Date of Preparation: 1 JUN 2015 Review Date: 21 JUN 2018
SDS No. 101 Revision 6

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

1.1 PRODUCT IDENTIFIER

Product Name	**CALCINED ALUMINA (GROUND AND UNGROUND)**
Technical Name	Aluminum Oxide, Alumina
Synonyms	All AC-*** Calcined Aluminas, AO-104
REACH Registration No.	Registered – Registration number may be requested

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

Recommended Uses
Ceramics, Refractories, Polishing Agents, Fillers

Uses not recommended
Avoid use with ethylene oxide or chlorine trifluoride

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

AluChem, Inc.	AluChem of Jackson, Inc.	AluChem of Little Rock, LLC
1 Landy Lane	14782 Beaver Pike	10500 Arch Street Pike
Reading, OH 45215	Jackson, OH 45640	Little Rock, AR 72206
USA	USA	USA
+1 513 733 8519	+1 740 286 2455	+1 501 486 9106

1.4 EMERGENCY TELEPHONE NUMBER

AluChem, Inc. +1 513 733 8519 (Monday – Friday; 8AM – 5PM EST)

2. HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

These products are ***not*** classified as dangerous according to Regulation (EC) No. 1272/2008
These products are ***not*** classified according to EU Directives 67/548/EEC or 1999/45/EC
These products are ***not*** listed by NTP, IARC or regulated by OHSA as a carcinogen
These products are ***not*** classified as dangerous substances or mixtures according to the Globally Harmonized System (GHS)

2.2 LABEL ELEMENTS

Symbol(s)	None
Signal Word	None
Hazard Statements	None
Precautionary Statements	P261 – Avoid breathing dust / fumes / gas / mist / vapors / spray P280 - Wear eye protection / face protection P285 - In case of inadequate ventilation wear respiratory protection P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, If present and easy to do. Continue rinsing. P302 + P352 – IF ON SKIN – Wash with soap and water

2.3 OTHER INFORMATION

Prolonged or excessive contact may cause irritation of the respiratory tract.

3 COMPOSITION/INFORMATION ON INGREDIENTS

3.1 SUBSTANCES

Chemical Name	CAS No	EINECS	Weight(%)	REACH
Aluminum Oxide (Non-Fibrous)	1344-28-1	215-691-6	>99	Registered

4 FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES

EYE CONTACT	Intensive rinsing with water. Consult physician if necessary
SKIN CONTACT	Wash skin with soap and water
INHALATION	Move to fresh air. Consult a physician if necessary
INGESTION	Rinse mouth with plenty of water. Seek medical advice.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

No information is currently available

4.3 INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Treat symptomatically

5 FIRE-FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA

Suitable Extinguishing Media	Product itself is non-combustible. Use extinguishing media appropriate to the source of the fire.
Unsafe Extinguishing Media	None

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

None

5.3 ADVICE FOR FIREFIGHTERS
Firefighters should use self-contained breathing apparatus (SCBA) and full protective gear

6 ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PREAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES
Avoid dust formation. In case of exposure to high levels of airborne dust, wear a personal respirator in compliance with and approved by appropriate governmental regulations and authorities.

6.2 ENVIRONMENTAL PRECAUTIONS
No special environmental precautions are required.

6.3 METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP
Recover product and place into appropriate containers for disposal or recycling.
Preferable method is by using a vacuum device, if available, otherwise by broom and shovel.

7 HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING
Avoid dust formation. Use adequate ventilation when dust is present.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY COMPATABILITIES
Keep material dry and in closed containers when possible
Material is incompatible with ethylene oxide and chlorine trifluoride

7.3 SPECIFIC END USE(S)
See section 1.2

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 CONTROL PARAMETERS

Chemical Name	OSHA PEL	ACGIH (TLV-TWA)	MEXICO
Aluminum Oxide (non-fibrous) (1344-28-1)	= 15 mg/m^3 TWA total dust = 5 mg/m^3 TWA Respirable fraction	= 1 mg/m^3 respirable fraction as Aluminum	= 10 mg/m3 TWA LMPE-PPT
Derived No Effect Level (DNEL)		3 mg/m^3, respirable, 8 hour TWA	
Predicted No Effect Concentration (PNEC)		No information available	

8.2 EXPOSURE CONTROLS

Engineering Controls: Use adequate ventilation in confined spaces.

