

Flash Point: Not applicable.
 NFPA Rating: Lower: Not available.
 Explosion Limits: Upper: Not available.

**** SECTION 6 - ACCIDENTAL RELEASE MEASURES ****

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions.

**** SECTION 7 - HANDLING and STORAGE ****

Handling: Use with adequate ventilation. Minimize dust generation and accumulation. Avoid prolonged or repeated contact with skin. Avoid contact with eyes. Avoid ingestion and inhalation.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

**** SECTION 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION ****

Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
ALUMINUM OXIDE	as Al: 10 mg/m ³	no established RELs - see Appendix D	total dust: 15 mg/m ³ TWA; respirable fraction: 5 mg/m ³ TWA

OSHA Vacated PELs:
 ALUMINUM OXIDE:
 total dust: 10 mg/m³ TWA; respirable fraction: 5 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**** SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES ****

Physical State: Solid
 Appearance: white
 Odor: odorless
 pH: Not available.
 Vapor Pressure: Negligible.
 Vapor Density: Not available.
 Evaporation Rate: Not available.
 Viscosity: Not available.
 Boiling Point: 5396 deg F
 Freezing/Melting Point: 3632 deg F
 Specific Gravity: Not available.
 Specific Gravity (in water): Not available.
 Solubility: Negligible in water.
 Molecular Formula: Al₂O₃
 Molecular Weight: 101.9612

**** SECTION 10 - STABILITY AND REACTIVITY ****

Chemical Stability: Stable.
 Conditions to Avoid: Incompatible materials.
 Incompatibilities with Other Materials: Incompatibilities with Other Materials:

**** MATERIAL SAFETY DATA SHEET ****

Alumina (Activated/Adsorption/Dry Powder/Acid/Basic/Neutral/Polishing Gamal)

**** SECTION 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION ****

MSDS Name: Alumina (Activated/Adsorption/Dry Powder/Acid/Basic/Neutral/Polishing Gamal)
 Catalog Numbers:
 S79890, A446 100, A446100, A447 500, A447-500, A447500, A505 212, A505-212, A505212, A540 3, A540 500, A540-3, A540-500, A540500, A540500L, A591 3, A591 500, A591-3, A591-500, A591500, A620 500, A620-500, A620500, A634 3, A6343, A941 500, A941-500, A941500, A948 500, A948-500, A948500, A950 500, A950-500, A950500, B365 250, B365250, C218 3, C218-3, C2183, NC9556940, P467R, P477, S716842, XXA9415KG, ZZA950TF32

Synonyms:
 Aluminum oxide, morin dyed, Alundum, Boileezers
 Company Identification: Fisher Scientific
 Reagent, Leno
 Fair, N, 07410

For information, call: 201-796-7100
 Emergency Number: 201-796-7100
 For CHEMTREC assistance, call: 800-424-9300
 For International CHEMTREC assistance, call: 703-527-3887

**** SECTION 2 - COMPOSITION, INFORMATION ON INGREDIENTS ****

CAS#	Chemical Name	%	EINECS#
1344-28-1	ALUMINUM OXIDE	100	215-691-6

**** SECTION 3 - HAZARDS IDENTIFICATION ****

EMERGENCY OVERVIEW

Appearance: white.
 Caution! May cause respiratory and digestive tract irritation. May cause lung damage. May cause mechanical eye and skin irritation.
 Target Organs: Lungs.

Potential Health Effects

Eyes: Dust may cause mechanical irritation.
 Skin: Dust may cause mechanical irritation. Low hazard for usual industrial handling.
 Ingestion of large amounts may cause gastrointestinal irritation. Expected to be a low ingestion hazard.

Inhalation: May cause respiratory tract irritation. May cause lung damage.
 Chronic: Chronic inhalation of fine dusts may cause lung damage.

**** SECTION 4 - FIRST AID MEASURES ****

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
 Skin: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.
 Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Note great symptomatically and Antidote reported.

**** SECTION 5 - FIRE FIGHTING MEASURES ****

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
 Extinguishing Media: Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.
 Autoignition Temperature: Not applicable.

Reacts with chlorine trifluoride or ethylene oxide.
Hazardous Decomposition Products:
None reported.
Hazardous Polymerization: Has not been reported.

**** SECTION 11 - TOXICOLOGICAL INFORMATION ****

RTECS#:
CAS# 1344-28-1: BD1200000
LD50/LC50:
None available.

Carcinogenicity:
ALUMINUM OXIDE -
ACGH: A4 - Not Classifiable as a Human Carcinogen

Epidemiology: None available.
Mutagenicity: None available.
Reproductive Effects: None available.
Neurotoxicity: None available.
Other Studies: None available.

Other: None available.
Ecotoxicity: None available.
Environmental Fate: None available.
Physical/Chemical: None available.
Other: None available.

**** SECTION 12 - ECOLOGICAL INFORMATION ****

Disposal: None available.
RCRA Series: None listed.
RCRA U-Series: None listed.

US DOT
IMO
IATA
RID/ADR
Canadian TDG

**** SECTION 13 - DISPOSAL CONSIDERATIONS ****
Disposal: None available.
RCRA Series: None listed.
RCRA U-Series: None listed.

**** SECTION 14 - TRANSPORT INFORMATION ****

US DOT
IMO
IATA
RID/ADR
Canadian TDG

**** SECTION 15 - REGULATORY INFORMATION ****

US FEDERAL
TSCA
Health & Safety Reporting List
Chemical Test Rules
Section 12b
TSCA Significant New Use Rule
SARA
Section 302 (RO)
Section 302 (TPO)
Section 313

CAS# 1344-28-1 is listed on the TSCA inventory.
None of the chemicals are on the Health & Safety Reporting List.
None of the chemicals in this product are under a Chemical Test Rule.
None of the chemicals are listed under TSCA Section 12b.
None of the chemicals in this material have a SNUR under TSCA.
None of the chemicals in this material have an RQ.
None of the chemicals in this product have a TPO.
This material contains ALUMINUM OXIDE (CAS# 1344-28-1, 100%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depleters.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority

Pollutants under the CWA:
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
ALUMINUM OXIDE can be found on the following state right to know lists: California (Listed as ALUMINUM), New Jersey, Florida, (Listed as ALUMINUM), Pennsylvania, Minnesota, Massachusetts, California No Significant Risk Label.
None of the chemicals in this product are listed.
European/International Regulations
Hazard Labeling in Accordance with EC Directives
Hazard Symbols: Not available.

Safety Phrases:
WGK (Water Danger/Protection)
Risk Phrases:
Canada CAS# 1344-28-1 is listed on Canada's DSL/NDSL List.
This product has a WHMIS classification of Not controlled.
CAS# 1344-28-1 is not listed on Canada's Ingredient Disclosure List.

Exposure Limits
CAS# 1344-28-1: OEL-AUSTRALIA:TWA 10 mg/m3
OEL-BELGIUM:TWA 10 mg/m3
OEL-DENMARK:TWA 10 mg/m3
OEL-FRANCE:TWA 10 mg/m3
OEL-GERMANY:TWA 6 mg/m3
OEL-THE NETHERLANDS:TWA 10 mg/m3
OEL-RUSSIA:STEL 4 mg/m3
OEL-SWITZERLAND:TWA 6 mg/m3
OEL-UNITED KINGDOM:TWA 10 mg/m3
OEL-UNITED STATES:TWA 10 mg/m3
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA check ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM check ACGI TLV

**** SECTION 16 - ADDITIONAL INFORMATION ****
MSDS Creation Date: 3/07/1995 Revision #7 Date: 9/02/1997

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages.

Alumina