Date Prepared: 04-Nov-2013
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SDS ID: LNG_GHS_001

IMERYS Ceramics

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product trade name(s):	**Kaolex FG, Suprex, Ewing, Windsor, Barden, Paragon, Alumex, Barden R, Aurora B, Ruby Windsor, Aiken R, Kaolex SC, Barnet, Barden LGB, Bontex Windsor, Barden H, M-81, Hamilton, Afton R, Kaolex BN, KT90A-1, Allen, Allen G, Diamond, Franklin, Kingsley, Kingsley/Rogers, KT-Cast, Mercer C, #6 Tile, Optikast, PAF, Rogers, Samson, Supreme, Wilson, Barden AG-1**
Common Name(s):	**Kaolinitic Clay, Kaolin, China Clay, Hydrous Aluminum Silicate**
Chemical Formula:	$Al_2Si_2O_5(OH)_4$
CAS Number:	1332-58-7
Physical Form:	Light gray to white solid
Recommended Uses:	Non-exhaustive list: Ceramics, ceramic glazes, refractories, fiberglass compositions, industrial filler/extender, paper, plastics, CASE, pesticides, sorbents, catalysts supports, furnace additives
Restrictions on Use:	Food ingredient, cosmetic ingredient
Manufacturer's Name:	Kentucky-Tennessee Clay Company
Address:	100 Mansell Court East Suite 300 Roswell, GA 30076
	Telephone: 770-594-0660 **Fax:** 770-645-3460 **Customer Service:** 800-814-4538
Emergency Telephone:	**For Chemical Emergency Call CHEMTREC (24 hours): 1-800-424-9300** (US, Canada, Puerto Rico, Virgin Islands 1-703-527-3887 (Outside Above Area) collect calls accepted

SECTION 2: HAZARDS IDENTIFICATION

Contains Crystalline Silica

Classification:

Eye Damage/Irritation	Category 2
Skin Corrosion/Irritation	Category 2
Specific Target Organ Toxicity – Single Exposure	Category 3 – Respiratory
Specific Target Organ Toxicity – Repeated Exposure	Category 1 – Respiratory

Label Elements:

Signal Word:
DANGER

Hazard Statements: **H372:** Causes damage to lung through prolonged or repeated inhalation.

Precautionary Statements:

P260: Do not breathe dust.

P285: In case of inadequate ventilation wear respiratory protection.

P501: Dispose of contents/containers in accordance with local regulation.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	Weight % (Approx.)	CAS N°	EINECS N°
Kaolin	60% - 100%	1332-58-7	310-194-1
Quartz - Crystalline Silica	0.1% - 2%	14808-60-7	238-878-4
Titanium Dioxide	1% - 5%	13463-67-7	136-675-5
Water	1% - 20%	7732-18-5	215-185-5

SECTION 4: FIRST AID MEASURES

Inhalation

If adverse effects occur, get immediate medical attention. If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

Skin

Wash immediately with soap and water. Get medical attention if irritation develops or persists.

Eyes

Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.

Ingestion

DO NOT induce vomiting. If swallowed, drink plenty of water, DO NOT induce vomiting. Never make an unconscious person vomit or drink fluids. Get medical attention.

Symptoms: Immediate

Eye irritation, skin irritation, respiratory tract irritation

Symptoms: Delayed

Gastrointestinal effects

SECTION 5: FIREFIGHTING MEASURES

Flammable Properties Product is non-flammable. Use extinguishing agents appropriate for surrounding fire.

Unsuitable Extinguishing Media None known

Protective Equipment and Precautions for Firefighters

Use protective equipment appropriate for surrounding materials.

Fire Fighting Measures No hazard expected

NFPA 704M Hazard Classification **Health: 2** **Flammable: 0** **Reactivity: 0**

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions

Keep unnecessary people away, isolate hazard area and deny entry. Wet material is slippery under foot. Wear personal protective clothing and equipment, see Section 8.

Environmental Precautions

Avoid release to the environment.

Cleanup Methods

Collect spilled material in appropriate container for reuse or disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Avoid dust generation and accumulation. Do not use in poorly ventilated or confined spaces. Do not taste or swallow. Avoid inhalation or contact. Wash thoroughly after handling.

