MATERIAL SAFETY DATA SHEET

A FAMILY OF SOLUTIONS

SB-36

REVISION NUMBER: 1.5

REVISION DATE: 24/Aug/2004

PRODUCT NAME: SB-36

MANUFACTURER: J.M. Huber Corporation
1000 Parkwood Circle Suite 1000
Atlanta, GA 30339
Tel: 678-247-7300

EMERGENCY TELEPHONE: CHEMTREC: 800-424-6300 or 703-527-3587 international
INTERNET: www.hubermaterials.com

EMERGENCY OVERVIEW: This is a non-combustible, odorless white powder.

POTENTIAL HEALTH EFFECTS:

EYE CONTACT: Dust may cause mechanical irritation to eyes.

INHALATION: Inhalation of dust may cause respiratory tract irritation.

CARCINOGENICITY: This product is not listed as a carcinogen by the IARC, NTP or OSHA.

POTENTIAL ENVIRONMENTAL EFFECTS: Not considered to be harmful to aquatic life.

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>CAS NUMBER</th>
<th>WEIGHT %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Trihydrate</td>
<td>21645-51-2</td>
<td>100</td>
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</table>

EYE CONTACT: Hold eyelids apart and flush eyes with a steady, gentle stream of water for several minutes.

INHALATION: Remove person to fresh air.

GENERAL ADVICE: In case of doubt or when symptoms persist, seek medical attention.

EXTINGUISHING MEDIA: Non-combustible. All extinguishing media can be used. Use suitable media appropriate for the surrounding fire.
UNSAFE EXTINGUISHING MEDIA: None.

SPECIAL EXPOSURE HAZARDS: None.

SPECIAL PROTECTIVE EQUIPMENT: Firefighters should wear protective clothing and use equipment that is suitable for the materials involved in the surrounding fire.

PERSONAL PRECAUTIONS: Avoid dust formation. In case of exposure to high levels of airborne dust, wear a personal respirator in compliance with national legislation.

ENVIRONMENTAL PRECAUTIONS: This product does not present any particular risk to the environment. Refer to applicable national, state and local regulations prior to washing in drain.

CLEAN UP METHODS: Collect mechanically and or by flushing with water. Avoid dry sweeping. Use water spraying or ventilated vacuum system to prevent dust formation.

HANDLING: Avoid dust formation. Provide appropriate exhaust ventilation in places where dust is formed. In case of insufficient ventilation, wear suitable respiratory equipment.

STORAGE: Store in a dry area. Keep containers closed and protect from physical damage.

EXPOSURE LIMIT VALUES:

<table>
<thead>
<tr>
<th>COMPONENTS</th>
<th>OSHA: 15 mg/m³ Total Dust</th>
<th>ACGIH: 10 mg/m³ Total Dust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum Trihydrate</td>
<td>5 mg/m³ Respirable Dust</td>
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</table>

ENGINEERING CONTROLS: Use mechanical ventilation (dilution and local exhaust) to control exposure.

EYE PROTECTION: Safety glasses with side shields.

SKIN AND BODY PROTECTION: Use suitable protective clothing, gloves and footwear, selected with regard for use conditions and exposure potential.

HAND PROTECTION: Impervious gloves chemical resistant.

RESPIRATORY PROTECTION: In case of exposure to high levels of airborne dust, wear a respirator in compliance with national legislation.

HYGIENE MEASURES: Handle in accordance with good industrial hygiene and safety practice.

ENVIRONMENTAL EXPOSURE: This product does not present any particular risk for the environment. Refer to applicable national, state and local regulations prior to washing in drain.

APPEARANCE: White Powder

pH: 8.4-10.2. 5% water suspension

ODOUR: Odourless.

FLASH POINT: Non-combustible.

SB-36
DENSITY: 2.4 g/cm³, 20°C

DECOMPOSITION TEMPERATURE: 200°C

WATER SOLUBILITY: Insoluble

STABILITY: Stable under ambient temperature (21°C) and pressure (760 mm Hg).

CONDITIONS TO AVOID: None

MATERIALS TO AVOID: Strong Acids Oxidizers

HAZARDOUS DECOMPOSITION PRODUCTS: None

ACUTE TOXICITY: LD₅₀ Oral (rat) > 5000 mg/kg

EYE IRRITATION: Slightly irritating, not classified.

SKIN IRRITATION: Non-irritating.

SENSITIZATION: Does not cause sensitization.

CHRONIC TOXICITY: No evidence of mutagenic, reproductive or carcinogenic effects.

ECOTOXICITY: EC₅₀ (Fish) > 10000 mg/l EC₅₀ (Daphnia > 10000 mg/l)

MOBILITY: Inert material.

