

Section 1: Product & Company Information

Product Identifier: Aluminum Oxide, Brown Fused #60

Other Means of Identification

Product Number: 185020

Recommended Use and Restrictions on Use

Recommended Use: Free abrasive machining and lapping.

Restrictions on Use: None identified

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.

Address: 4320 Greenway Drive
Knoxville, TN 37918
USA

Information Telephone Number: 1-865-524-4239

Fax Number: 1-865-524-3375

Website: www.corecheminc.com

Contact Person: Regulatory Manager

E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 (monitored 24 hours/day)

Section 2: Hazards Identification

GHS Hazard Classification(s)

Not classified as hazardous according to OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Not classified as hazardous according to OSHA Hazard Communication Standard

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Section 3: Composition/Information on Ingredients

Substance

Chemical Identity ²	Common Name/Synonym(s)	CAS # ³	Weight %	Impurity or Stabilizing Additive
Aluminum Oxide	N/A	1344-28-1	60-100%	No
Titanium Dioxide	N/A	13463-67-7	2.5-10%	No

- Information regarding the composition and the percentage ranges of the mixtures ingredients are not presented as it Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.
- Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
- “—” Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse.

Inhalation

If breathed in, move the person into fresh air. If not breathing, give artificial respiration. Consult a physician.

Skin Contact

Wash skin with soap and water. If irritation or other symptoms develop, seek medical attention.

Eye Contact

Remove contact lenses if present and easy to do. Flush eyes thoroughly with large amounts of water, holding eyelids open. If irritation persists, seek medical attention.

Ingestion

Do not induce vomiting. Rinse mouth with water. Seek medical attention if large amount is swallowed or if you feel unwell.

Most important symptoms/effects, acute and delayed

Symptoms

Dust may cause eye and respiratory irritation. Prolonged inhalation of high concentration of dust may cause adverse effects on the lungs. Exposure to dust generated from processing the base material or coatings may present additional health hazards. Prolonged overexposure to titanium dioxide dust may cause cancer based on animal data. Risk of cancer depends on duration and level of exposure.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

No data available.

Section 5: Fire-Fighting Measures

General Fire Hazards

No data available.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Extinguishing powder, alcohol resistant foam, carbon dioxide, water fog

Unsuitable Extinguishing Media

No data available.

Specific Hazards Arising from the Chemical

This product is not flammable or combustible; however, consideration must be given to the potential fire/explosion hazards from the base material being processed. Many materials create flammable/explosive dusts or turnings when machined or ground.

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires involving chemicals.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Wear appropriate respirator and protective clothing as needed to avoid eye and skin contact.

Methods and Materials for Containment and Clean-Up

Carefully collect dry material, avoiding the creation of airborne dust. Place in a suitable container for disposal.

Notification Procedures

Notify authorities if any exposure to the general public or environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained.

Environmental Precautions

Use appropriate containment of product and firefighting water to avoid environmental contamination. Prevent from spreading or entering drains, ditches, or rivers by using sand, earth, or other appropriate barriers.

Section 7: Handling and Storage

Precautions for Safe Handling

Avoid breathing dust. Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Wear suitable gloves, eye protection and appropriate protective clothing. Wash thoroughly after handling. Consider potential exposure to components of the materials or coatings being processed. Refer to OSHA's substance specific standards for additional work practice requirements where applicable.

Conditions for Safe Storage, including any Incompatibilities

Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store away from incompatible materials (See Section 10). Ensure that all local regulations regarding handling and storage facilities are followed.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Aluminum Oxide	TWA	15 mg/m ³ (total)	US OSHA Table Z-1
		5 mg/m ³ (respirable)	
Aluminum Oxide	TWA	1 mg/m ³	ACGIH TLV

Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls

Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.

Individual protection measures, such as personal protective equipment (PPE)

General Information

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Eye/Face Protection

Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection

Hand Protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory Protection

Not necessary unless workplace concentrations of hazardous constituents exceed the exposure limits. If the exposure levels are excessive and irritation or other symptoms are experienced, an approved respirator should be worn. Respirator selection and use should be based on contaminant type, form, and concentration. Follow OSHA 1910.134 and ANSI Z88.2 or other applicable regulations and standards and good Industrial Hygiene practice.

Hygiene Measures

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

Section 9: Physical and Chemical Properties

Appearance:

Physical State: Solid powder

Color: White

Odor: Not applicable

Odor Threshold: No data available.

pH: No data available.

Melting Point/Freezing Point: 2050 °C / 3704 °F

Initial Boiling Point and Boiling

Range:

Flash Point: No data available.

Evaporation Rate (butyl acetate=1): No data available.

Flammability (solid, gas): No data available.

Upper/Lower Limit on Flammability or Explosive Limits

Flammability Limit – Upper: Not applicable.

Flammability Limit – Lower: Not applicable.

Explosive Limit – Upper: Not applicable.

Explosive Limit – Lower: Not applicable.

Vapor Pressure: No data available.

Vapor Density (air = 1): No data available.

Relative Density (water=1): 3.6 – 4.1

Solubility(ies):

Solubility in water: No data available.

Solubility (other): No data available.

Partition coefficient (n-octanol/water): No data available.

Auto-Ignition Temperature: Not applicable.

Decomposition Temperature: Not applicable.

Viscosity: No data available.

Other Information:

Molecular Weight: No data available.

Formula: No data available.

Section 10: Stability and Reactivity

Reactivity

Not reactive under normal conditions of use and storage.

Chemical Stability

This material is expected to be stable under normal conditions of use.

Possibility of Hazardous Reactions

A slight rise in temperature may result from contact with water.

Conditions to Avoid

Avoid generating and accumulating dust. Contact with incompatible materials.

