



SAFETY DATA SHEET

acc. to OSHA HCS (29 CFR 1910.1200)

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Trade Name: Brown-Fused Aluminum Oxide

1. Identification

Product Identifier:	Brown-Fused Aluminum Oxide
Trade Names:	RockRidge Brown, Brown Alox, Alpha Alumina, BFA
Formula:	Al_2O_3 (>92%)
Recommended Use:	Bonded Abrasives and General Industry Applications: grinding, deburring, snagging, and cutting of various materials. Blasting Grain: wet or dry surface preparations. Microgrit Powders: micro-blasting, precision lapping, fine-grit grinding, break lining fillers, tumbling, polishing compounds, etc.
Manufacturer/Supplier:	RockRidge Abrasives 37 John Glenn Dr. Amherst, NY 14228 Phone: 716-759-6600 Fax: 716-759-6602

2. Hazard(s) Identifications

Classifications of the Substance or Mixture:



GHS08 Health Hazard

Carc. 2, H351 Suspected of causing cancer via inhalation.

Additional Information:

- There are no other hazards not otherwise classified that have been identified.
- 0 % of the mixture consists of ingredient(s) of unknown toxicity.
- Long-term inhalation of product may be harmful.

Label Element:

GHS Label Elements- The substance is classified and labeled according to the Globally Harmonized System (GHS)

Hazard Pictogram:



GHS08 Health Hazard

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2. Hazard(s) Identifications Continued

Signal Word: WARNING

Hazard-Determining Component of Labeling: Titanium Dioxide

Hazard Statements:

- H351 Suspected of causing cancer via inhalation
- The substance is classified and labeled according to the OSHA Globally Harmonized System (GHS) within the USA.
- The product is not classified as hazardous according to the CLP Regulation.

Precautionary Statements:

- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P201: Obtain special instructions before use.
- P202: Do not handle until all safety precautions have been read and understood.
- P308+P313: If exposed or concerned: Get medical advice/attention.
- P501: Dispose of contents/container in accordance with local/regional/national/international regulations

Hazard Description:

WHMIS Symbols (Under Old System): WHMIS System is being replaced by GHS System

D2A- Very toxic material causing other toxic effects.



Classification System:

NFPA Ratings (scale 0 - 4):



Health: 1
Fire: 0
Reactivity: 0

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2. Hazard(s) Identifications Continued

HMIS Ratings (scale 0 - 4):

HEALTH	*1
FIRE	0
REACTIVITY	0

*Indicates a long-term health hazard from repeated or prolonged exposures.

HMIS Long-Term Health Hazard Substances

13463-67-7 Titanium Dioxide


Other Hazards:

Results of PBT and vPvB Assessment:

- **PBT:** Not Applicable
- **vPvB:** Not Applicable

3. Composition/Information on Ingredients

Description: Mixture of substances listed below with nonhazardous additions:

Ingredient	CAS No.	EC No.	Weight %.	Hazard Statement & Pictogram
Aluminum Oxide	1344-28-1	215-691-6	90>	All substances with a community workplace exposure limit.
Titanium Dioxide	13463-67-7	236-675-5	1- 5	
Silicon Dioxide	7631-86-9	231-545-4	0- 2	
Iron Oxide/Diiron Trioxide	1309-37-1	215-168-2	0- 1.5	
Dangerous Component	(Alternative Classifications)			
Titanium Dioxide	13463-67-7	236-675-5	1- 5	 carc. 2, H351



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4. First-Aid Measures

General Information:

After Inhalation: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms or feels unwell, seek immediate medical attention.

After Skin Contact: Brush off loose particles. Wash with soap and water. If skin irritation is experienced, consult a doctor.

After Eye Contact: If worn, remove contacts. Rinse opened eye for several minutes under running water. If symptoms persists, consult a doctor.

After Swallowing: Rinse out mouth and drink plenty of water. Do not induce vomiting; immediately call for medical help.

Most important symptoms and effects, both acute and delayed:

- Coughing
- Gastric or intestinal disorders
- Breathing difficulty

Danger:

- Danger of impaired breathing
- Suspected of causing cancer

Indication of any immediate medical attention and special treatment needed:

- No further relevant information available.

5. Fire-Fighting Measures

Flash Point: Not Applicable

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.

Hazardous Decomposition Products: None

Fire Fighting Instructions: Wear self-containing respiratory protective device. Wear fully protective suit.

NFPA Classifications:

Health: 1

Flammability: 0

Reactivity: 0



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6. Accidental Release Measures

Personal Precautions, Protective Equipment & Emergency Procedures:

- Use respiratory protective device against the effects of fumes/dust/aerosol.
- For large spills, wear protective clothing.
- Avoid formation of dust
- Ensure adequate ventilation

Environmental Precautions: No special precautions required.

Methods and Materials for Containment and Cleaning Up:

- Dispose contaminated material as waste according to item 13.
- Send for recovery or disposal in suitable receptacles.

