

GLENDO

CORPORATION

MATERIAL SAFETY DATA SHEET

1. PRODUCT IDENTIFICATION

MATERIAL NAME: CERAMIC LAP

TRADE NAME: Ceramic Lap

PART NUMBERS: 001-671, 002-415, 001-612, 001-612-220, 001-831, 001-831-220, 003-510, 003-557, 003-558, 003-560, 003-572, 003-577, 003-610, 003-611

MANUFACTURER'S NAME: Glendo Corporation

ADDRESS: 900 Overlander Road, Emporia, KS 66801

PHONE: (620) 343-1084

2. COMPOSITION / INFORMATION ON INGREDIENTS

| CHEMICAL NAME | CAS # | % |
|----------------------------|------------|-----|
| ALUMINUM OXIDE | 1344-28-1 | >95 |
| SILICA, CRYSTALLINE QUARTZ | 14808-60-7 | <5 |

3. HAZARDS IDENTIFICATION

EYES: May cause temporary irritation, primarily through mechanical abrasion.

SKIN: Repeated or prolonged exposure may cause irritation, primarily through mechanical abrasion.

INGESTION: Ingestion is not a normal route of exposure.

INHALATION: Dust from machining operations may cause nose and throat irritation. Repeated or prolonged exposure to elevated concentrations of airborne dust may aggravate chronic lung disease, skin rashes or asthma. As sold, this product is a white ceramic solid that does not contain crystalline silica of respirable size. However, respirable size particles may be generated if this product is mechanically altered through processes including grinding, sanding, milling, etc. Prolonged/repeated inhalation of respirable silica may cause delayed lung injury (e.g., silicosis, lung cancer).

4. FIRST AID MEASURES

EYE CONTACT: Flush with large amounts of water. Seek medical attention if irritation persists.

SKIN CONTACT: If irritation develops, wash exposed area with soap and water. Remove contaminated clothing and launder clothing before re-use.

INHALATION CONTACT: Remove to fresh air. Seek medical attention if coughing or other symptoms persist.

INGESTION CONTACT: No adverse effects are anticipated by this route of exposure as a result of normal handling.

5. FIRE, EXPLOSION DATA AND MEASURES

FLASH POINT: Not applicable (solid ceramic material)

FLAMMABLE LIMITS: Not applicable.

EXTINGUISHING MEDIA: Use suitable extinguisher for the surrounding fire.

5. FIRE, EXPLOSION DATA AND MEASURES (continued)

SPECIAL FIRE FIGHTING PRECAUTIONS/INSTRUCTIONS: Use protective clothing and breathing equipment appropriate for the surrounding fire.

EXPLOSION AND VAPORS: The small amounts of dust possibly generated from this product would not be expected to create an airborne dust explosion hazard.

6. ACCIDENTAL RELEASE MEASURES

Vacuuming is preferable to sweeping if significant amounts of dust are released. Avoid creating and breathing airborne dust.

7. HANDLING AND STORAGE

Practice good housekeeping to avoid the accumulation of dust in the workplace. Avoid creating and breathing airborne dust. Wash hands thoroughly after handling and do not eat or drink in areas where handled.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| MATERIAL | CAS NO. | % | OSHA PEL | ACGIH TLV |
|----------------------------|------------|-----|--|---|
| ALUMINUM OXIDE | 1344-28-1 | >95 | 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction) | 10.0 mg/m ³ |
| SILICA, CRYSTALLINE QUARTZ | 14808-60-7 | <5 | See notes (1) | 0.025 mg/m ³ (respirable fraction) |

(1) Depending on the percentage and type(s) of silica in the mineral, the OSHA permissible exposure limit (pel) for respirable dust containing crystalline silica (8-hour TWA) is based on the formula listed in 29 cfr 1910.1000, "Air contaminants" under table z-3, "mineral dust." For quartz-containing mineral dust, the pel = 10 mg/m³ (% of silica + 2); for cristobalite or tridymite, the pel = 5 mg/m³ / (% of silica + 2); for mixtures, the pel = 10 mg/m³ / (% of quartz + 2 (% of cristobalite) + 2 (% of tridymite) + 2).

ENGINEERING CONTROLS: Provide sufficient general and local exhaust ventilation to maintain airborne concentrations below the exposure limits identified in the chart.

PERSONAL PROTECTIVE EQUIPMENT (PPE) DURING PRODUCT USE

EYE PROTECTION: Wear safety glasses with side shields if there is a hazard from flying particles.

RESPIRATORY PROTECTION: Use a NIOSH-approved N95 respirator if airborne concentrations exceed assigned exposure limits.

SKIN PROTECTION: Wear normal work clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: white ceramic part

PHYSICAL STATE: solid

ODOR: No odor

SOLUBILITY: Insoluble

BOILING POINT: Not applicable

PERCENT VOLATILE: Not applicable

SPECIFIC GRAVITY: 3.0 -4.0

MELTING POINT: > 1650 degrees C

VAPOR DENSITY: Not applicable

VAPOR PRESSURE: Not applicable

EVAPORATION RATE: Not applicable

10. STABILITY AND REACTIVITY

STABILITY: Generally stable and non-reactive.

11. TOXICOLOGICAL INFORMATION

CARCINOGENICITY: The International Agency for Research on cancer (IARC) classifies respirable Crystalline Silica as a Group 1 carcinogen (carcinogenic to humans). The National Toxicology Program (NTP) classifies respirable Crystalline Silica as a known human carcinogen. As sold, this product does not contain crystalline silica particles of respirable size. However, if this product is mechanically altered through processes including grinding, sanding, etc. respirable size particles may be generated.

12. ECOLOGICAL INFORMATION

This product is relatively inert and would be expected to be of negligible consequence in the environment.

13. DISPOSAL CONSIDERATIONS

Dispose in accordance with federal, state, and local regulations.

14. TRANSPORT INFORMATION

This product is not regulated as a hazardous material or dangerous good for transportation purposes by any known authority.

15. REGULATORY INFORMATION

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients in this product are listed on the TSCA inventory list.

SARA 313: Aluminum oxide in non-fibrous form is not subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986.

OSHA: No additional information.

PROPOSITION 65: The respirable fraction of crystalline silica is listed as a chemical "known to the state of California to cause cancer." As sold, this product is a white ceramic solid that does not contain crystalline silica particles of respirable size. However, respirable size particles may be generated if this product is mechanically altered through processes including grinding, sanding, milling, etc.

CERCLA: None of the ingredients in this product are CERCLA Hazardous Substances.

16. OTHER INFORMATION

The information contained herein is based on data considered to be accurate; however, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof.

Vendor assumes no responsibility for injury to vendee or third party persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the material safety data sheet.

Additionally, vendor assumes no responsibility for injury to vendee or third party persons proximately caused by abnormal use of this material even if reasonable safety procedures are followed.

Vendee assumes the risk in use of this material.

| CREATION DATE | CREATED BY | |
|----------------------|-------------------|----------------------------|
| 05/2005 | B. Teegardin | |
| REVISION DATE | REVISED BY | REASON FOR REVISION |
| 3/22/13 | R.Fessler | Content Review |