

SAFETY DATASHEET

Following Regulation 1910.1200

SDS Number: 101

Date of first issue: 01 May 1987

Date of last revision: 01 June 2015

1 - Identification of product

a - Product identifier used on the label

Tradenames: 1260 Black Paper, 1260 Inorganic Shapes, 1260 LB, FireMaster Endowrap, Kaocrete 93, Kaocrete SR, Kaolite 3300, Kao-Tab 93, Kao-Tab 95, Kao-Tab 95 Gun, Kao-Tab 95EF, Kao-Tab HDHS-98, Kao-Tab SR,

b - Other means of identification

REFRACTORY CASTABLES, SPECIALTIES

c - Recommended use of the chemical and restrictions on use

High Temperature Thermal Insulation

d - Name, address, and telephone number

Morgan Advanced Materials

P. O. Box 923; Dept. 300

Augusta, GA 30903-0923

Telephone: 706-796-4200

e - Emergency Phone Number

For Product Stewardship and Emergency Information:

Hotline - 1-800-722-5681

Fax - 706-560-4054

For additional MSDSs and to confirm this is the most current MSDS for the product, visit our web page www.morganthermalceramics.com or send a request to MT.NorthAmerica@morganplc.com

2 - Hazard Identification

a - Classification of the chemical in accordance with paragraph (d) of §1910.1200

Not classified. Read the entire safety data sheet.

b - Signal word, hazard statement(s), symbol(s) and precautionary statement(s) in accordance with paragraph (f) of §1910.1200

None.

Emergency Overview

c - Describe any hazards not otherwise classified that have been identified during the classification process

None of the components of this product are listed as known or suspected carcinogen by NTP, IARC or OSHA. No chronic exposure effects are known.

(See Section 11 for more information).

d - Mixture Rule

Not applicable.

3 - Composition / Information On Ingredients

a - Composition table

COMPONENTS	CAS NUMBER	% BY WEIGHT
Aluminum Oxide	1344-28-1	75 - 99
Calcium Aluminate	10042-68-1	Up to 25
Iron Oxide	109-37-1	Up to 7

NOTE:
Iron Oxide is only in the product Kao-Tab® SR.

b - Common Name

(See Section 8 "Exposure Controls / Personal Protection" for exposure guidelines)

d - Impurities and Stabilizing Additives

None.

4 - First-Aid measures

a - Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion

Eyes

Flush with large amounts of water for at least 15 minutes. Do not rub eyes.

Skin

Wash affected area gently with soap and water. Skin cream or lotion after washing may be helpful.

Respiratory Tract

Remove affected person to dust free location. See Section 8 for additional measures to reduce or eliminate exposure.

Gastrointestinal

Unlikely route of exposure.

c - Indication of immediate medical attention and special treatment needed, if necessary

Not Applicable.

5 - Fire-fighting measures

a - Suitable (and unsuitable) extinguishing media and

Use extinguishing media suitable for type of surrounding fire

c - Special Protective Equipment and Precautions for Firefighters

NFPA Codes: Flammability: 0 Health: 1 Reactivity: 0 Special: 0

b - Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

None

6 - Accidental Release Measures

a - Personal precautions, protective equipment, and emergency procedures

Avoid creating airborne dust. Follow routine housekeeping procedures. Vacuum only with HEPA filtered equipment. If sweeping is necessary, use a dust suppressant and place material in closed containers. Do not use compressed air for clean-up. Personnel should wear gloves, goggles and approved respirator.

b - Methods and materials for containment and cleaning up

Pick up large pieces and use a vacuum cleaner. If brushes are used, ensure that the area is wetted down first. Do not use compressed air for clean up. Do not allow to become windblown.

7 - Handling and storage

a - Precautions for safe handling

Limit the use of power tools unless in conjunction with local exhaust. Use hand tools whenever possible. Frequently clean the work area with HEPA filtered vacuum or wet sweeping to minimize the accumulation of debris. Do not use compressed air for clean-up.

b - Conditions for safe storage, including any incompatibilities

Store in a manner to minimize airborne dust.

c - empty containers

Product packaging may contain residue. Do not reuse.