Personal Protective Equipment

Eye Protection Safety glasses with full side shields. When air turbulence may be present, safety goggles should be worn.

Skin Protection	Wear long sleeve shirts to avoid skin irritation or injury.
Hand Protection	Protective gloves are recommended.
Respiratory Protection	Avoid inhaling the dust. In case of concentrations above the exposure limits, suitable certified respirator must be worn.
Hygiene Measures	Do not eat, drink or smoke when handling
Environmental Exposure Controls	Avoid dust formation.

9 PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Granular, powder
Color	White
Odor	None
pH (20°C)(10g/100ml)	8 – 10
Solubility in Water	0.00002 g/l at 20°C
Density	3.4 – 3.9 g/cm^3
Bulk Density	600 – 1250 kg/m^3
Vapor Pressure	Not applicable
Boiling Point	2980° C
Melting Point	2050° C
Flash Point	None
Flammability	Not flammable
Auto Ignition	Does not ignite
Explosive Properties	Non explosive
Thermal decomposition	Does not occur

10 STABILITY AND REACTIVITY

10.1	*Reactivity*	None under normal processing
10.2	*Chemical Stability*	Stable under normal conditions
10.3	*Possibility of Hazardous Reactions*	None under normal processing
10.4	*Conditions to Avoid*	None under normal processing
10.5	*Incompatible Materials*	Ethylene oxide and chlorine trifluoride
10.6	*Hazardous Decomposition*	None under normal processing

11 TOXICOLOGICAL DATA

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS

Acute Toxicity

Oral	LD50 => 5000mg/kg bw (rat)
Dermal	Conclusive but not sufficient for classification
Inhalation	LC50 = 7.6mg/l (rat)

Skin Corrosion	Not corrosive (rabbit)
Skin Irritation	Not irritating (rabbit)

Chronic Toxicity

Irritation	Conclusive but not sufficient for classification
Corrosivity	Conclusive but not sufficient for classification
Sensitization	Conclusive but not sufficient for classification
Mutagenic Effects	Conclusive but not sufficient for classification
Carcinogenic Effects	Not classified as a human carcinogen – ACGIH – A4
Reproduction Effects	Conclusive but not sufficient for classification
Developmental Effects	Conclusive but not sufficient for classification
Aspiration Hazards	Conclusive but not sufficient for classification

11.2 ADDITIONAL INFORMATION

RTECS NO. BD1200000

12 ECOLOGICAL INFORMATION

12.1 TOXICITY

	Value	*Species*	*Type*	*Test Substance*
Fish Toxicity	LC50 = >100 mg/l	Salmo trutta	acute	aluminum oxide
Invertebrate Toxicity	EC50 = >100 mg/l	Daphnia Magna	acute	aluminum oxide
Algae Toxicity	EC50 = >100 mg/l	Selenastrum Capricornutum	acute	aluminum oxide

12.2 PERSISTANCE AND DEGRADABILITY
Not applicable for inorganic substances.

12.3 BIOCUMULATIVE POTENTIAL
No relevant information available

12.4 MOBILITY IN SOIL
No relevant information available

12.5 RESULTS OF PBT AND vPvB ASSESSMENT
As a result of the PBT/vPvB assessment it was determined that this product does not meet the criteria for classification as PBT/vPvB

12.6 OTHER ADVERSE EFFECTS
None known.

13 DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS
Collect in containers or covered dumpsters. If reuse or recycling is not possible material may be disposed of in an industrial landfill in accordance with local regulations and restrictions.