Incompatible Materials

None known.

Hazardous Decomposition Products

Dust from abrasive processing could contain potentially hazardous components of the base material being processed or coatings applied to the base material.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: Not toxic. Swallowing may cause gastrointestinal disturbances.

Inhalation: Breathing dust may cause irritation to the nose, throat and upper respiratory tract

Skin Contact: May cause abrasive skin irritation.

Eye Contact: May cause abrasive irritation and injury.

Information on Toxicological Effects

Acute Toxicity (List all possible routes of exposure)

Oral

Aluminum Oxide: LD50 Oral rat >10000 mg/kg

Titanium Dioxide: Oral rat LD50 >5000 mg/kg

Inhalation

Aluminum Oxide: LC50 Inhalation rat >2.3 mg/L/4 hr.

Titanium Dioxide: Inhalation rat LC50 >6.82 mg/L/4 hr.

Repeated Dose Toxicity

No data Available

Skin Corrosion/Irritation

None of the components have been shown to cause skin irritation in animal studies. Prolonged skin contact may result in abrasive injury.

Serious Eye Damage/Eye Irritation

None of the components have been shown to cause eye irritation or damage in animals. Eye contact may result in abrasive irritation and injury.

Respiratory/Skin Sensitization

Not expected to cause skin sensitization based on human experience. Not expected to be a respiratory sensitizer based on human experience.

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

Titanium dioxide is listed by IARC as a group 2B carcinogen (possibly carcinogenic to humans). None of the other components are listed as a carcinogen by ACGIH, IARC, NTP, OSHA or the EU CLP

US. National Toxicology Program (NTP) Report on Carcinogens

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Germ Cell Mutagenicity

In Vitro

No mutagenic components identified.

In Vivo

No mutagenic components identified.

Reproductive Toxicity

None known.

Specific Target Organ Toxicity – Single Exposure

None known.

Specific Target Organ Toxicity – Repeated Exposure

None known. Recent studies of alumina refinery employees indicate that current exposures to aluminum compounds are not associated with significant adverse respiratory effects. The small changes in pulmonary functions parameters and respiratory symptoms observed were likely due to exposure to irritants and were not considered clinically significant.

Aspiration Hazard

Not classified.

Other Effects

None known.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Aluminum oxide: NOEC 96 hr. Salmo trutta >100 mg/L
Titanium Dioxide: 96 hr. LC50 Pimephales promelas >1000 mg/L

Aquatic Invertebrates

Aluminum oxide: NOEC 48 hr. daphnia magna >100 mg/L
Titanium Dioxide: 48 hr. EC50 daphnia magna >1000 mg/L

Toxicity to Aquatic Plants

Aluminum oxide: NOEC 72 hr Selenastrum capricornutum >100 mg/L
Titanium Dioxide: 72 hr. EC50 Pseudokirchneriella subcapitata 61 mg/L

Chronic Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

No data available.

Toxicity to Aquatic Plants

No data available.

Persistence and Degradability

Biodegradation

Biodegradation is not applicable to inorganic substances

BOD/COD Ratio

No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

No data available.

Mobility in Soil

No data available

Other Adverse Effects

No data available.

Section 13: Disposal Considerations

Disposal Instructions

Dispose in accordance with all local, state and national regulations. Local regulations may be more stringent than regional and national requirements. It is the responsibility of the waste generator to determine the toxicity and physical characteristics of the material to determine the proper waste identification and disposal in compliance with applicable regulations.

Contaminated Packaging

Handle contaminated packages in the same way as the substance itself. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks, and flames. Do not cut, puncture, or weld on or near this container. Follow label warnings until container is thoroughly cleaned or destroyed.

Section 14: Transportation Information

US Department of Transportation (DOT)

This material is not regulated as a hazardous material for transport by the U.S. Department of Transportation in accordance with 49 CFR 172.101.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

No chemical(s) in this material are subject to the reporting requirements of CERCLA.

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard: No
Sudden Release of Pressure: No
Reactive: No
Acute (Immediate) Health Hazard: No
Chronic (Delayed) Health Hazard: No

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

This material does not contain any chemical(s) with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does not contain a chemical known to the State of California to cause birth defects or other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their particular purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard: 1

Chronic Health Hazard: /

Flammability: 0

Physical Hazard: 0

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: 1

Fire Hazard: 0

Reactivity Hazard: 0

Special: N/A

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

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Current Revision: 02

Sections Revised: Revisions to sections 2-3, 8, 10-11, 15-16

Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate

BCF - Bioconcentration Factor

EC50 - Effective concentration, 50%

IDHL - Immediately Dangerous to Life and Health

Kg - Kilogram

l - Liter

lb - Pound

LC50 - Lethal Concentration, 50%

LD50 - Lethal Dose, 50%

mg - milligram

ml - milliliter

N/A - Not Applicable

N/D - Not Determined

PEL - Permissible Exposure Limit

REL - Recommended Exposure Limit

STEL - Short-term Exposure Limit

TWA - Time weighted average

ACGIH - American Conference of Industrial Hygienists

AIHA - American Industrial Hygiene Association

BEI - Biological Exposure Indices

CAS - Chemical Abstracts Service

DOT - US Department of Transportation

EPA - US Environmental Protection Agency

GHS - Globally Harmonized System of Classification and Labelling of Chemicals

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

IBC - Intermediate Bulk Container

IMDG - International Maritime Dangerous Goods

NIOSH - National Institute for Occupational Safety and Health

NTP - National Toxicology Program

OSHA - US Occupational Health and Safety Administration

SARA - US EPA Superfund Amendments and Reauthorization Act

TSCA - US EPA Toxic Substances Control Act

UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

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