# ALUMINA BUBBLE MSDS

**1. PRODUCT IDENTIFICATION/DESCRIPTION**

Product name: BUBBLE ALUMINA
Chemical name: Fused Aluminum Oxide
Formula: AL2O3

**2. COMPOSITION/INFORMATION ON INGREDIENTS**

Alumina (Al2O3) more than 99%
Na2O, SiO2, Fe2O3, Cr2O3, TiOl2 are present in a combined total of less than 1%
CAS # 1344-28-1

**3. HAZARDS IDENTIFICATION**

Primary Route(s) of Entry: Inhalation: Yes Skin: No Ingestion: No Other: No

**POTENTIAL HEALTH EFFECTS**

Acute:
**EYE**: Dusts may cause minor irritation. Particulate matter may scratch the cornea or cause other mechanical injury to the eye.

**SKIN**: May cause minor irritation, and may cause cuts. Not absorbed through skin.

**INGESTION**: Not intended for ingestion, however if ingested may cause gastrointestinal disturbances.

**INHALATION**: Product will act as a nuisance dust. Inhalation of high concentrations of dust may cause coughing and mild, transitory respiratory irritation. May cause slight to moderate irritation of mucous membranes.

Chronic:
**INHALATION**: Long-term dust inhalation in excess of the PEL or TLV may decrease the ability of the lungs to clear particulate matter which may cause shortness of breath and increased susceptibility torespiratory disease.

**SIGNS AND SYMPTOMS**: Irritation, redness, pain, tear formation, blurred vision, light sensitivity, shortness of breath, decreased chest expansion, dry cough, and fatigue.

**Medical Conditions Aggravated by Exposure**: Repeated inhalation of dusts over time may aggravate pre-existing respiratory disease. Precautions should be taken to alleviate the pre-existing medical condition.

TARGET ORGANS: Lungs
CARCINOGENICITY: NTP: No IARC: No OSHA: No

**4. FIRST AID MEASURES**

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

**SKIN**: Wash contaminated area thoroughly with soap and water. Wash contaminated clothing. Seek medical attention if symptoms persist.

**INHALATION**: If inhalation of high concentrations occurs, move to fresh air. If breathing has stopped, a certified professional should give CPR. Seek immediate medical attention.

**INGESTION**: If victim is conscious, give 1-3 glasses of water to dilute stomach contents. Get medical attention for gastrointestinal symptoms.

**5. FIRE FIGHTING MEASURES**

**FLASH POINT**: Product does not give a flash point by conventional test methods.
**FLAMMABLE LIMITS:** LEL: Not Applicable UEL: Not Applicable
**AUTO IGNITION TEMPERATURES:** Not Applicable.
**EXTINGUISHING MEDIA:** Use media appropriate for surrounding fire.
**FIRE AND EXPLOSION HAZARDS:** Non-flammable, non-combustible. Product will not burn.
**NFPA CLASSIFICATION:** HEALTH: 1 FLAMMABILITY: 0 REACTIVITY: 0

**6. ACCIDENTAL RELEASE MEASURES**

Isolate hazard area and deny entry to unauthorized and/or unprotected personnel. Avoid dust generation. Water mist maybe added as necessary to control the level of airborne dusts. Respiratory protection for clean-up personnel depends on the level of exposure anticipated. (See Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION) Gently shovel or scoop into clean dry container for later recycle or disposal. Comply with Federal, State and Local regulations regarding reporting of spills and disposal.

**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. Exhaust air should be filtered through a HEPA (high-efficiency particulate air) filter. If an appropriate vacuum is unavailable, only wet clean-up methods should be used (i.e. wet sweeping, misting, etc.) Moisture should be added as necessary to reduce exposure to airborne respirable dust. See OSHA 29 CFR 1910.94 (Ventilation) and 29 CFR 1910.1000 (Air Contaminants).

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**RESPIRATORY PROTECTION:** Under normal working conditions, below acceptable exposure guidelines, none is required. For concentrations above the PEL but less than 10X the PEL, a NIOSH/MSHA approved respirator protection devices should be worn. Appropriate respirator selection will be dependent upon the magnitude of exposure and should be selected in accordance with 29 CFR 1910.134. (See Section 2. COMPOSITION for PEL's and TWA's).

**SKIN PROTCTION:** Protective gloves, as needed, to prevent skin contact.

**EYE PROTECTION:** Use NIOSH approved safety-glasses or goggles to prevent dust and particles from entering the eye. Do not wear contact lenses when working with this material.

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

**ENGINEERING CONTROLS:** Use general ventilation. Dust collectors may be necessary for processes which generate large quantities of airborne dust. Keep exposures below applicable OSHA PEL's and ACGIH-TLV's.

**9. PHYSICAL PROPERTIES**

Formula: $Al_2O_3$
Boiling Point: Not Applicable
Melting Point: 2050 °C
Specific Gravity: ($H_20$ = 1) 3.95 g/cc
Percent Volatile: 0
Evaporation Rate: None
Solubility in Water: Insoluble
Solubility in Alcohol: None
pH (10% slurry): Not applicable
Appearance/Odor: White or light grey, or pink (odorless)

**10. STABILITY AND REACTIVITY**

**STABILITY:** Stable under normal ambient conditions of temperature and pressure.

**REACTIVITY/INCOMPATIBILITY:** Aluminum oxide reacts violently with chlorine trifluoride producing flames. Ethylene oxide polymerizes violently when in contact with pure aluminum oxide. Aluminum oxide is also incompatible with hot chlorinated rubber, acids and oxidizers.

**HAZARDOUS DECOMPOSITION:** Thermal decomposition products will produce aluminum oxide.

**HAZARDOUS POLYMERIZAION:** Will not occur.

**11. TOXICOLOGICAL INFORMATION**

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

**SKIN:** May cause minor irritation.

**INHALATION:** May cause minor transient respiratory irritation.

**INGESTION:** Ingestion of large quantities may result in gastrointestinal irritation and eventually interference with phosphate absorption which results in rickets.

**CHRONIC:** Many studies indicate that aluminum oxide dust acts as an "inert" material when inhaled.

**SUBCHRONIC:** No Data

**OTHER:** Implantation of aluminum oxide into rats has resulted in tumors at the site of application. Intrapleural administration of 90 mg/kg aluminum oxide has resulted in tumors of the lungs, thorax or respiratory system.

**12. ECOLOGICAL INFORMATION**

Fused alpha aluminum oxide 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. Check 40 CFR 261 to determine whether it is a hazardous waste, and if it is, regulations 40 CFR 262, 263 and 264 apply.

**14. TRANSPORT INFORMATION**

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

**15. REGULATORY INFORMATION**

**OSHA STATUS:** This product is hazardous under the criteria of Federal OSHA Communications Std 29 CFR 1910.1200

**TSCA STATUS:** On TSCA Inventory

**CERCLA REPROTABLE QUANTITY:** None

**RCRA STATUS:** If discarded in its purchased form, this product would not be a hazardous waste either by listing or by characteristics. However, under RCRA it is the responsibility of the product user to determine at the time of disposal whether the material should be classified as a hazardous waste under 40 CFR 261.20-24.

**SARA TITLE III:**

Section 302 - Extremely Hazardous Substances: None

Section 311/312 - Hazardous Categories: Immediate Health Hazard

Section 313 – Toxic Chemicals: None

**16. KEY**

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service

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 P rogram

OSHA: Occupational Safety and Health Administration

PEL: Permissible Exposure Limit

SARA: Superfund Amendment and Reauthorization Act

TLV: Threshold Limit Valve

TSCA: Toxic Substance Control Act