Conditions for Safe Storage

Store in a cool, dry place. Store in a well-ventilated area.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Follow standard occupational hygiene control methods and procedures. Use an approved respirator if exposure limits are exceeded or if irritation develops or persists.

Component Exposure Limits:

Hazardous Ingredient Weight % (Approx.)	**CAS N°**	**OSHA PEL**	**ACGIH TLV**	**NIOSH REL**
Kaolin 60 – 100 %	1332-58-7	15 mg/m^3 (total dust) 5 mg/m^3 (respirable dust)	2 mg/m^3 (respirable dust)	10 mg/m^3 (total dust) 5 mg/m^3 (respirable dust)
Quartz - Crystalline Silica 0.1 – 2 %	14808-60-7	0.05 mg/m^3 (respirable dust)	0.025 mg/m^3 (respirable dust)	0.05 mg/m^3 (respirable dust)
Titanium Dioxide (Naturally Occurring) 1 – 5 %	13463-67-7	15 mg/m^3 (total dust)	10 mg/m^3 (total dust)	

* Unless otherwise noted, all PEL and TLV are reported as 8 hour time weighted average (TWA).

Component Analysis

There are no biological limit values for any of this product's components.

Engineering Controls

Ventilation: Use exhaust ventilation, if required, to maintain dust concentration below recommended exposure limits.

Personal Protective Equipment

Respiratory Protection: Where there is potential for airborne exposure, use of a MSHA/NIOSH or OSHA/NIOSH approved respirator is recommended.

Eyes/Face: Wear side shield safety glasses or chemical resistant safety goggles.

Glove Recommendation: Rubber gloves are recommended for prolonged exposure.

Protective Clothing: Wear appropriate chemical resistant clothing. Contaminated clothing should be removed and laundered before reuse.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: solid
Color: white to gray
Odor: earthy odor
pH: 4-6 (aqueous solution)
Boiling Point: not applicable
Decomposition: loses crystalline water at > 500°C (930°F)
LEL: Not applicable
Vapor Pressure: not applicable
Density: Not applicable
Water Solubility: none
Auto Ignition: will not ignite
Flow Point: not applicable
VOC: none

Appearance: white to gray solid
Physical Form: powder to lump
Odor Threshold: not applicable
Melting Point: > 1500°C
Flash Point: will not ignite
Evaporation Rate: not applicable
UEL: not applicable
Vapor Density (air = 1): not applicable
Specific Gravity (water = 1): ~2.6 gm/cc
Coeff> Water/Oil Dist: not applicable
Viscosity: not applicable
Sublimation Point: not applicable

SECTION 10: STABILITY AND REACTIVITY

Reactivity	No reactive hazard is expected.
Chemical Stability	Stable at normal temperatures and pressure.
Possibility of Hazardous Reactions	Will not oxidize or polymerize.
Conditions to avoid	None known.
Materials to Avoid (Incompatibilities)	None known.

Decomposition Products

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. (Tridymite and cristobalite (TWA-TLV) = 0.025 mg/m^3)

SECTION 11: TOXICOLOGICAL INFORMATION

Primary Route of Exposure – Skin, Eye Contact, Inhalation, and Ingestion

Acute Health Hazards

Eye contact may cause mechanical irritation.
Skin contact may aggravate existing dermatitis.
Inhalation from prolonged and continuous exposure to excessive quantities of dust may aggravate existing asthmatic or respiratory conditions.

Acute and Chronic Toxicity

May cause eye irritation, skin irritation, respiratory tract irritation, and gastrointestinal tract irritation. May cause damage to respiratory tract through prolonged or repeated exposure.

Occupationally inhaled kaolin produced pulmonary fibrosis with sites of action being the lung, the lymph nodes and the hilus. Kaolin when taken orally over a long period of time can cause granulomas of the stomach.

Exposure to quartz (the most stable and common form of crystalline silica) is responsible for the majority of clinically diagnosed silicosis. Silicosis is a fibronodular lung disease that occurs after occupational exposure to crystalline silica for 5 years or longer. Inhalation of quartz dusts may cause shortness of breath, limitation of chest expansion, dry cough, and a lessened capacity for work. Individuals with a pre-existing disease in, or a history of ailments involving the skin or respiratory tract, are at greater risk for developing adverse health effects when exposed to this material.

