1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	Meta-Kaolin / CK 46		
FORMULA:	Not Applicable - Mixture		
SUPPLIER:	C-E Minerals	MANUFACTURER:	C-E Minerals
ADDRESS:	901 E. Eighth Avenue King of Prussia, PA 19406	ADDRESS:	P.O. Box 37 Andersonville, GA 31711
PHONE:	(610)265-6880	PHONE:	(229)924-7170
EMERGENCY PHONE:	(229)924-7170, After 5PM weekdays, Weekends, and Holidays: (229) 924-2175		
DESCRIPTION:	Meta-Kaolin is a calcined kaolin clay with approximately 1.5% loss on ignition. Meta-Kaolin generally contains less than 1% quartz.		

2. INGREDIENTS: COMPOSITION/INFORMATION

INGREDIENT	% WEIGHT	PEL-OSHA	TLV-ACGIH	LD 50/LC 50 ROUTE/SPECIES
Meta-Kaolin Clay CAS No: 66402-68-4 RTECS No.: No Data	> 95	15 mg/m^3 (total) 5 mg/m^3 (resp.) (as kaolin)	2 mg/m^3 (resp.)* (as kaolin)	No Data
Kaolin Clay CAS No.: 1332-58-7 RTECS No.: GF1670500	> 4	15 mg/m^3 (total) 5 mg/m^3 (resp.) (as kaolin)	2 mg/m^3 (resp.)*	No Data
Quartz CAS No.: 14808-60-7 RTECS No.: SO5600000	< 1	10 mg/m^3 (%SiO^2 + 2)(resp.) 30 mg/m^3 (%SiO_2 + 2)(total)	0.025 mg/m^3 (resp.)	No Data

* This value is for particulate matter containing no asbestos and < 1% crystalline silica.

OSHA Regulatory Status: This product is classified as hazardous under OSHA regulations.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Non-flammable gray to white powder or granular material. Inhalation of high concentrations may cause transitory upper respiratory irritation. Particulate matter may scratch the eyes. This product may contain small amounts of crystalline silica (<1%) in the form of quartz. Inhalation of high dust concentrations may result in overexposure to crystalline silica. Repeated inhalation of crystalline silica over time may cause fibrosis and increase the risks of developing respiratory cancer. Avoid dust creation. Do not inhale dusts from this product. Do not use compressed air or dry sweeping to remove dusts from the work area. Use an appropriately equipped vacuum or wet clean-up methods to remove dusts.

POTENTIAL HEALTH EFFECTS

EYE: Particulate matter may scratch the cornea or cause other mechanical injury to the eye.

SKIN: None.

INGESTION: Relatively non-toxic. Kaolin may have a laxative effect.

INHALATION: Product will act as a nuisance dust. Inhalation of high concentrations of dust may cause coughing and mild, transitory respiratory irritation.

SIGNS AND SYMPTOMS: Scratching or physical damage to the eyes can cause irritation, redness, pain, tear formation, blurred vision, and light sensitivity. Symptoms of silicosis include phlegm, coughing, characteristic x-rays, decreased pulmonary function and decreased capacity to work.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Long-term dust exposure may aggravate pre-existing respiratory disease.

CHRONIC: The majority of this product consists of relatively inert kaolin clay (> 99%). Long-term inhalation of respirable kaolin dusts has caused lung fibrosis (kaolinosis) in experimental animals and workers. In the absence of crystalline silica, it appears that kaolin causes a relatively mild fibrosis which generally will not produce severe pulmonary disease. Kaolinosis can either be simple or complex in nature with complex kaolinosis being associated with respiratory changes and decreased ability of the lungs to provide oxygen.

Inhalation of high dust concentrations would be required for over-exposure to crystalline silica to occur. Repeated exposure to respirable quartz over time can cause fibrotic disabling lung disease (silicosis) and increase the risks of developing respiratory cancer.

TARGET ORGANS: Lungs

CARCINOGENICITY: NTP: Yes IARC: Yes (Group 1) OSHA: Yes

IARC and NTP classify respirable crystalline silica as a confirmed or known human carcinogen. Although OSHA has not promulgated a specific standard for crystalline silica, materials that contain > 0.1% crystalline silica should be treated as a confirmed carcinogen for hazard communication purposes (29 CFR 1910.1200).

