

DETROIT ABRASIVES COMPANY

Safety Data Sheet

Product Identifier: ALUMINUM OXIDE

Section 1 - IDENTIFICATION

Product Identifier

Material Name: ALUMINUM OXIDE ,XA

Synonyms

ALUNDUM; ALUMINA; DIALUMINUM TRIOXIDE; ALUMINUM SESQUIOXIDE; ALPHA-ALUMINA; BETA-ALUMINA; GAMMA-ALUMINA; ALUMITE; ALMITE; MARTOXIN; BAIKALOX POLISHING CHEMICALS (BAIKOWSKI INTERNATIONAL CO.); TABULAR ALUMINA (ALCOA); ALUMINUM OXIDE (AL₂O₃); ALUMINUM TRIOXIDE; LINDE A,B,C (UNION CARBIDE CORPORATION); UCAR SF-6, SF-18, SF-2 (UNION CARBIDE CORPORATION); D ALUMINA POWDERS (UNION CARBIDE CORPORATION); 420003704; WESGO ALUMINA CERAMICS; AL₂O₃

Chemical Family

metal oxides

Recommended Use

commercial chemical

Restrictions on Use

None known.

Supplier Information

DETROIT ABRASIVES CO
1500 WEST OLIVER STREET
OWOSSO, MI 48867

Emergency # (989)725-2405

Section 2 - HAZARD(S) IDENTIFICATION

Classification in accordance with 29 CFR 1910.1200.

Specific Target Organ Toxicity - Single Exposure, Category 3 (respiratory tract)

Specific Target Organ Toxicity - Repeated Exposure, Category 1 (lungs)

GHS LABEL ELEMENTS

Symbol(s)



Signal Word

DANGER

Hazard Statement(s)

May cause respiratory irritation

Causes damage to lungs through prolonged or repeated exposure.

Precautionary Statement(s)

Prevention

Do not breathe dust or mist. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

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Response

Get medical advice/attention if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Disposal

Dispose in accordance with all applicable regulations.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

CAS	Component	Percent
1344-28-1	Aluminum oxide	100

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Aluminium compounds, Aluminum insoluble compounds, Aluminium oxides, Aluminum Oxide (135152-65-7).

Section 4 - FIRST-AID MEASURES

Description of Necessary Measures

Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

Skin Contact

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

Eye Contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion

If swallowed, get medical attention.

Most Important Symptoms/Effects

Acute

respiratory tract irritation

Delayed

lung damage

Indication of Immediate Medical Attention and Special Treatment Needed, If Needed

Treat symptomatically and supportively.

Section 5 - FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use extinguishing agents appropriate for surrounding fire.

Unsuitable Extinguishing Media

None known.

Special Hazards Arising from the Chemical

Negligible fire and explosion hazard in bulk form. Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous Combustion Products

Combustion: miscellaneous decomposition products

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Special Protective Equipment and Precautions for Firefighters

Wear self-contained breathing apparatus and protective clothing.

Fire Fighting Measures

Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

Section 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Wear personal protective clothing and equipment, see Section 8. Avoid release to the environment.

Methods and Materials for Containment and Cleaning Up

Collect spilled material in appropriate container for disposal. Avoid generating dust. Clean up residue with a high-efficiency particulate filter vacuum.

Section 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Observe good hygiene and safety practices when handling this product. Avoid creation of dust. Do not breathe dust. Use only outdoors or in a well-ventilated area. Do not eat, drink, or smoke when using this product. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling.

Conditions for Safe Storage, including any Incompatibilities

Store and handle in accordance with all current regulations and standards. Store in a tightly closed container. Store in a well-ventilated area. Store locked up. Keep separated from incompatible substances.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Component Exposure Limits

Aluminum oxide (1344-28-1)

ACGIH: 1 mg/m³ TWA (respirable fraction, related to Aluminum insoluble compounds)

OSHA: 15 mg/m³ TWA (total dust); 5 mg/m³ TWA (respirable fraction)

Mexico 10 mg/m³ TWA LMPE-PPT

Biological Limit Values - Component Analysis

There are no biological limit values for any of this product's components.

Appropriate Engineering Controls

Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

Individual Protection Measures, such as Personal Protective Equipment

Eyes/Face Protection

Wear safety glasses with side shields. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Skin Protection

Wear appropriate chemical resistant clothing.

Glove Recommendations

Wear appropriate chemical resistant gloves.

Respiratory Protection

Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Respiratory protection is ranked in order from minimum to maximum.

Consider warning properties before use.