References to Other Sections:

- See Section 7 for information of safe handling
- See Section 8 for information of personal protection equipment
- See Section 13 for disposal information

7. Handling and Storage

Precautions for Safe Handling:

- Prevent formation of dust
- Any deposit of dust which cannot be avoided must be regularly removed
- Use only in well ventilated areas
- Avoid breathing dust
- Do not dry clean dust covered objects and floors. Wash thoroughly with plenty of water.

Conditions for Safe Storage:

Information about storage in one common storage facility:

- Store away from oxidizing agents
- Store away from foodstuffs

Further information about storage conditions:

- Store in cool, dry conditions in well sealed receptacles
- Store receptacles in a well ventilated area
- Protect from humidity and water
- This product is hygroscopic

Specific End Use(s): No further relevant information available.



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8. Exposure Controls / Personal Protection

Control Parameters:

Aluminum Oxide (CAS# 1344-28-1):

PEL (USA)	Long-term value: 15***; 15***** mg/m ³
REL (USA)	Long-term value: 10***; 15***** mg/m ³
TLV (USA)	Long-term value: 1***** mg/m ³
EL (Canada)	Long-term value: 1.0 mg/m ³ (respirable, as Al)
EV (Canada)	Long-term value: 10 mg/m ³ (total dust)

Titanium Dioxide (CAS# 13463-67-7):

PEL (USA)	Long-term value: 15*** mg/m ³
REL (USA)	See Pocket Guide App. A
TLV (USA)	Long-term value: 10 mg/m ³ (withdrawn from NIC)
EL (Canada)	Long-term value: 10*** 3**** mg/m ³ (IARC 2B)
EV (Canada)	Long-term value: 10*** mg/m ³

Iron (III) Oxide / Diiron Trioxide (CAS# 1309-37-1)

PEL (USA)	Long-term value: 15**; 15***; 5***** mg/m ³
REL (USA)	Long-term value: 5* mg/m ³ (as Fe)
TLV (USA)	Long-term value: 5***** mg/m ³
EL (Canada)	Short-term value: 10** mg/m ³ Long-term value: 5* 10*** 3***** mg/m ³ (respirable, as Al)
EV (Canada)	Long-term value: 5***** 10*** mg/m ³

KEY:

* - dust/fume	** - fume/rouge
*** - total dust	**** - respirable fraction



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8. Exposure Controls / Personal Protection Continued

Exposure Controls:

Personal Protective Equipment (PPE):

General Protective and Hygienic Measures:

- The usual precautionary measures for handling chemicals should be followed
- Keep away from foodstuffs, beverages, and feed.
- Wash hands before breaks and at the end of work.
- Avoid contact with the eyes.
- Avoid close or long-term contact with the skin.
- Do not inhale dust / smoke / mist.

Engineering Controls: No further relevant information available.

Breathing Equipment:

- Use suitable respiratory protective device in case of insufficient ventilation.
- For spills, respiratory protection may be advisable.

Protection of Hands:

- Wear gloves for the protection against mechanical hazards according to OSHA and NIOSH rules.
- Gloves are advised for repeated or prolonged contact.
- The glove material has to be impermeable and resistant to the product / the substance / the preparation.

Material of Gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Eye Protection: Safety glasses or goggles to prevent dust and particles from entering the eye.

Body Protection:

- Not required under normal conditions of use.
- Protection may be required for spills.

Limitation and Supervision of Exposure into the Environment: No special requirements.

Risk Management Measures: No special requirements (see section 7 for additional info).



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9. Physical and Chemical Properties

Appearance:	
Form:	Granulate
Color:	Light brown, dark brown
pH-value:	Slightly alkaline
Change in Condition:	
Melting Point:	Approx. 2050 °C (3722 °F)
Boiling Point/Boiling Range:	Not Determined
Flashpoint:	Not Applicable
Flammability:	Not Flammable
Auto-Ignition Temperature:	Not Determined
Decomposition Temperature:	Not Determined
Auto-Igniting:	Not Determined
Danger of Explosion:	Product does not present an explosion hazard
Explosion Limits:	
Lower:	Not Determined
Upper:	Not Determined
Vapor Pressure:	Not Applicable
Density at 20 °C (68 °F):	3.95 g/cm ³ (32.963 lbs/gal)
Relative Density:	Not Determined
Vapor Density:	Not Applicable
Evaporation Rate:	Not Applicable
Solubility in / Miscibility with:	
Water:	Insoluble
Partition Coefficient (n-octanol/water):	Not Determined
Viscosity:	
Dynamic:	Not Applicable
Kinematic:	Not Applicable
Formula:	Al ₂ O ₃

Othe Information: No further relevant information available.



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10. Stability and Reactivity

Reactivity:

Chemical Stability:

- **Thermal Decomposition / Conditions to be Avoided:** No decomposition if used and stored according to specifications.

Possibility of Hazardous Reactions:

- Reacts with strong acids.
- Reacts with oxidizing agents.
- Reacts with strong alkali.

Conditions to Avoid: No further relevant information available.

Incompatible Materials: No further relevant information available.

Hazardous Decomposition Products: Toxic metal oxide smoke.

11. Toxicological Information

INFORMATION ON TOXICOLOGICAL EFFECTS:

Acute Toxicity:

LD/LC50 values that are relevant for classification: None.

