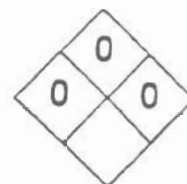




MATERIAL SAFETY DATA SHEET



SECTION I - PRODUCT IDENTIFICATION

MANUFACTURER'S NAME: Various	EMERGENCY TELEPHONE NUMBER: CHEMTREL (800) 255-3924
ADDRESS: 610 South 38th Street Kansas City, KS 66106 (Layne Christensen Safety Dept.)	
CHEMICAL NAME: Bentonite (powder, chips, pellets)	TRADE NAME AND SYNONYMS: Drill Mud, Common Clay
CHEMICAL FAMILY: Natural Mineral	FORMULA: n/a

SECTION II - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENT(S) (Chemical and Common Name(s))	%	OSHA PEL	ACGIH TLV	CAS NUMBER
Sodium Montmorillonite (Western Bentonite)	100	10 mg/m ³	5 mg/m ³	n/a
Silica (SiO ₂) as quartz, cristobalite or tridymite	< 0.01			

SECTION III - PHYSICAL AND CHEMICAL CHARACTERISTICS

APPEARANCE AND ODOR: Fine, brownish-gray powder, no odor.

BOILING POINT: n/a	VAPOR DENSITY (Air = 1): n/a	SPECIFIC GRAVITY (H ₂ O = 1): 2.5	VAPOR PRESSURE: n/a
SOLUBILITY IN WATER: Forms mud		EVAPORATION RATE (BUTYL ACETATE = 1): n/a	

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT: n/a	FLAMMABLE LIMITS	LEL: n/a	UEL: n/a
AUTO-IGNITION TEMPERATURE: n/a	EXTINGUISHING MEDIA: Appropriate for surrounding fire		

SPECIAL FIRE FIGHTING PROCEDURES: n/a

UNUSUAL FIRE AND EXPLOSION HAZARDS: n/a

SECTION V - HEALTH HAZARD DATA

EXPOSURE LIMITS	TLV: 5 mg/m ³	STEL: n/a	CEILING: 10 mg/m ³
IS CHEMICAL A CARCINOGEN?	YES	IS CHEMICAL A MUTAGEN?	YES
	NO		NO

EFFECTS OF EXPOSURE

INHALATION: Primary route of exposure. Avoid breathing dust. Long term exposure could result in Silicosis or other respiratory disorders.

SKIN CONTACT/ABSORPTION: Prolonged contact may irritate skin.

EYE CONTACT: Eye irritation can result.

INGESTION: n/a

EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Avoid breathing dust. Remove to fresh air.

INGESTION: n/a

SKIN CONTACT: Wash skin after use

EYE CONTACT: Flush eyes with water for at least 15 minutes. Get medical aid if irritation persists.

SECTION VI - PHYSICAL HAZARDS (REACTIVITY DATA)

STABILITY	STABLE	X	CONDITIONS TO AVOID: n/a
	UNSTABLE		

INCOMPATIBILITY (Materials to Avoid): n/a

HAZARDOUS DECOMPOSITION PRODUCTS: n/a

HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID: n/a
	WILL NOT OCCUR	X	

SECTION VII - SPILL OR LEAK DATA

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Sweep up for disposal or reuse. Do not flush with water as material can become very slippery. Waste material may be landfilled.

SECTION VIII - PERSONAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (Specify Type): NIOSH/MSHA approved dust mask.	PROTECTIVE GLOVES: Cloth
EYE PROTECTION: Safety glasses	OTHER PROTECTIVE CLOTHING OR EQUIPMENT: n/a

VENTILATION: As necessary to keep dust levels down.

WORK/HYGIENIC PRACTICES: Avoid inhalation of dusts. Avoid skin contact.

SECTION IX - TRANSPORTATION AND STORAGE DATA

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Store in dry area. Do not remove or deface labels.

HAZARD CLASS: n/a

DOT CLASSIFICATION: none

PLACARDING REQUIREMENTS: none

PREPARER: Jim Wright

TITLE: Industrial Hygienist

DATE: 1/97