Material Safety Data Sheet
acc. to 91/155/EEC

Printing date 06/21/2000 Reviewed on 06/21/2000

* **1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

· **Product Name: CALCINED ALUMINA** **151**
Ground, unground, superground and dispersable

· **Other Designations:**
All A-grades and P-grades (except those produced by Alcoa Chemie), Abrasive Grade Alumina, Alumalux Grades, APC-grades, CL-3000, CL-3500, CAGA, CTC-50, E-40, Grade A Abrasive, Grade A Special, ISA-14, OF-2000, Mixed Phase Coarse, Mixed Phase Fines, PCT, Premalox, NA-WRA, Premalox FG, Realox, Refractory Grade, RG-150, Special Catalytic, SRP-A-2, SRP-A-5, SRP-A-20, SRP-A-22, SRP-A-30, SRP-A-32, SRP-A-71, SRP-A-90E, and Wear Grades.

· **Manufacturer/Supplier:**
Alcoa World Alumina LLC
201 Isabella Street
Pittsburgh, PA 15212-5858 USA
Health & Safety: +1-412-553-4649

Alcoa World Alumina LLC
PO Box 300, Bauxite, AR 72011
Tel: +1-501-776-4654
+1-800-643-8771

Alcoa Point Comfort Operations
State Highway 35, Point Comfort
Calhoun County, TX 77978-0101
Tel: +1-512-987-2631

Alcoa of Australia Limited, ACN 004 879 298
Western Australia Operations
PO Box 252, Applecross WA 6153, Australia
Tel: +61-8-9316-5111

· **Emergency Information:**
USA: Chemtrec: +1-703-527-3887 +1-800-424-9300 ALCOA: +1-412-553-4001

* **2 Composition/Data on components:**

CAS No:	Component	
1344-28-1	Aluminum oxide (non fibrous) EINECS: 215-691-6	>98.6 %

* **3 Hazards identification**

· **EMERGENCY OVERVIEW:**
· **EYES:** Can cause mild irritation.
· **SKIN:** Can cause mild irritation.
· **INHALATION:** Can cause mild upper respiratory tract irritation.
· **INGESTION:** Can cause mild irritation.

· **Chemical ingredient and possible processing hazards:**

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Alumina is a low health risk by inhalation and should be treated as a nuisance dust as specified by the ACGIH.

- **Hazard description:**
- **Medical conditions aggravated by exposure to the product:**
  Asthma, chronic lung disease, and skin rashes.
- **Information pertaining to particular dangers for man and environment**
  - See item 11.
- **Classification system**
  The classification was made according to the latest editions of the EU-lists, and expanded upon from company and literature data.

* **4 First aid measures**

- **After inhalation**
  Remove to fresh air.
  Check for clear airway, breathing, and presence of pulse.
  Provide cardiopulmonary resuscitation for persons without pulse or respirations.
  Consult a physician.
- **After skin contact**
  Wash with soap and water for at least 15 minutes.
  Consult a physician if irritation persists.
- **After eye contact**
  Flush eyes with plenty of water for at least 15 minutes.
  Consult a physician.
- **After swallowing**
  Do not induce vomiting.
  Never give anything by mouth to a convulsing or unconscious person.
  If swallowed, dilute by drinking large amounts of water.
  Consult a physician.

* **5 Fire fighting measures**

- **Flammable Properties:** Not flammable.
- **Suitable extinguishing agents**
  Use fire fighting measures that suit the environment.
- **Protective equipment:**
  Wear self-contained respiratory protective device.
  Wear fully protective suit.

* **6 Accidental release measures**

- **Person-related safety precautions:**

Avoid contact with eyes and skin.

Ensure adequate ventilation
- **Measures for environmental protection:** No special measures required.
- **Measures for cleaning/collecting:**
  Clean up using dry procedures; avoid dusting.

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* 7 **Handling and storage**

· **Handling**
· **Information for safe handling:**
Ensure good ventilation/exhaust at the workplace.
Prevent formation of dust.
Provide suction extractors if dust is formed.
· **Information about protection against explosions and fires:**
No special measures required.

· **Storage**
· **Requirements to be met by storerooms and receptacles:**
Keep material dry.
· **Further information about storage conditions:** None.

* 8 **Exposure controls and personal protection**

· **Additional information about design of technical systems:**
No further data; see item 7.

Components with limit values that require monitoring at the workplace:
1344-28-1 Aluminum oxide (non fibrous)
ACGIH TLV: 10 mg/m³
OSHA PEL: 15*;5** mg/m³
*Total dust **Respirable fraction

· **Personal protective equipment**
· **General protective and hygienic measures**
Avoid contact with the eyes and skin.
Do not inhale dust.
· **Breathing equipment:**
Use suitable respiratory protective device in case of insufficient ventilation.
Short term filter device:
Filter NIOSH N95.
· **Protection of hands:** Wear appropriate gloves to avoid any skin injury.
· **Eye protection:**
Safety glasses with full side shields or goggles recommended.

* 9 **Physical and chemical properties:**

· **Form:** Crystalline powder
· **Color:** White
· **Odor:** Characteristic

	Value/Range	Unit	Method
· **Change in condition**			
· **Melting point/Melting range:** 3727 ° F	2053	° C	
· **Boiling point/Boiling range:**	Undetermined		
· **Flash point:**	Not applicable		
· **Auto igniting:**	Product is not self igniting.		