8 - Risk Management Measures / Exposures Controls / Personal Protection

a - OSHA permissible exposure limit (PEL), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available

EXPOSURE GUIDELINES			
MAJOR COMPONENT	OSHA PEL	ACGIH TLV	MANUFACTURER'S REG
Aluminum Oxide	15 mg/m ³ (total dust)	None Established	NONE
	5 mg/m ³ (respirable dust)		
Iron Oxide	10 mg/m ³	5 mg/m ³	NONE
<u>OTHER OCCUPATIONAL EXPOSURE LEVELS (OEL)</u>			
Industrial hygiene standards and occupational exposure limits vary between countries and local jurisdictions. Check which exposure levels apply to your facility and comply with local regulations. If no regulatory dust or other standards apply, a qualified industrial hygienist can assist with a specific workplace evaluation including recommendations for respiratory protection.			

b - Appropriate Engineering Controls

Use engineering controls, such as ventilation and dust collection devices, to reduce airborne particulate concentrations to the lowest attainable level.

c - Individual protection measures, such as personal protective equipment

PPE - Skin

Wear full body clothing, gloves, hat, and eye protection as necessary to prevent skin irritation. Washable or disposable clothing may be used. If possible, do not take unwashed work clothing home. If soiled work clothing must be taken home, employers should ensure employees are trained on the best practices to minimize or avoid non-work dust exposure (e.g., vacuum clothes before leaving the work area, wash work clothing separately, rinse washer before washing other household clothes, etc.).

PPE - Eye

As necessary, wear goggles or safety glasses with side shields.

PPE – Respiratory

When it is not possible or feasible to reduce airborne crystalline silica or particulate levels below the appropriate PEL/OEL through engineering controls, or until they are installed, employees are encouraged to use good work practices together with respiratory protection. Before providing respirators to employees (especially negative pressure type), employers should 1) monitor for airborne crystalline silica and/or dust concentrations using appropriate NIOSH analytical methods and select respiratory protection based upon the results of that monitoring, 2) have the workers evaluated by a physician to determine the workers' ability to wear respirators, and 3) implement respiratory protection training programs. Use NIOSH-certified particulate respirators (42 CFR 84), in compliance with OSHA Respiratory Protection Standard 29 CFR 1910.134 and 29 CFR 1926.103, for the particular hazard or airborne concentrations to be encountered in the work environment. For the most current information on respirator selection, contact your supplier.

9 - Physical and chemical properties

a - Appearance	Powder-like material
b -Odor	Not applicable
c - Odor Threshold	Not applicable
e- pH	Not applicable
d - Melting Point	2750°F to 3660°F (refer to specific product data sheets)
f- Initial Boiling Point/Range	Not applicable
g- Flashpoint	Not applicable
h - Evaporation Rate	Not applicable
i - Flammability	Not applicable
j - Upper/Lower Flammability or Explosive Limits	Not applicable
k - VAPOR PRESSURE	Not applicable
l - VAPOR DENSITY	Not applicable
m - Solubility	Not soluble in water
n - Relative Density	0.9 - 3.1
o - Partition Coefficient: n-Octanol/water	Not applicable
p - Auto-ignition temperature	Not applicable
q - Decomposition Temperature	Not applicable
r - Viscosity	Not applicable

10 - Stability and Reactivity

a - Reactivity

None.

b - Chemical Stability

Stable under conditions of normal use.

c - Possibility of Hazardous Reaction

None

d - Conditions to Avoid

None

e - Incompatible Materials

Not known

f - Hazardous decomposition products

None

11 - Toxicological information

a - TOXICOKINETICS, METABOLISM AND DISTRIBUTION

b - Acute Toxicity

c - Epidemiology

None

d - Toxicology

Aluminum metal dust has been shown to present a minimal health hazard, according to results from the McIntyre Foundation's 27-year study of aluminum oxide dust (Patty's Industrial Hygiene and Toxicology, 3rd rev. ed.)

No deleterious lung or systemic effects were observed as a result of exposure to aluminum metal dust having a particle size of 1.2 um at calculated concentrations equivalent to 2 mg/m over an 8-hour work shift. Even much higher concentrations (not further specified) over 10 or 20 minute periods produced no adverse effects (ACGIH).

NIOSH did not conduct an in-depth review of the health evidence for this substance.