Primary irritant effect:

- **On the skin:** Slight irritant effect on skin and mucous membranes.
- **On the eye:** Slight irritant effect on eyes.

Sensitization: No sensitizing effects known.

Subacute to chronic toxicity: Suspected of causing cancer via inhalation.

Additional Toxicological Information:

Carcinogenic Categories

NTP (National Toxicology Program): Substance is not listed.

OSHA-Ca (Occupational Safety & Health Administration): Substance is not listed.



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11. Toxicological Information Continued

Probable Routes of Exposure:

- Inhalation.
- Eye contact.
- Skin contact.

Acute effects (acute toxicity, irritation and corrosively): From product as supplied: None.

Repeated Dose Toxicity:

- Suspected of causing cancer.
- Repeated or long-term inhalation of product dusts may cause pulmonary disease.
- May cause damage to organs through prolonged or repeated exposure.

12. Ecological Information

Toxicity:

Aquatic Toxicity: Generally not hazardous for water.

Persistence and Degradability: Stable and inert product which is not readily biodegradable

Behavior in Environmental System:

Bio Accumulative Potential: This product does not accumulate in organisms.

Mobility in Soil: No further relevant information available.

Other Adverse Effects: No further relevant information available.

13. Disposal Considerations

Waste Treatment Methods:

Recommendation:

- Smaller quantities can be disposed of with household waste.
- Can be reused after reprocessing.
- Contact waste processors for recycling information.
- The use of this material has the responsibility to dispose of unused material, residues, and containers in compliance with all relevant local, state, and federal laws and regulations regarding treatment, storage, and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

Uncleaned Packaging:

Recommendation: Disposal must be made according to official regulations.



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14. Transport Information

UN-Number	
DOT, ADR, ADN, IMDG, IATA:	Not Regulated
UN proper shipping name	
DOT, ADR, ADN, IMDG, IATA:	Not Regulated
Transport Hazard Class(es)	
DOT, ADR, ADN, IMDG, IATA:	Not Regulated
Class	
Packing Group	
DOT, ADR, IMDG, IATA:	Not Regulated
Environmental Hazards:	
Marine Pollutant:	No
Special Precautions for User:	Not Applicable
Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code:	Not Applicable
UN "Model Regulation":	-

15. Regulatory Information

Safety, health, and environmental regulations/legislation specific for the substance or mixture

United States Federal Regulations

SARA

- **Section 355 (extremely hazardous substances):** Substance is not listed.
- **Section 313 (specific toxic chemical listings):** 1344-28-1 Aluminum Oxide
- **TSCA (Toxic Substances Control Act):** Substance is listed

Proposition 65 (California):

- **Chemicals known to cause cancer:** CAS# 13463-67-7 Titanium Dioxide
- **Chemicals known to cause reproductive toxicity for females:** Substance is not listed.
- **Chemicals known to cause reproductive toxicity for males:** Substance is not listed.
- **Chemicals known to cause developmental toxicity:** Substance is not listed.



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15. Regulatory Information Continued

Carcinogenic Categories:

- **EPA (Environmental Protection Agency):** Substance is not listed.
- **IARC (International Agency for Research on Cancer):** 13463-67-7 Titanium Dioxide (2B)
- **TLV (Threshold Limit Value, established by ACGIH):**
 - 1344-28-1 Aluminum Oxide (A4)
 - 13463-67-7 Titanium Dioxide (A4)
 - Diiron Trioxide / Iron (III) Oxide (A4)
- **NIOSH- Ca (National Institute for Occupational Safety and Health):**
 - 13463-67-7 Titanium Dioxide
- **State Right to Know Listings:** Substance is not listed.

Canadian Substance Listings:

- **Canadian Domestic Substances List (DSL):** Substance is listed.
- **Canadian Ingredient Disclosure List (limit 0.1%):** Substance is not listed.
- **Canadian Ingredient Disclosure List (limit 1%):** 1344-28-1 Aluminum Oxide

Other Regulations, Limitations, and Prohibitive Regulations:

- This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Chemical Safety Assessment: A Chemical Safety Assessment has not been carried out.

16. Other Information & Last Revision Date

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Abbreviation and acronyms:

ACGIH	American Conference of Governmental Industrial Hygienists
CAS	Chemical Abstracts Service
DOT	Department of Transportation
IARC	International Agency for Research on Cancer
IMDG	International Maritime Dangerous Goods
MSHA	Mine Safety and Health Administration
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit



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16. Other Information & Last Revision Date

SARA	Superfund Amendment and Reauthorization Act
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act

NOTICE:

This material safety data sheet complements the technical data sheets but does not replace them. The information it contains is based on our present knowledge of the product on the date indicated. It is given in good faith. Users should be warned about the risks associated with using the product for a different purpose than that for which it was developed, and particularly for uses for which we are not qualified to give advice.

These regulatory prescriptions are provided with a view to helping users meet their obligations when using this product. This list should not be considered exhaustive and does not exempt users from ensuring that they are not required to comply with any further prescriptions other than those mentioned above concerning product possession and handling for which they are solely responsible.

Date of Preparation/Last Revision: 06-11-2018

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