



PLAINSMAN Clays Limited

Box 1266, Medicine Hat, Alta. T1A 7M9
Phone 403-527-8535 FAX 527-7508
Internet: <http://digitalfire.com/plainsman>

Material Safety Data Sheet

Boraq Plastic Borate

Further properties and usage information is available at <http://www.gerstleyborate.com>

Section 1 - Product Identification and Use		
Product Identifier: Dry Clay/Feldspar/Borate Mineral Blend	Product Identification Number (PIN): Boraq Plastic Borate	
Product Use: Ceramic glaze ingredient used to promote melting		
Section 2 - Hazardous Ingredients		
Hazardous Ingredients	%	CAS Number
Respirable Crystalline Quartz (from feldspar ingredient and clay ingredients)	1-2	14808-60-7
This mineral blend contains two free silica contributors (-20% smectite clay and feldspar). It also contains 80% Ulexite and Cadycal, both are calcium borates which are chemically and toxicologically related to Boric Acid (the majority of borate toxicology studies were conducted using Boric Acid).		
Section 3 - Physical Data		
Physical State: Solid	Physical Properties Not Applicable:	
Odour and Appearance: Light tan powder	Odour Threshold, Vapour Pressure & Density, Evaporation Rate, Boiling Point, Freezing Point, pH, Specific Gravity, Coeff. Water/Oil Dis.	
Specific Gravity: 2.4-2.7		
Section 4 - Fire and Explosion Data		
Flammability: Consider dust as Non-Flammable and Non-Explosive		
Non-Applicable Data: Means of Extinction, Flashpoint and Method, Autoignition Temperature, Upper Flammable Limit, Lower Flammable Limit, Hazardous Combustion Products, Sensitivity to Impact, Sensitivity to Static Discharge	Products of Decomposition During Kiln Burning: Carbon Monoxide, Carbon Dioxide. Vent kiln during firing.	
Section 5 - Reactivity Data		
Chemically Stable: Yes	Conditions of Instability: Begins to melt at 1400F.	
Incompatible Substances: None		
Reactivity, and Under What Conditions: Inert and Non-Reactive at room temperature, will partially dissolve in strong acids.		
Hazardous Decomposition Products: See section 4		

Section 6 - Toxicological Properties

Route of Entry: Skin Contact Skin Absorption Eye Contact Inhalation Ingestion**Effect of Acute Exposure:** A nuisance dust, may cause throat irritation.**Effects of Chronic Exposure:** Long term exposure to respirable free silica in concentrations higher than recommended TLV may cause silicosis, asthma, emphysema or aggravate existing lung diseases or conditions. IARC classifies fine free quartz dust as a carcinogen.**Exposure Limits:** OSHA:PEL Ulexite: -5 mg/m³ respirable dustOSHA:PEL Quartz 0.1 mg/m³ respirable dust**Irritancy of Product:** Mechanical Irritant Only**Synergistic Products:** Tobacco smoke increases lung damage

Section 7 - Handling, Preventive, First Aid, Cleanup Measures

Skin Contact: Wash with water	Respirator: Use approved Respirator where airborne dust exceeds TLV.	Eye: May cause mechanical irritation on direct contact or where contact lenses are worn in high dust conditions
Special Clothing: Not Req'd	Footwear: Normally not applicable however wet material is a slip hazard	

Ventilation: Local exhaust or other ventilation that will reduce dust concentration to less than permissible exposure limits is required.**Leak and Spill Procedure:** If material is moist no special precautions required. If dry, minimize excessive dust generation during collection.**Ecological Effects:** Treat as inert borate mineral. Although boron is naturally occurring and an essential micronutrient for plant growth, large amounts can be harmful to boron-sensitive plants. Avoid contaminating fish-containing lakes.**Handling Equipment:** Controls must be used to maintain "free" silica dust exposure levels below TLV. Wet material is a slip hazard.**Storage Requirements:** Store in dry area.**Education:** Many governments require that personnel working with crystalline silica receive training in safe work habits, respiratory protection and health risks.

Section 8 - References

"Dangerous Goods Guide to Initial Emergency Response" - CANUTEC 1996

"Domestic Substance List" - Environment Canada

"1996 Threshold Limit Values for Chemicals and Physical Agents and Biological Exposure Indices" - American Conference of Governmental Industrial Hygienists (ACGIH)

"CCINFO-DISK" - Canadian Centre for Occupational Health and Safety

Section 9 - Preparation Data of MSDS

Prepared by Plainsman Clays Limited	Phone Number (403) 527-8535	Date Nov 8, 2000
---	---------------------------------------	----------------------------