not Flammable
Explosion Limits	Not Applicable
Vapor Density	Not Applicable
Relative Density	2.5g/cc
Solibilities	Not soluble in water
Partition Coefficient	Not applicable
Decomposition Temperature	Not applicable
Viscosity	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Normally stable
Chemical Stability	No stabilizers required. Safety issue: mold may form in the plastic bag (moist clay mixture) after several months of shelf life (especially if the material is exposed to sunlight).
Possibility of Hazardous Reactions	None known
Conditions to Avoid	None known
Incompatible Materials	None known
Hazardous Decomposition Products	Temperatures above 2000F are required for decomposition products other than small amounts of CO2. Possible products are sulfur, metal fumes).

SECTION 11. TOXICOLOGICAL INFORMATION

Inhalation – Immediate Effects	May cause mechanical irritation and discomfort.
Inhalation – Long Term Effects	Long term repeated and prolonged inhalation of respirable dust may cause damage.
Effects of Silicosis	Symptoms included progressively more difficult breathing, cough, fever, weight loss. Acute silicosis can be fatal.
Other Route of Exposure	Exposure to high levels of dust can be irritate the eyes. Preexisting skin sensitivities or allergies can be aggravated by skin contact or dry or wet clay. No known short or long term mutagenic, teratogenic or development effects.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	Clays and mineral powders used in this product are inert and insoluble
Persistence and Degradability	N/A

Bioaccumulative Potential	N/A
Mobility in Soil	Mechanical only
Other Adverse Efects	Clay particles have an electrolytic affinity for water. As their proportion increases in the soil it becomes more and more impermeable to water penetration.

SECTION 13. DISPOSAL CONSIDERATIONS

Personal Protection	Refer to section 8
Appropriate Disposal Containers	Standard waste containers – no special requirements
Appropriate Disposal Methods	In accordance with local, state, and federal requirements. No special measures. Call your supplier for advice on repurposing specific material to another manufacturing process to eliminate the need for disposal.
Physical and Chemical Properties That May Affect Disposal	When dry clay dust is being transported and workers are exposed to it in confined environments, it should be in sealed containers that do not permit release of dust during handling.
Sewage Disposal	Do not dispose into sinks or toilets. When clay mineral powder mixes disperse in plenty of water heavier particles quickly settle out and their sticky nature can make it difficult to flush them away.
Special Precautions for Landfills and Incineration Activities	None. This product is non-combustible.

SECTION 14. TRANSPORTATION INFORMATION

DOT Classification	Not regulated. No UN proper shipping name, transport hazard class, packing group number, bulk transport guidance, special precautions.
TDG Classification	Not regulated
ADR/ID Class	Not regulated
IMDG Class	Not regulated
IATA/DGR Class	Not regulated

SECTION 15. REGULATORY INFORMATION

TSCA – Toxic Substances Control Act – EPA	Quartz and other materials are listed in the TSCA Chemical Substance Inventory.
SARA/TITLE III (Emergency Planning & Community Right-to-Know Act)	The mixture contains no substances at or above the reporting threshold under section 313, based on available data.
Canada DSL	Listed.
Canadian WHMIS Listing	D2A Materials causing other toxic effects
Specific State Regulations	Components found in this product may contain trace amounts of inherent naturally occurring elements (such as, but not limited to manganese, sulfur).

SECTION 16. OTHER INFORMATION

Definitions	WHMIS means Workers Hazardous Materials Information System (Canada) SDS means Safety Data Sheet HPR means Hazardous Products Regulations ASTM means American System of Testing and Materials OSHA means Occupational Safety & Health Administration OSHA PEL means OSHA Permissible Exposure Limit OSHA STEL means spot exposure for a duration of 15 minutes, that cannot be repeated more than 4 times per day, with at least 60 minutes between exposure

periods
CAL-OSHA means California OSHA, most CAL-OSHA standards defer to the federal OSHA standards
IARC means International Agency for Research on Cancer
NTP means National Toxicology Program
HCS means Hazardous Communication Standard
CAS means Chemical Abstract Service
ACGIH means American Conference of Governmental Industrial Hygienists
TWA means Time Weighted Average (average exposure on the basis of an 8h/day, 40h/week work schedule)
TLV means Threshold Limit Value - American Conference of Governmental Industrial Hygienists (ACGIH)

Three types of TLVs for chemical substances as defined by the ACGIH are:
1. TLV-TWA - Time weighted average - average exposure on the basis of an 8h/day, 40h/week work schedule.
2. TLV-STEL - Short-term exposure limit - spot exposure for a duration of 15 minutes that cannot be repeated more than 4 times per day, with at least 60 minutes between exposure periods.
3. TLV-C - Ceiling limit - absolute exposure limit that should not be exceeded at any time.

Release Information

Prepared by:
NSC Minerals Ltd.

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