Animals exposed to iron oxide or to iron oxide mixed with less than 5 percent silica by inhalation or by intratracheal injection did not develop pulmonary fibrosis (ACGIH). Inhalation of iron oxide dust also did not produce lung cancer in mice.

The evidence of iron oxide's toxicity in humans is conflicting. There are several studies, reported chest X-ray abnormalities in miners, welders, silver polishers, electrolytic iron oxide workers, foundry workers, and boiler scalers exposed to iron oxide dust or fume. Some of these workers developed disabling pneumoconiosis; however, the exposures of many of these workers were mixed and in some cases included exposure to varying amounts of silica.

Presence of iron oxide dust or fume in the lung causes a pigmentation (termed siderosis) that is responsible for the changes seen in exposed individuals' chest X-rays. Siderosis is believed not to progress to fibrosis.

Some studies have shown that workers with exposures to iron oxide and such other substances as silica, radon gas, diesel exhaust, corn oils, and the thermal decomposition products of synthetic resins have a greater risk of developing lung cancer. However, OSHA agrees with the ACGIH that, at this time, it is not generally accepted that exposure to iron oxide dust or fume causes cancer in man (ACGIH 1986).

International Agency for Research on Cancer and National Toxicology Program

Not applicable.

12 - Ecological information

a - Ecotoxicity (aquatic and terrestrial, where available)

These products are not reported to have any ecotoxicity effects.

c - Bioaccumulative potential

No information for the product.

d - Mobility in soil

No information for the product.

e - Other adverse effects (such as hazardous to the ozone layer)

No adverse effects of this material on the environment are anticipated.

13 - Disposal Considerations

Waste Management and Disposal

To prevent waste materials from becoming airborne during waste storage, transportation and disposal, a covered container or plastic bagging is recommended. Comply with federal, state and local regulations.

Additional information

14 - Transport information

a - UN number.

Hazard Class: Not Regulated United Nations (UN) Number: Not Applicable
Labels: Not Applicable North America (NA) Number: Not Applicable
Placards: Not Applicable Bill of Lading: Product Name

b - UN proper shipping name

Not applicable.

c - Transport hazard class(es)

Not applicable.

d - Packing group, if applicable

Not applicable.

e - Environmental hazards (e.g., Marine pollutant (Yes/No))

No.

f - Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)

Not regulated.

g - Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises

Not applicable.

International

INTERNATIONAL

Canadian TDG Hazard Class & PIN: Not regulated

Not classified as dangerous goods under ADR (road), RID (train), IATA (air) or IMDG (ship).

15 - Regulatory information

15.1 - United States Regulations

UNITED STATES REGULATIONS

SARA Title III: This product does not contain any substances reportable under Sections 302, 304, 313 (40 CFR 372). Sections 311 and 312 apply.

OSHA: Comply with Hazard Communication Standards 29 CFR 1910.1200 and 29 CFR 1926.59 and Respiratory Protection Standards 29 CFR 1910.134 and 29 CFR 1926.103.

TSCA: All substances contained in this product are listed, if required, in the TSCA Chemical Inventory.

15.2 - International Regulations

INTERNATIONAL REGULATIONS

Canadian WHMIS: Not applicable.

Canadian EPA: All substances in this product are listed, as required, on the Domestic Substance List (DSL).

16 - Other Information

initial statement

Devitrification

Product Stewardship Program

HMIS HAZARD RATING

TECHNICAL DATASHEETS

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Revision Summary

In May 2015 this SDS has been updated to GHS format in conformance with US OSHA HCS 2012 (29CFR 1910.1200) and Canada Hazardous Products Act and the Hazardous Products Regulations.

MSDS prepared by

SDS Prepared By: MORGAN THERMAL CERAMICS ENVIRONMENTAL, HEALTH & SAFETY DEPARTMENT

Disclaimer

The information presented herein is presented in good faith and believed to be accurate as of the effective date of this Safety Data Sheet. Employers may use this SDS to supplement other information gathered by them in their efforts to assure the health and safety of their employees and the proper use of the product. This summary of the relevant data reflects professional judgment; employers should note that information perceived to be less relevant has not been included in this SDS. Therefore, given the summary nature of this document, Morgan Thermal Ceramics does not extend any warranty (expressed or implied), assume any responsibility, or make any representation regarding the completeness of this information or its suitability for the purposes envisioned by the user.