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Material Safety Data Sheet

SECTION I: MATERIAL IDENTIFICATION

Product Name: Missouri Flint Clay, Hawthorn Bond® Clay, STKO®, Bauxite, Plastic Fireclay, Diaspore Clay, Burley Clay, Rotary Kiln Fines, Christy Red, HR-2, HR-3
Product Description: Raw and Calcined Clay Minerals and Bauxitic Minerals
Product Sizes: All grain sizes (kiln run to -325 mesh)
Chemical Family: Al₂O₃-SiO₂ (Aluminum Silicate); Al₂O₃ (Aluminum Oxide)

SECTION II: HAZARDOUS INGREDIENTS

CHEMICAL NAME	wt. %	C.A.S. #	ACGIH TLV	OSHA PEL
Free Cristobalite	0-25	14464-46-1	0.05 mg/m ³	5/(%SiO ₂ +2)
Free Quartz	0-25	14808-60-7	0.05 mg/m ³	10/(%SiO ₂ +2)
Free Aluminum Oxide	0-70	1344-28-1	10 mg/m ³	15 mg/m ³
Free Titanium Dioxide	0-3.5	13463-67-7	10 mg/m ³	15 mg/m ³ (total dust)

(See Section VI for applicable Health Hazard Information.)
(See Product Data Sheet for specific product information.)

SECTION III: PHYSICAL DATA

Physical State: Granular to powdery in appearance
Color: Buff, tan, white, black, purple, gold, green, blue
Loose Fill Density: 50 - 120 lbs/cu.ft.
Water Solubility: Slightly soluble (raw) to insoluble in water (calcined)
Volatiles, %: N/Ap
Specific Gravity: 1.90 - 3.25 g/cc

Coefficient of Water/Oil Distribution: N/Ap
Vapor Pressure & Density: N/Ap
Odor and Odor Threshold: N/Ap
pH: N/Ap
Melting/Boiling/Freezing Point: N/Ap
Evaporation Rate: N/Ap

SECTION IV: FIRE AND EXPLOSION DATA

Flammability: Non-combustible.
Auto Ignition Temp: N/Ap
Combustion Products: N/Ap
Means of extinction: Use extinguishing media appropriate for surrounding media.

Upper & Lower Flammable Limit: N/Ap
Special Fire Fighting Procedures: N/Ap
Sensitivity to Mechanical Impact/Static Discharge: N/Ap
Flash Point: N/Ap

SECTION V: REACTIVITY DATA

Stability: Stable under normal conditions of use.
Conditions of Reactivity: Hazardous polymerization will not occur.

Hazardous Decomposition Products: N/Ap
Incompatible Materials: N/Ap

SECTION VI: HEALTH HAZARD & TOXICOLOGICAL INFORMATION

Exposure Limits: See Section II

Acute Effects

Irritancy of Product: Eye contact and inhalation are major routes of entry.
Inhalation: Inhalation of dust can cause irritation.
Skin: Prolonged or repeated skin contact can cause irritation.
Eyes: Contact with eyes can cause irritation, especially when wet.
Ingestion: Not an expected route of entry.

Chronic Effects & Carcinogenicity

All Products: Excessive inhalation of dust from these products can cause silicosis. Crystalline silica is listed as an IARC Class 1 potential carcinogen. It has been determined that there is sufficient evidence for the carcinogenicity of crystalline silica to experimental animals and humans. These are chronic, slow developing diseases with symptoms usually delayed 10 years or more.

Reproductive effects, Teratogenicity, Mutagenicity: N/Ap

Sensitization to Products: N/Ap

Name of Toxicologically Synergistic Products: N/Ap

California Proposition 65 Warning

This product contains crystalline silica, a chemical known to the State of California to cause cancer.

Material Safety Data Sheet**SECTION VII: SPILL, LEAK & DISPOSAL PROCEDURES**

Spill & Leak: Clean-up personnel need a NIOSH respirator approved for lung damaging dusts. Sweep spills and vacuum where necessary. Avoid generating dust.

Disposal: Dispose of waste in an approved landfill in accordance with federal, state, and local laws.

SECTION VIII: FIRST AID & SPECIAL PROTECTION INFORMATION**First Aid**

Inhalation: Move victim to fresh air. If breathing difficulty continues, give oxygen & obtain medical help.

Skin Contact: Wash with soap and warm water. If irritation develops, consult a physician.

Eye Contact: Flush with water for at least 15 minutes. Call physician if irritation persists.

Ingestion: If ingested, do not induce vomiting. Obtain medical attention.

Respiratory Protection: Provide adequate general ventilation. Provide workers with NIOSH respirators approved for lung damaging dusts when exposed to dust. Exposure levels over 100 times TLV (Section II) require air supplied respirators.

Skin & Eye Protection: Gloves and safety goggles should be worn when exposed to excessive dust.

Ventilation: Provide local exhaust ventilation to meet exposure limits (Section II).

SECTION IX: SPECIAL PRECAUTIONS

Handling: Dust in the work area should be kept to a minimum and proper ventilation provided. Avoid inhalation of dust. Avoid eye contact with materials.

Storage: No special storage conditions are required.

Shipping: No special shipping information is required.

SECTION X: ABBREVIATIONS & REFERENCES**Abbreviations**

N/Av: not available

N/Ap: not applicable

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

TLV/TWA: Threshold Limit Values/Time Weighted Average

NIOSH: National Institute of Occupational Safety and Health

References

1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2003
2. International Agency for Research on Cancer Monographs, Volume 68, 1996
3. Canadian Centre for Occupational Health and Safety. Trade name Database.
4. Material Safety Data Sheets of raw materials.
5. N. Irving Sax. Dangerous Properties of Industrial Materials. Seventh Edition.
6. Business & Legal Reports, Inc.- Book of Chemical Lists, April 1997

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