Empty containers should be emptied entirely and taken for recycling, recovery or waste disposal in accordance with local regulations and restrictions.

13.2 RCRA STATUS

If discarded in its purchased form, this product would not be a hazardous waste either by listing or characteristic nor is it federally (USA) regulated. However, under RCRA, it is the responsibility of the product user to determine at the time of disposal whether a material containing the product or derived from the product should be classified as a hazardous waste (40 CFR 261.20-24 or state equivalent in the USA).

14 TRANSPORT INFORMATION

14.1	**UN NUMBER**	Not Regulated
14.2	**UN PROPER SHIPPING NAME**	Not Regulated
14.3	**TRANSPORT REGULATIONS**	
	DOT (US)	Not regulated
	IMDG/IMO	Not regulated
	RID	Not regulated
	ADR	Not regulated
	ICAO	Not Regulated
	IATA	Not Regulated
14.4	**HTSUS CODE**	2818.20.0000 (US)

15 REGULATORY INFORMATION

15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE

International Inventories

TSCA	Listed
DSL	Listed
NDSL	Not Listed
EINECS	Listed
ELINCS	Not Listed
IECSC	Listed
KECL	KE-01012
PICCS	Listed
AICS	Listed
MITI	Listed
ENCS	1-23
IECSC	Listed

Legend

TSCA – United States Toxic Substances Control Act Section 8(b) Inventory
DSL – Canadian Domestic Substances List
NDSL – Canadian Non-Domestic Substances List
EINECS – European Inventory of Existing Commercial Chemical Substances
ELINCS – European List of Notified Chemical Substances
IECSC – China Inventory of Existing Chemical Substances
KECL – Korean Existing and Evaluated Chemical Substances
PICCS – Philippines Inventory of Chemicals and Chemical Substances
AICS – Australian Inventory of Chemical Substances

MITI – Japanese Ministry of Trade and Industry
ENCS – Japanese Existing and New Chemical Substances
IECSC – Chinese Inventory of Existing Chemical Substances

15.2 COUNTRY/LOCAL SPECIFIC REGULATIONS

US Federal Regulations:
OSHA Classification – Nonhazardous
TSCA Chemical Inventory Status: All components of this product are listed.
CERCLA Reportable Quantity: None.
SARA Title III:
Section 302 Extremely Hazardous Substances: None.
Section 304 Emergency Release Reporting: None.
Section 311/312 Hazardous Categories: Immediate (acute).
Section 313 Toxic Categories: None.
Clean Air Act of 1990 – Title VI: This material does not contain nor was it manufactured using ozone depleting chemicals.

US State and Regional Regulations:
California Proposition 65: Not listed.
Cal-OSHA Workplace Airborne Contaminant: Listed.
Coalition of Northeast Governors (CONEG) – Toxics in Packaging Clearinghouse (TPCH): Compliant
Idaho Air Contaminant: Listed.
Illinois Toxic Substances Disclosure to Employees List: Listed.
Massachusetts Right to Know List: Listed.
Massachusetts Hazardous Substance Code: F9
Minnesota Hazardous Substance List: Listed. Code: A Carcinogen: No
New Jersey Right to Know List: Listed – Substance No. 2891
Pennsylvania Right to Know List: Listed.
Pennsylvania Hazardous Substance List (Chapter 323 Appendix A): Listed Code: E
Rhode Island Hazardous Substance List: Listed.
Texas Air Contaminant with Health Effects Screening Level: Listed (as a synonym)
Washington Air Contaminant: Listed – limit TWA 10 mg/m^3

Canadian Regulations:
WHMIS Classification: Not a controlled product.
DSL (Domestic Substance List): All components of this product are listed on the DSL.
NPRI (National Pollutant Release Inventory): Not subject to mandatory reporting requirements.
IDL (Ingredient Disclosure List): All components of this product are listed on the IDL.
Canadian Hazard Symbol: Not applicable.
Note: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (Canada) and this SDS contains all the information required by the Controlled Products Regulations (Canada).