In humans, chronic intermittent exposure to quartz caused pulmonary fibrosis, cough, and difficulty breathing. Overexposure to crystalline silica may cause silicosis, a form of disabling, progressive, and sometimes fatal pulmonary fibrosis characterized by the presence of typical nodulation in the lungs. Tuberculosis frequently complicates silicosis and the risk for tuberculosis is also increased in workers exposed to silica who have no radiographic evidence of silicosis. Crystalline silica can cause silicotic lesions in such organs as the liver, spleen and bone marrow. In humans, a causal relationship exists between exposure to crystalline silica and the development of autoimmune diseases. In multi-dose studies with animals, long term inhalation of quartz affected the lungs, endocrine system, immune system and blood.

This product contains quartz (respirable) as an impurity. Prolonged and/or massive exposure to respirable crystalline silica-containing dust may cause silicosis, a nodular pulmonary fibrosis caused by deposition in the lungs of fine respirable particles of crystalline silica. In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However it pointed out that not all industrial circumstances, nor all crystalline silica types, were to be incriminated. (IARC Monographs on the evaluation of the carcinogenic risks of chemicals to humans, Silica, silicates dust and organic fibers, 1997, Vol. 68, IARC, Lyon, France.)

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Quartz - Crystalline Silica (14808-60-7)	Oral LD50 Rat 500 mg/kg
Titanium dioxide (13463-67-7)	Oral LD50 >10000 mg/kg
Water (7732-18-5)	Oral LD50 Rat >90 mL/kg

Irritation/Corrosivity Data May cause eye irritation, skin irritation, respiratory tract irritation, and gastrointestinal tract irritation.

Respiratory Sensitizer No test data available

Dermal Sensitizer No test data available

Carcinogenicity

Component Carcinogenicity

Kaolin - CAS N° 1332-58-7

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Quartz - Crystalline Silica - CAS N° 14808-60-7

ACGIH: A2 - Suspected Human Carcinogen

IARC: Group 1 - Carcinogenic to humans

Titanium dioxide - CAS N° 13463-67-7

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Group 2B - Possibly carcinogenic to humans

Mutagenic Data No information available

Reproductive Effects Data No information available

Specific Organ Toxicity - Single Exposure	Target organs include ears, skin, respiratory system, and gastrointestinal tract.
Specific Organ Toxicity - Repeated Exposure	Causes damage to eyes, skin, respiratory system, and gastrointestinal tract through prolonged or repeated exposure.
Aspiration Hazard	No data available
Medical Conditions Aggravated by Exposure	Individuals with pre-existing eye disorders, skin disorders, respiratory disorders and/or gastrointestinal disorders may have increased susceptibility to the effects of exposure.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity	No information available for the product.
Component Analysis - Aquatic Toxicity	No LOLI ecotoxicity data are available for this product's components. No information available for the product.
Bioaccumulation	No information available for the product.
Bioconcentration	This material is not believed to bioconcentrate.
Biodegradation	This product is made from a naturally occurring, abundant, innocuous mineral.
Persistence	This product is made from a naturally occurring, abundant, innocuous mineral.
Mobility in Soil	This product is insoluble in water.
Results of PBT and vPvB Assessment	Not relevant
Other Toxicity	May affect turbidity if discharged in large quantities to lakes, streams or sewers.

SECTION 13: DISPOSAL CONSIDERATIONS

Non-hazardous waste - RCRA (40 CFR 261)

Dispose of waste materials in accordance with all local, state, and Federal requirements. This product may not be disposed of in waterways or sewers.

SECTION 14: TRANSPORT INFORMATION

EPA Waste Number: Not regulated
DOT Classification: Not regulated

IMO Classification: Not regulated
Internal UN: Not regulated
IMDG Code: This product is not considered to be a marine pollutant.

SECTION 15: REGULATORY INFORMATION

SARA Title III Section 302 Extremely Hazardous Substances: This product does not contain extremely hazardous substances subject to the reporting requirements of Section 302 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 355.