Any particulate respirator equipped with an N95, R95, or P95 filter (including N95, R95, and P95 filtering facepieces) except quarter-mask respirators. The following filters may also be used: N99, R99, P99, N100, R100 or P100.

Any air-purifying full-facepiece respirator equipped with an N95, R95, or P95 filter. The following filters may also be used: N99, R99, P99, N100, R100 or P100.

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Any powered, air-purifying respirator with a high-efficiency particulate filter.

Any powered, air-purifying respirator with a tight-fitting facepiece and a high-efficiency particulate filter.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode.

For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid	Appearance:	white to gray crystals or powder
Color:	white to gray	Physical Form:	crystals or powder
Odor:	odorless	Odor Threshold:	Not available
Melting Point:	2053 - 2072 °C	Boiling Point:	2980 °C
Flash Point:	Not applicable	Decomposition:	Not available
LEL:	Not available	UEL:	Not available
Vapor Pressure:	1 mmHg @ 2158 °C	Vapor Density (air = 1):	Not applicable
Density:	Not available	Specific Gravity (water = 1):	3.965 @ 25 °C
Water Solubility:	Insoluble	Log KOW:	Not available
Coeff. Water/Oil Dist:	Not available	Auto Ignition:	Not available
Viscosity:	Not available	Volatility:	<0.5 %
Molecular Weight:	101.96	Molecular Formula:	AL ₂ O ₃
Flammability (solid, gas):	Not flammable	Critical Temperature:	Not applicable

Other Property Information

No additional information is available.

Solvent Solubility

Slightly Soluble: mineral acids, strong alkali

Practically Insoluble: nonpolar organic solvents

Section 10 - STABILITY AND REACTIVITY

Reactivity

No reactivity hazard is expected.

Chemical Stability

Stable at normal temperatures and pressure.

Possibility of Hazardous Reactions

Will not polymerize.

Conditions to Avoid

Avoid generating dust. Avoid contact with incompatible materials.

Incompatible Materials

halo carbons, halogens, combustible materials, oxidizing materials

Hazardous Decomposition

Combustion: miscellaneous decomposition products

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Section 11 - TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

Aluminum oxide (1344-28-1)

Oral LD50 Rat >5000 mg/kg

Inhalation

irritation, difficulty breathing

Ingestion

no information on significant adverse effects

Skin Contact

irritation

Eye Contact

irritation

Immediate Effects

respiratory tract irritation

Delayed Effects

lung damage

Medical Conditions Aggravated by Exposure

respiratory disorders

Irritation/Corrosivity Data

respiratory tract irritation

Respiratory Sensitization

No information available for the product.

Dermal Sensitization

No information available for the product.

Germ Cell Mutagenicity

No information available for the product.

Carcinogenicity

Component Carcinogenicity

Aluminum oxide (1344-28-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen (related to Aluminum insoluble compounds)

DFG: Category 2 (considered to be carcinogenic for man, fibre dust)

Reproductive Toxicity

No information available for the product.

Specific Target Organ Toxicity - Single Exposure

respiratory tract

Specific Target Organ Toxicity - Repeated Exposure

lungs

Aspiration Hazard

Not expected to be an aspiration hazard.

Section 12 - ECOLOGICAL INFORMATION

Component Analysis - Aquatic Toxicity

No LOLI ecotoxicity data are available for this product's components.

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Persistence and Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility

No information available for the product.

Other Toxicity

No additional information is available.

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose in accordance with all applicable regulations.

Disposal of Contaminated Packaging

Empty containers may contain product residue. Dispose in accordance with all applicable regulations.

Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

Section 14 - TRANSPORT INFORMATION

US DOT Information

No Classification assigned.

TDG Information

No Classification assigned.

IATA Information

No Classification assigned.

Section 15 - REGULATORY INFORMATION

U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Sections 302/304 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

Aluminum oxide (1344-28-1)

SARA 313: 1.0 % de minimis concentration (fibrous forms)

SARA 311/312

Acute Health: Yes

Chronic Health: Yes

Fire: No

Pressure: No

Reactive: No

U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA
Aluminum oxide	1344-28-1	Yes	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65

Canada

WHMIS CLASSIFICATION: D2B

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Canada WHMIS

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Aluminum oxide (1344-28-1)

1 %

Chemical Inventory Listing - US

Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
Aluminum oxide	1344-28-1	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

Section 16 - OTHER INFORMATION

Summary of Changes

Updated: 1/29/2015

NFPA Ratings: Health: 2 Fire: 1 Reactivity: 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IDLH - Immediately Dangerous to Life and Health; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

Other Information

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