



Safety Data Sheet

Aluminum Oxide

Section 1: Product and Company Identification

Product identification: Aluminum Oxide

Other means of identification: Alumina (Alpha, Gamma, Amorphous), activated Alumina.

Use: High Tech Industrial Applications, Raw material for chemical processes

Supplier's details:

AEM Canada Group Inc.

80 rue Louis Landry, Cap-Chat (Québec)

Canada, G0J 1E0

1-418-566-6000 (Plant Director)

Emergency phone number: Canutec Tel (24hr) - 1-613-996-6666

Section 2: Hazards identification

Not a hazardous substance according to OSHA HCS 2012

Section 3: Composition / information on ingredients

Composition:

Name	CAS #	% by Weight
Aluminium oxide (Al ₂ O ₃)	1344-28-1	> 99.9

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

Section 4: First-aid measures

Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention if irritation develops or persists.

Skin contact Wash with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention for any breathing difficulty.

Ingestion: Give several glasses of water to drink to dilute. Do not induce vomiting unless directed to do so by medical personnel. If large quantities of this material are swallowed, get medical advice.

Section 5: Firefighting measures

Fire: Not considered to be a fire hazard except in presence of Chlorine Trifluoride (react violently producing a flame).

Explosion: Under certain conditions, any airborne dust might be an explosive hazard. Hazard greater as fineness increases.

Fire Extinguishing Media: Use any means suitable for extinguishing surrounding fire.

Protective equipment for firefighters: Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing.

Section 6: Accidental release measures

Personal Protection: Splash goggles, lab coat, gloves and dust respirator. Be sure to use an approved/certified respirator or equivalent.

Personal Protection in Case of a Large Spill: Splash goggles, full suit, dust respirator, boots and gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Environmental precautions: No special environmental precautions required.

Spill or leak procedure: Return to containers using shovels, buckets or brooms. Finish cleaning by spreading water on the contaminated surface.

Evacuation procedures: None necessary.

Methods for cleaning up: Clean up in accordance with all applicable regulations.

Section 7: Handling and storage

Handling: Avoid generating dust. Ensure all equipment is electrically grounded before beginning transfer operations. Avoid contact with skin and eyes: wear suitable protective clothing and suitable respiratory equipment in case of insufficient ventilation.

Storage: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Do not store with chlorine trifluoride, hot chlorinated rubber, acids and oxidizers. Do not store wet product in aluminum containers due to corrosion and hydrogen generation.

Section 8: Exposure controls/personal protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Splash goggles, lab coat, gloves and dust respirator. Be sure to use an approved/certified respirator or equivalent.

Exposure Limits:

TWA: 10 (mg/m³) from ACGIH (TLV) [United States] Inhalation Total.

TWA: 10 (mg/m³) from RSST [Canada] Inhalation Total.

TWA: 5 (mg/m³) from OSHA (PEL) [United States] Inhalation Respirable.

TWA: 15 (mg/m³) from OSHA (PEL) [United States] Inhalation Total.

Consult local authorities for acceptable exposure limits.

PEL=	Permissible Exposure Limits	TWA=	Time Weighted Average (8 hr.)
TLV=	Threshold Limit Value		

Section 9: Physical and chemical properties

Chemical Formula: Al₂O₃

Physical state and appearance: Solid crystalline powder, granules or sphere.

Odor: Odorless

Odor Threshold: Not available.

Color: White to off white.

pH: 9 – 10 (10% slurry)

Initial boiling Point/range: 2977 °C (5391°F)

Melting Point: 2072 °C (3761.6°F)



Decomposition temperature: Not available.

Flash point: Not applicable.

Freezing point: Not applicable.

Evaporation rate: Not applicable.

Flammability: Not applicable.

Auto-ignition Temperature: Not applicable.

Upper/lower flammability or explosive limits: Not applicable.