SARA Title III Section 311 and 312 Health and Physical Hazard Categories per 40 CFR 370.2:

Immediate	Delayed	Fire	Pressure	Reactivity
Yes	Yes	No	No	No

SARA Section 313 Notification: This product does not contain toxic chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

TSCA: Product is listed in Initial Inventory, Vol. 1, Appendix A, CAS No. 1332-58-7

FDA: Kaolin is generally recognized as safe (GRAS) under the FDA in accordance with 21 CFR 186.1256. Additionally, kaolin is established as a component of the uncoated or coated food contact surface of paper and paperboard in accordance with 21 CFR 176.170 (aqueous and fatty foods) and CFR 176.180 (dry foods).

CERCLA: Kaolin is not a CERCLA listed hazardous substance.

California Proposition 65:

WARNING: This product can expose you to chemicals including crystalline silica and titanium dioxide, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

NJ Special Health Hazardous Substances List [4]: RTK Hazardous Substance List; Substance number 4016.
PA Special Hazardous Substances List: Regulated under PA Code Chapter 323.
Stockholm Convention: This product is not subject to the Stockholm Convention.
Montreal Protocol: This product is not subject to the Montreal Protocol.
Rotterdam Convention: This product is not subject to the Rotterdam Convention.

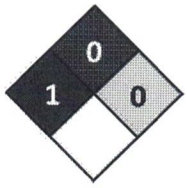
National Inventories:

DSL (Canada): Listed
PICCS (Philippines): Listed
ENCS (MITI) (Japan): Listed
IECSC (China): Listed
NZIoC (New Zealand): Listed
NDSL (Canada): Not Listed
KECL (Korea): Listed
AICS (Australia): Listed
EINECS (Europe): Listed

REACh Status: Exempt (Annex v.7). Product is a naturally occurring mineral.

SECTION 16: OTHER INFORMATION

ACA HMIS Health rating	**1**
ACA HMIS Physical hazard rating	**0**
ACA HMIS Personal protection rating	**E**
ACA HMIS Flammability rating	**0**



Training

Workers must be informed of the presence of crystalline silica and trained in the proper use and handling of this product as required under applicable regulations.

Key / Legend

ACGIH	American Conference of Governmental Industrial Hygienists
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
DOT	Department of Transportation
DSL	Canadian Domestic Substances List
EINECS	European Inventory of New and Existing Chemical Substances
ENCS	Existing and New Substances Inventory
EPA	Environmental Protection Agency
FDA	Food and Drug Administration
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
IMDG	International Maritime Dangerous Goods Code
IMO	International Maritime Organization

KECI	Korean Existing Chemicals Inventory
LEL	Lower Explosive Limit
LOLI	List of Lists
MITI	Japanese Ministry of international Trade and Industry
MSHA	Mine Safety and Health Administration
NDSL	Canadian Non-Domestic Substance List
NIOSH	National Institute of Occupational Safety and Health
NFPA	National Fire Protection Agency
OSHA	Occupational Health and Safety Administration
PBT	Persistent Bioaccumulative Toxic Chemical
PEL	Permissible Exposure Limit
PICCS	Philippine Inventory of Chemicals and Chemical Substances
RCRA	Resource Conservation and Recovery Act
REACh	Registration, Evaluation, Authorization and Restriction of Chemicals
RTK	Right to Know
SARA	Superfund Amendments and Reauthorization Act
SDS	Safety Data Sheet
STOT	Specific Target Organ Toxicity
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
UEL	Upper Explosive Limit
UN	United Nations
VOC	Volatile Organic Content
vPvB	Very Powerful Very Bioaccumulative

Disclaimer

Such information is to the best of IMERYS knowledge and believed accurate and reliable as of the date indicated. However, no representation, warranty or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use. IMERYS NORTH AMERICA CERAMICS MAKES NO WARRANTY WITH RESPECT HERETO AND DISCLAIMS ALL LIABILITY FROM RELIANCE THEREON.

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Prepared By: Imerys North America Ceramics Technical Group.

Product Name(s):	Kaolex FG, Suprex, Ewing, Windsor, Barden, Paragon, Alumex, Barden R, Aurora B, Ruby Windsor, Aiken R, Kaolex SC, Barnet, Barden LGB, Bontex Windsor, Barden H, M-81, Hamilton, Afton R, Kaolex BN, KT90A-1, Allen, Allen G, Diamond, Franklin, Kingsley, Kingsley/Rogers, KT-Cast, Mercer C, #6 Tile, Optikast, PAF, Rogers, Samson, Supreme, Wilson
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