PERSISTENCE / DEGRADABILITY: Non-degradable

BIOACUMULATIVE POTENTIAL: Inert Material

OTHER ADVERSE EFFECTS: None known.

DISPOSAL: Dispose in accordance with local, state and national regulations.

DOT: Not Regulated

NFPA: HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

HMIS: HEALTH: 1 FLAMMABILITY: 0 PHYSICAL HAZARD: 0

HARMONIZED TARIFF CODE: 2818 3000

AUSTRALIA AICS: Aluminum trihydrate 21645-51-2

SB-38
CANADA DSL: Aluminum trihydrate 21645-51-2
CHINA ECSC: Aluminum trihydrate 21645-51-2
EUROPE EINECS: Aluminum trihydrate 244-482-7
JAPAN ENCS: Aluminum trihydrate 1-17
KOREA KECl: Aluminum trihydrate KE-00980
PHILIPPINES PICCS: Aluminum trihydrate 21645-51-2
US TSCA: Aluminum trihydrate 21045-51-2
SARA 311 / 312 HAZARD: None
SARA 313 SUBSTANCE: None
CERCLA RQ: None
CLEAN AIR ACT: The components of this product are not regulated under any of the following sections of the Clean Air Act: Section 111 Volatile Organic Compounds, Section 112 Hazardous Air Pollutants, Section 112 Statutory Air Pollutants, Section 112 High-Risk Pollutants, Section 112(f) Accidental Release Prevention Substances or Section 602 Ozone Depleting Substance. As a powder product, it would be regulated under Section 109 Criteria Pollutants particulates.
PROPOSITION 65: This product contains no chemicals at levels known to the State of California to cause cancer or reproductive hazards.
CONEG: We certify that heavy metals defined as lead, mercury, cadmium and hexavalent chromium are not intentionally introduced to this product and with respect to lead, mercury, cadmium and hexavalent chromium, the incidental level of these four metals is less than 100 ppm.
FDA: 176.210, 177.1200, 177.2600, 182.90 May be used in accordance with the following 21 CFR Sections:

The information contained in this Safety Data Sheet to the best of J.M. Huber's knowledge and belief as of the date indicated is believed to be accurate and reliable. However, no representation, warranty or guarantee is implied or expressed regarding the accuracy, reliability or completeness of this information or the use of the product. Nothing contained herein should be construed as a recommendation to use this product in conflict with National or local regulations or existing patents covering any material or its use.

END OF MATERIAL SAFETY DATA SHEET
CUSTOMER: TRINITY CERAMIC SUPPLY, INC.  
DALLAS, TX

KENTUCKY-TENNESSEE CLAY COMPANY
Mayfield, KY Plant  
Gleason, TN Plant  
Sledge, MS Plant

MATERIAL SAFETY DATA SHEET
To comply with OSHA's 29 CFR 1910.1200 and Bill No. 70 WHMIS Hazard Communication Standards.

SECTION I.  IDENTITY OF PRODUCT AND PRODUCER

DATE PREPARED:  Feb. 10, 2003
TRADE NAME:  TENN #1 SGP
CHEMICAL NAME:  BALL CLAY, Hydrous Aluminum Silicate  
CAS NUMBER:  1322-58-7

PRODUCER'S NAME AND ADDRESS (HQ):
Kentucky-Tennessee Clay Company
5080 State Route 45 South
Mayfield, KY 42066

DATE MAILED:  May 1, 2003

TELEPHONE NUMBERS:
270-247-3061
270-247-0293 FAX

EMERGENCY CONTACT:
CHEMTREC: (800) 424-9300*

*To be used only in the event of chemical emergencies involving a spill, leak, fire, exposure, or accident involving chemicals.

SECTION II.  HAZARDOUS INGREDIENTS

Free Silica (Quartz)*  Typically 10 - 30%  
CAS NO. 14808-60-7

Titanium Dioxide  Typically Less Than 2.6%  
CAS NO. 13463-67-7

*Ball clays reported on this Company's Material Safety Data Sheet, Form 0302b, contain crystalline silica, as quartz up to 30% by dry weight depending on product type. Some of this silica is not fine enough to normally be considered respirable.