European Union

Regulation (EC) No 2037/2000 (Ozone Depleting Substances)	Not listed
Regulation (EC) No 850/2004 (Persistant Organic Pollutants)	Not listed
Regulation (EC) No 689/2008 (Export and Import of Dangerous Substances)	Not listed
Directive 2002/95/EC (RoHS)	Compliant
Restrictions according to Title VIII of the Regulation (EC) No 1907/2008 (REACH)	None

15.3 CHEMICAL SAFETY ASSESMENT

A chemical safety assessment has been carried out

16 OTHER INFORMATION

16.1 HAZARD RATINGS

NFPA® Ratings:	Health: **1**	Flammability: **0**	Reactivity: **0**
HMIS® III Codes:	Health: **1**	Flammability: **0**	Physical Hazard: **0**

This safety data sheet complies with the requirements of the United Nations' (UN) Globally Harmonized System of Classification and Labeling of Chemicals (GHS) as defined in Annex 4 and the United States Occupational Health and Safety Administration (OSHA) Hazard Communication Standard (HCS)

Prepared By: Technical Services Department
AluChem, Inc.
1 Landy Lane
Reading, OH 45215
USA
+1-513-354-3667

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Disclaimer:

Information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. It is the user's responsibility to determine for themselves the suitability of any material for a specific purpose whether alone or in combination with any other products, and to adopt such safety precautions as may be necessary. This shall in no way establish a legally valid contractual relationship.

LEGEND:

ACGIH	American Conference of Governmental Industrial Hygienists
ADR	European Agreement Concerning the International Carriage of Dangerous Goods by Road
CAS	Chemical Abstract Service
CEPA	Canadian Environmental Protection Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CFR	United States Code of Federal Regulations
CPR	Cardio-pulmonary Resuscitation
DOT	United States Department of Transportation
DSL	Canadian Domestic Substances List
EINECS	European Inventory of Existing Commercial Chemical Substances
EPA	United States Environmental Protection Agency
GHS	United Nations' Globally Harmonized System of Classification and Labeling of Chemicals
HCS	United States Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard
IDL	Canadian Ingredient Disclosure List
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IATA-DRG	International Air Transport Association – Dangerous Goods Regulations
ICAO	International Civil Aviation Organization
ICAO-TI	International Civil Aviation Organization – Technical Instructions on the Safe Transport of Dangerous Goods by Air
IMDG	International Maritime Dangerous Goods Code
IMO	International Maritime Organization
LMPE-PPT	Limite Maximo Permisible de Exposicion Promedio Ponderado en Tiempo
NDSL	Canadian Non-domestic Substances List
NIOSH	National Institute for Occupational Safety and Health (USA)
NTP	National Toxicology Program (USA)
OEL	Occupational Exposure Limit
OSHA	United States Occupational Health and Safety Administration
PBT/vPvB	Persistant, Bioaccumulative and Toxic / Very Persistant and Very Bioaccumulative
PEL	Permissive Exposure Limits
PIN	Product Identification Number
PPE	Personal Protective Equipment
RCRA	Resource Conservation and Recovery Act (USA)
REACH	Registration, Evaluation, Authorization and Restriction of Chemicals (EU)
RID	European Agreement Concerning the International Carriage of Dangerous Goods by Rail
RTECS	The Registry of Toxic Effects of Chemical Substances
SARA	Superfund Amendments and Reauthorization Act (USA)
TDGR	Transportation of Dangerous Goods Regulations
TLV	Threshold Limit Values
TSCA	Toxic Substances Control Act (USA)
TWA	Time Weighted Average

cm = centimeter, m = meter, g = gram, kg = kilogram, ml = milliliter, l = liter, > = greater than, < = less than, bw = body weight

END OF SDS SHEET