4. FIRST AID MEASURES

EYE: Flush eyes with lukewarm water for 15 minutes opening and closing eyelids to ensure adequate rinsing. If redness, irritation, pain, or tearing occur, seek medical attention.

SKIN: Exposure not anticipated.

INHALATION: Not anticipated. If large amounts of dust are inhaled, remove to fresh air. If breathing problems occur, a certified professional should administer oxygen or CPR if indicated. Seek immediate medical attention.

INGESTION: If substantial quantities are ingested, drink 4-8 ounces of fluid. As product absorbs moisture, large quantities may cause intestinal obstruction if not taken with fluid.

5. FIRE FIGHTING MEASURES		
FLAMMABLE PROPERTIES		
FLASH POINT:	Not Applicable	
FLAMMABLE LIMITS:	LEL: Not Applicable	UEL: Not Applicable
NFPA CLASSIFICATION:		
HEALTH: 0	FLAMMABILITY: 0	INSTABILITY: 0

EXTINGUISHING MEDIA: Any. Use media appropriate for surrounding fire.

FIRE AND EXPLOSION HAZARDS: Non-flammable, non-combustible. Product will not burn.

HAZARDOUS DECOMPOSITION PRODUCTS: None known. Quartz will convert to cristobalite at high temperatures.

FIRE FIGHTING INSTRUCTIONS: Firefighters should wear a NIOSH approved full-facepiece self-contained breathing apparatus (SCBA) operated in positive pressure mode and full turnout or bunker gear.

6. ACCIDENTAL RELEASE MEASURES

Isolate hazard area and deny entry to unauthorized and/or unprotected personnel. Do not walk through or otherwise scatter spilled material. For small spills, clean with a vacuum with a filtration system sufficient to remove and prevent recirculation of crystalline silica (a vacuum equipped with a high-efficiency particulate air (HEPA) filter is recommended). For large spills, use a fine spray or mist to control dust creation and carefully scoop or shovel into clean dry container for later reuse or disposal. DO NOT USE DRY SWEEPING OR COMPRESSED AIR TO CLEAN SPILLS. Appropriate protective equipment including respiratory protection is essential for all clean-up personnel (See Section 8). Completely remove dusts to prevent recirculation of crystalline silica into the workplace.

7. HANDLING AND STORAGE

Store in dry area in closed containers. Storage and work areas should be periodically cleaned to minimize dust accumulation. Avoid dust inhalation and promulgation. DO NOT use compressed air or dry sweeping to remove dust from work area. Dusts should be removed using an appropriately equipped vacuum. If an appropriate vacuum is unavailable, only wet-clean-up methods should be used (i.e. misting). Moisture should be added as necessary to reduce exposure to airborne dusts.

Under dusty conditions, employees should wear coveralls or other suitable work clothing. Contaminated clothing must be vacuumed before removal. DO NOT REMOVE dusts from clothing by blowing or shaking.

Practice good housekeeping. Wash thoroughly after handling. Change contaminated clothing. Do not reuse until laundered. Do not take silica contaminated clothing home.

Comply with OSHA Hazard Communication Rule 29 CFR 1910.1200, and applicable federal, state, and local worker or community “right-to-know” laws and regulations during storage, use, and disposal of this product. For further information, consult the American Society for Testing and Materials (ASTM) standard practice ASTM E 1132 Revision 99A, “Standard Practice for Health Requirements Relating to Occupational Exposure to Crystalline Silica”.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

RESPIRATORY: Under normal working conditions, below acceptable exposure guidelines, none is required. Appropriate respirator selection is dependent upon the magnitude of exposure. Wear respiratory protection in accordance with 29 CFR Part 134.

SKIN: None required.

EYES: Safety-glasses with side shields or goggles to prevent dust and particles from entering the eye.

ENGINEERING CONTROLS: General ventilation used in combination with local exhaust as necessary to control air contaminants to below acceptable exposure guidelines.

