

Prepared: October, 1999
Revised: May 2009

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Material Safety Data Sheet

SECTION I: MATERIAL IDENTIFICATION

Product Name: HEXAGONAL TARGET TILE, CAST 95% Al₂O₃ & FIRED 99% Al₂O₃
Product Description: High Alumina (Low Silica) Target Tile for use in Secondary Ammonia Reformers
Product Sizes: Standard Hex-Tile (2" thick), Jumbo Hex-Tile (2 1/2" thick) and Super Jumbo Hex-Tile
Chemical Family: Aluminum Oxide Refractory Shape

SECTION II: HAZARDOUS INGREDIENTS

CHEMICAL NAME	wt. %	C.A.S. #	ACGIH TLV	OSHA PEL
Free Aluminum Oxide	95-99	1344-28-1	10 mg/m ³	15 mg/m ³
Calcium Oxide	1-5	1305-78-8	2 mg/m ³	5 mg/m ³

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

SECTION III: PHYSICAL DATA

Physical State: Refractory ceramic shape	Coefficient of Water/Oil Distribution: N/Ap
Color: White.	Vapor Pressure & Density: N/Ap
Density: 190-195 lbs/cu.ft.	Odor and Odor Threshold: N/Ap
Water Solubility: Insoluble in water	pH: N/Ap
Volatiles, %: N/Ap	Melting/Boiling/Freezing Point: 3500°F
Evaporation Rate: N/Ap	Specific Gravity: N/Av

SECTION IV: FIRE AND EXPLOSION DATA

Flammability: Non-combustible.	Upper & Lower Flammable Limit: N/Ap
Auto Ignition Temp: N/Ap	Special Fire Fighting Procedures: N/Ap
Combustion Products: N/Ap	Sensitivity to Mechanical Impact/Static Discharge: N/Ap
Means of extinction: Use extinguishing media appropriate for surrounding media.	Flash Point: N/Ap

SECTION V: REACTIVITY DATA

Stability: Stable under normal conditions of use.	Hazardous Decomposition Products: N/Ap
Conditions of Reactivity: Hazardous polymerization will not occur.	Incompatible Materials: N/Av

SECTION VI: HEALTH HAZARD & TOXICOLOGICAL INFORMATION

Exposure Limits: See Section II

Acute Effects

Irritancy of Product: Product is sold as a body only. Order custom shapes and/or sizes if necessary. Grinding, slicing or other methods of breaking this product are not advised so as to avoid eye contact and inhalation of dust. Eye contact and inhalation of dusts are possible routes of entry if the product is ground, sliced or otherwise broken.

Inhalation: Inhalation of dust can cause irritation.

Skin: Prolonged or repeated skin contact can cause abrasion and/or irritation.

Eyes: Eye contact with dust can cause irritation, especially when wet.

Ingestion: Not an expected route of entry.

Chronic Effects & Carcinogenicity

These products contain silicates at <1% by weight. Based on the chemistry of bauxite derived products, crystalline silica is not expected to be present in this product. Alumina is a low health risk by inhalation and should be treated as a nuisance dust as specified by ACGIH.

Reproductive effects, Teratogenicity, Mutagenicity: N/Av

Sensitization to Products: N/Av

Name of Toxicologically Synergistic Products: N/Av

California Proposition 65 Warning

None Required

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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: Not an expected route of entry. 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: Not an expected route of entry. Flush with water for at least 15 minutes. Call physician if irritation persists.

Ingestion: Not an expected route of entry. 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

SECTION XI: TRANSPORTATION DATA

Not regulated

DOT not restricted

Non-hazardous

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