SECTION III.  PHYSICAL DATA

FUSION RANGE:  1569 - 1785 ºC.
SPECIFIC GRAVITY:  2.4 - 2.65

SOLUBILITY IN WATER:  Negligible
PERCENT VOLATILE:  Below 100 ºC. None

VAPOR PRESSURE:  Not Applicable
pH:  3.5 - 7.5

ODOR AND APPEARANCE:  Earthy odor when wet, raw color light gray to brown

SECTION IV.  FIRE AND EXPLOSION DATA:  Non-flammable

SECTION V.  HEALTH HAZARD DATA

OSHA PEL:  Respirable Crystalline Quartz (TWA-TLV) = 0.1 mg/m³

ACGIH TLV:  Respirable Crystalline Quartz (TWA-TLV) = 0.1 mg/m³

Crystobolite & Tridymite (See STABILITY) (TWA-TLV) = 0.05 mg/m³

NIOSH TWA:  Respirable Crystalline Quartz = 0.05 mg/m³

ROUTE OF ENTRY:  Inhalation

HEALTH HAZARDS:  WARNING: This clay product contains crystalline silica which may cause delayed respiratory disease (silicosis) if inhaled over a prolonged period of time. Avoid breathing dust. Use NIOSH/MSHA approved respirator where TLY for crystalline silica may be exceeded.

IARC MONOGRAPH VOLUME 68, 1997 concludes that there is sufficient evidence that inhaled crystalline silica causes cancer in humans. IARC classification: Group I.
The NTP, in the Sixth Annual Report on Carcinogens, 1991, has added crystalline silica to its list of substances that are "reasonably anticipated to be carcinogens".

WARNING: This product contains Titanium Dioxide (TiO₂). Inhalation may cause damage to respiratory system. Identified as a potential carcinogen by NIOSH. OSHA TWA for TiO₂ is 15 mg/m³.

FIRST AID:  EYES: Flush thoroughly with water for 10 to 15 minutes. Contact physician if irritation persists.

BREATHEING: If breathing difficulty develops, remove to fresh air. If breathing difficulty persists, contact physician.

WARNING: IARC Monograph Volume 69, 1997, concludes that 2,3,7,8-TCDD (a dioxin) is carcinogenic to humans.

Form 0302b
SECTION VI. REACTIVITY DATA

STABILITY: Ball clay is stable under ordinary conditions. When exposed to high temperatures, free quartz can change crystal structure to form tridymite (above 870 °C) or cristobalite (above 1470 °C) which have greater health hazards than quartz.

INCOMPATIBILITY: (Materials to avoid) - None

HAZARDOUS POLYMERIZATION: Will not occur

SECTION VII. SPILL, LEAK, AND DISPOSAL INFORMATION

ACTION TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Clean up and collect, minimizing dust. Do not exceed recommended PEL or TLY. Avoid breathing dust. Wear an approved respirator. CAUTION: When water is applied, product becomes slippery.


COMMUNITY RIGHT TO KNOW: California’s Proposition 65 lists crystalline silica as a carcinogen, and 2,3,7,8-TCDD (dioxin) as known to cause cancer and reproductive toxicity.

OTHER PRECAUTIONS: Product becomes slippery when wet. Follow good personal hygiene practices. Wash hands prior to eating.

SECTION VIII. SPECIAL PROTECTION INFORMATION

VENTILATION: Recommended method.

RESPIRATORY PROTECTION: If dust concentrations exceed recommended PEL or TLY for short time durations, use NIOSH/MSHA approved dust respirators. If spraying wet coatings, use NIOSH/MSHA dust/mist respirators.

EYE PROTECTION: Wear tight-fitting goggles if high dust concentrations exist. NIOSH recommends that contact lenses not be worn when working with crystalline silica.

SKIN PROTECTION: Wear gloves appropriately to the activity.

OTHER: 1. Dust exposure levels in excess of appropriate PEL or TLY should be reduced by feasible engineering and/or administrative controls.

2. It is recommended that the employer obtain a copy of the ASTM E 1132 information package, “Standard Practice for Health Requirements Relating to Occupational Exposure to Quartz Dust”.

3. Government regulations require that exposed personnel receive appropriate training in safe work habits when working with crystalline silica where the potential exists for exceeding the PEL or TLY.

SECTION IX. SPECIAL PRECAUTIONS

Minimize dust generation and exposure. Do not breathe dust. TWA should not exceed TLY or PEL. Utilize gloves.

ACGIH recommends periodic physical examinations for those employees who are exposed to respirable crystalline silica levels greater than 50% of the TLY or PEL.

Trace amounts of dioxin congeners, including TCDD, have been detected in parts per trillion (ppt). These trace amounts are not believed to be a health risk, but Special Protections and Special Precautions noted above are advised. Methods of transmission may include inhalation, ingestion, or dermal absorption.

Ball clay is not hazardous under DOT regulations.

Manufacturers who crush and grind ceramic bodies fired to high temperatures should recognize possible presence of tridymite and/or cristobalite which have greater health hazards than quartz.

Data, information and recommendations recorded herein are believed to be accurate. Kentucky-Tennessee Clay Company makes no warranty, either expressed or implied, with respect thereto and disclaims all liability from reliance thereon. Standards may vary in different non-U.S. jurisdictions. Follow applicable guidelines.