OTHER: Where there is a potential exposure to free silica (cristobalite), the following warnings should be readily visible and posted near entrances or accessways to work areas: WARNING! FREE SILICA WORK AREA. Unauthorized persons keep out. The following warning should be posted within the work area where potential exposure may occur: WARNING! FREE SILICA WORK AREA. Avoid Breathing Dust. May Cause Delayed Lung Injury (silicosis). (NIOSH Criteria Document, Occupational Exposure to Crystalline Silica, pg. 5, 1974)

Medical surveillance program in accordance with “Criteria for a Recommended Standard. . . Occupational Exposure to Crystalline Silica”, NIOSH, pp.: 2-4, 1974.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	White to grayish in color
ODOR:	Odorless
SOLUBILITY IN WATER:	Insoluble
SPECIFIC GRAVITY (H_2O = 1):	2.85
MELTING POINT:	+ 3000 °F (+1094 °C)
pH (10% slurry):	6.5-8
% VOLATILE	0
TYPES:	Size available is Kiln Run (approximately $^1/_2$” and down)

10. STABILITY AND REACTIVITY

STABILITY: Stable

REACTIVITY/INCOMPATIBILITY: Incompatible materials have not been reported for kaolin.

DECOMPOSITION PRODUCTS: Quartz may convert to cristobalite at high temperatures.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION

EYE: Particulate matter may cause physical injury to the eye.

SKIN: Skin irritation is not anticipated.

INHALATION: May cause minor transient respiratory irritation.

INGESTION: Kaolin dusts will absorb water if ingested. If water intake is sufficient, kaolin will tend to have a laxative effect. When water intake is not sufficient, intestinal obstruction may occur.

CHRONIC: While crystalline silica exposure appears to enhance the severity of kaolinosis, data indicates that kaolin has the ability to induce a fibrogenic response in the absence of crystalline silica. Kaolin pneumoconiosis is characterized by roentgenograms which exhibit small irregular shadows and large opacities.

Silicosis is a progressive fibrotic pneumoconiosis which greatly decreases the ability of the lungs to provide oxygen (decreased pulmonary capacity). The extent and severity of lung injury depends on a variety of factors including particle size, percentage of silica, natural resistance, dust concentration and length of exposure. The damaged lungs will become increasingly less able to provide the body with oxygen causing tiredness, shortness of breath, decreased capacity to work, and can result in death by cardiac failure or by the destruction of lung tissue. Persons who develop silicosis have greatly increased risks of developing tuberculosis and workers who are exposed to crystalline silica and smoke have increased risks of lung damage.

SUBCHRONIC: No Data

12. ECOLOGICAL INFORMATION

Meta-Kaolin is an inert material. It does not contain ozone depleting substances and is not expected to exert an ecotoxic effect or bioconcentrate in the food chain.

13. DISPOSAL CONSIDERATIONS

Dispose of according to applicable federal, state, and local regulations.

14. TRANSPORT INFORMATION

U.S. Department of Transportation (DOT): Not Classified

15. REGULATORY INFORMATION

CANADIAN WHMIS: D2A, D2B

EPCRA Section 302 (EHSs): This product does not contain ingredients subject to reporting requirements of 40 CFR Part 355, Appendices A and B (Extremely Hazardous Substances).

CERCLA, Section 304: This product does not contain ingredients subject to state and local reporting under Section 304 of SARA Title III as listed in 40 CFR Part 302, Table 302.4

15. REGULATORY INFORMATION (continued)

SARA 313 REPORTING REQUIREMENTS: This product does not contain ingredients subject to the reporting requirements of Section 313 SARA, and Section 6607 of the Pollution Prevention Act:

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and by definition meets the requirements of the following category:

Chronic Health Hazard

CALIFORNIA PROPOSITION 65: This product contains crystalline silica, an ingredient known to the State of California to cause cancer.

TSCA (Toxic Substances Control Act): All ingredients contained in this product are on the TSCA inventory.

16. OTHER INFORMATION

Revision Date:	9/5/00 Quartz TLV Revised to 0.05 8/27/01 updated new area code for manufacturing facility. 8/15/03 Health and Safety update and review

KEY:

ACGIH:	American Conference of Governmental Industrial Hygienists
CAS:	Chemical Abstracts Service
(C):	Ceiling Limit
DOT:	Department of Transportation
IARC:	International Agency for Research on Cancer
MSHA:	Mine Safety and Health Administration
NFPA:	National Fire Protection Association
NIOSH:	National Institute for Occupational Safety and Health
NTP:	National Toxicology Program
OSHA:	Occupational Safety and Health Administration
PEL:	Permissible Exposure Limit
SARA:	Superfund Amendment and Reauthorization Act
TLV:	Threshold Limit Value