Specific density: 3.9 g/cm³ (243.0 lb/ft³)

Bulk density: 0.3 – 2 g/cm³ (18.7 – 37.4 lb/ft³)

Vapor Pressure: Not applicable.

Vapor Density: Not applicable.

Volatility: Not available.

Partition coefficient in n-octanol/water: Not available.

Solubility: Amorphous alumina Not soluble in water. Practically insoluble in non-polar organic solvents. Slowly soluble in aqueous alkali solution-forming hydroxides. Very slightly soluble in acid and alkali.

Section 10: Stability and reactivity

Chemical stability: The product is stable under usual conditions of use and storage.

Conditions to avoid: contact with incompatibles materials.

Hazardous decomposition products: Thermal decomposition can lead to release of irritating gases and vapors such as carbon oxides.

Incompatibility materials: Contact with strong oxidizers such as ozone, liquid oxygen, chlorine trifluoride, permanganate, etc. may result in rapid combustion. Avoid strong reducing agents; reacts violently with many compounds including oxidizers, acids, caustics, halogens, halogenated hydrocarbons, nitrates, sulfate, methyl chloride, mercury and mercury compounds.

Section 11: Toxicological information

Likely routes of exposure: inhalation, injection, skin and eye contact.

Potential Acute Health Effects on Humans:

Skin: May cause skin irritation. May cause allergic skin reaction

Eyes: Dust may cause mechanical eye irritation.

Inhalation: Dust is irritating to mucous membranes and upper respiratory tract.

Coughing or shortness of breath may occur in cases of excessive inhalation.

Ingestion: May be harmful if swallowed. Ingestion of large amounts may cause gastrointestinal tract irritation.

It is expected to be a low hazard for normal industrial handling.

Potential Chronic Effects on Humans:

Carcinogenic effects: Not classifiable for human or animal (group A4 of ACGIH).

Mutagenic effects: Not available

Reproductive toxicity: Not available

Teratogenic effects: Classified none for human.

Single Target Organ (STOT): Not available

Medical conditions aggravated by exposure to product: Asthma, chronic lung disease and skin rashes.

Numerical measures of toxicity: Not available for humans.

Section 12: Ecological Information

Ecotoxicity: Not available.

Persistence and degradability: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Bioaccumulative potential: Not available.

Mobility in soil: Not available.

Other adverse effects: Not available.



Section 13: Disposal Considerations

Waste Treatment Methods: This product is not considered a hazardous waste. Vacuum or shovel material into a closed container for reuse or disposal. Waste (including any contaminated packaging) must be disposed of in accordance with federal, provincial and local environmental control regulations.

Section 14: Transport Information

Not regulated.

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

Section 15: Regulatory Information

WHMIS (Canada): Not controlled under the Workplace Hazardous Materials Information System.

CRAIM (Canada): Not on the List of Hazardous Substances

RPM (Canada): Not listed as a toxic or flammable substance by the Risk Management Program

OSHA (U.S.A.): Do not appear on the "List of Highly Hazardous Chemicals, Toxics and Reactives" found in Appendix A to 29 CFR §1910.119 (Process Safety Management of Highly Hazardous Chemicals).

CERCLA (U.S.A.): Not classified as a hazardous substance under CERCLA regulations, 40 CFR 302.

RCRA (U.S.A.): Not classified as a hazardous material under RCRA or its regulations 40 CFR 261

TSCA (U.S.A.): Listed on the TSCA inventory under CAS #1344-28-1

SARA (U.S.A.): Not an extremely hazardous substance in Section 303 and not a toxic chemical subject to the requirements of 313

EINECS (Europe): Listed on the European Inventory of Existing Commercial Chemical Substances.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 0

Reactivity: 0

Personal Protection: E



Section 16: Other Information

References:

Government of Quebec (2000). *Répertoire toxicologique de la Commission de la Santé et de la Sécurité du Travail du Québec (CSST)*. Available at the address: <http://www.reptox.csst.qc.ca/> Last accessed 6th September 2012.

NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, October 2019

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