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· **Danger of explosion:**
Product does not present an explosion hazard.

· **Density:** at 20 ° C 3.6-3.9 g/cm³
0.130-0.140 lb/in3

· **Bulk density:** at 20 ° C 770-1000 kg/m3
48.0-62.4 lb/ft3

· **Solubility in / Miscibility with**
· **Water:** Insoluble

· pH-value: at 20 ° C ~9.0-10 100 g/l H2O

· Solvent content:
· **Organic solvents:** 0.0 %

· **Solids content:** 99.0 %

10 Stability and reactivity

· **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
· **Reactions:** Heating occurs when water is added.
· **Dangerous products of decomposition:**
No dangerous decomposition products known.
· **Additional information:** Non-corrosive.

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11 Toxicological information

· **Acute toxicity:**
· **Primary irritant effect:**
· **On the skin:** Can cause mild irritation.
· **On the eye:** Can cause mild irritation.
· **Inhalation:** Can cause mild upper respiratory tract irritation.
· **Ingestion:** Can cause mild irritation.
· **Additional toxicological information:**
The product is not subject to classification according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

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12 Ecological information:

· **General notes:** Generally not hazardous for water.

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13 Disposal considerations

· **Product:**
· **Recommendation**
Collect in containers, bags, or covered dumpster boxes. If reuse or recycling is not possible, material may be disposed of at an industrial landfill.

· **Uncleaned packagings:**

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- **Recommendation:**
  Disposal must be made according to official regulations.

- **RCRA Status:**
  Not federally regulated in the U.S. if disposed of "as is". Otherwise, characterize in accordance with applicable regulations (40 CRF 261 or state equivalent in the U.S.).

* **14 Transport information**

- **DOT regulations:**
- **Remarks:**
  U.S.A. DOT: Not regulated - Enter the proper freight classification. "MSDS Number," and "Product Name" on the shipping paperwork.

  Canadian TDG Hazard Class & PIN: Not regulated.

- **Maritime transport IMDG:**
- **Marine pollutant:** No

* **15 Regulations**

- **U.S. Federal Regulations:**
- **TSCA STATUS:**
  All components of this product are listed on the TSCA inventory.
- **CERCLA REPORTABLE QUANTITY:** None.
- **SARA TITLE III:**
  Section 302 Extremely Hazardous Substances:
  None.
- **Section 311/312 Hazardous Categories:** Immediate (acute).
- **Section 313 Toxic Categories:** None.
- **OTHER INFORMATION:**
  In reference to Title VI of the Clean Air Act of 1990, this material does not contain nor was it manufactured using ozone-depleting chemicals.

- **Markings according to EU guidelines:**
  The product is not subject to identification regulations under EU Directives and the Ordinance on Hazardous Materials (GefStoffV).
- **International Regulations:**
- **CANADIAN DOMESTIC SUBSTANCES LIST:**
  All components of this product are listed on the Canadian DSL.
- **AUSTRALIAN INVENTORY OF CHEMICAL SUBSTANCES:**
  All components of this product are listed on the AICS.
- **Japan - Existing and New Chemical Substances (ENCS)**
  All components of this product are listed on ENCS.

* **16 Other information:**

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.

- **Department issuing MSDS:**
  Hazardous Materials Control Committee
  Alcoa Inc., 201 Isabella Street, Pittsburgh, PA 15212-5858 USA

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21.06.00 Supersedes: 08.05.97

- **Alcoa MS #:** 103386
- **Appendix:**
  - Guide to Occupational Exposure Values 1999, Compiled by the American Conference of Governmental Industrial Hygienists (ACGIH).
  - Documentation of the Threshold Limit Values and Biological Exposure Indices, Sixth Edition, 1991, Compiled by the American Conference of Governmental Industrial Hygienists, Inc. (ACGIH).
  - NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, June 1994.
  - Dangerous Properties of Industrial Materials, Sax, N. Irving, Van Nostrand Reinhold Co., Inc., 1984.
  - Patty's Industrial Hygiene and Toxicology: Volume II: Toxicology, 4th ed., 1994, Patty, F. A.; edited by Clayton, G. D. and Clayton, F. E.: New York: John Wiley & Sons, Inc.
  - TOMES CPS(TM), MICROMEDEX, Inc., 1999
- **LEGEND:**

ACGIH	American Conference of Governmental Industrial Hygienists
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstract Services
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPR	Cardio-pulmonary Resusitation
DOT	Department of Transportation
DSL	Domestic Substances List (Canada)
EINECS	European Inventory of Existing Commercial Chemical Substances
ENCS	Japan - Existing and New Chemical Substances
EWC	European Waste Catalogue
EPA	Environmental Protective Agency
IARC	International Agency for Research on Cancer
LC	Lethal Concentration
LD	Lethal Dose
MAK	Maximum Workplace Concentration (Germany) "maximale Arbeitsplatz-Konzentration"
NDSL	Non-Domestic Substances List (Canada)
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PIN	Product Identification Number
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limit
TCLP	Toxic Chemicals Leachate Program
TDG	Transportation of Dangerous Goods
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average

m meter, cm centimeter, mm millimeter, in inch,
g gram, kg kilogram, lb pound, µg microgram,
ppm parts per million, ft feet