SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Other means of identification

Product Code(s)  387

Synonyms  A-Aluminas, CL-Aluminas, CT-Aluminas, CTC-Aluminas, E-SY 1000, Gilox, GMA, HVA, MPC, P-Aluminas, PSG, RAPOL, RG-Aluminas, Ultimate, WRA. Exception: CTC55 - see Material Safety Data Sheet 1000, Exception: CT3000 SDP - see Material Safety Data Sheet 1259

Recommended use of the chemical and restrictions on use

Recommended use  Adsorbents Filler Polishing agent Refractory Ceramic

Restrictions on use  No information available

Details of the supplier of the safety data sheet

Supplier Address  Almatis, Inc.
P.O. Box 300
4701 Alcoa Road
Bauxite, AR 72022
USA
Telephone: +1 501-776-4677

Emergency telephone number

Emergency Telephone  US/Canada: +01 760 476 3962, +1 866 519 4752

SECTION 2: Hazards identification

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards not otherwise classified (HNOC)  No information available

Label elements

Hazard statements

Precautionary Statements - Prevention  Not applicable

Precautionary Statements - Response  Not applicable
Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal
Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Other information
Not applicable

SECTION 3: Composition/information on ingredients

<table>
<thead>
<tr>
<th>Substance</th>
<th>Common name</th>
<th>Synonyms</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>1344-28-1</td>
<td>&gt;99</td>
<td>-</td>
</tr>
</tbody>
</table>

*The exact percentage (concentration) of composition has been withheld as a trade secret.

SECTION 4: First aid measures

**Description of first aid measures**

**Inhalation** Remove to fresh air.

**Eye contact** Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a doctor.

**Skin contact** Wash skin with soap and water.

**Ingestion** Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Contact with dust can cause mechanical irritation or drying of the skin.

**Indication of any immediate medical attention and special treatment needed**

**Note to doctors** Treat symptomatically.

SECTION 5: Firefighting measures

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical** No information available.
Explosion data
Sensitivity to mechanical impact: None.
Sensitivity to static discharge: None.

Special protective equipment for fire-fighters: Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions: Ensure adequate ventilation.

Methods and material for containment and cleaning up

Methods for containment: Prevent further leakage or spillage if safe to do so.

Methods for cleaning up: Pick up and transfer to properly labelled containers.

SECTION 7: Handling and storage

Precautions for safe handling

Advice on safe handling: Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions: Keep container tightly closed in a dry and well-ventilated place.

SECTION 8: Exposure controls/personal protection

Control parameters

Exposure Limits

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
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</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>TWA: 1 mg/m³ respirable particulate matter</td>
<td>TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 10 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction</td>
<td>-</td>
</tr>
<tr>
<td>1344-28-1</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Appropriate engineering controls

Engineering controls: Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection: No special protective equipment required.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
General hygiene considerations
Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>white Powder</td>
<td></td>
</tr>
<tr>
<td>Colour</td>
<td>white</td>
<td></td>
</tr>
<tr>
<td>Odour</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Odour threshold</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Melting point / freezing point</td>
<td>2000 °C / 3632 °F</td>
<td>Literary reference</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Flash point</td>
<td>- / °F</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability or explosive limits</td>
<td>-</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
<td>-</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Vapour density</td>
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</tr>
<tr>
<td>Relative density</td>
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<td>Not applicable</td>
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<tr>
<td>Water solubility</td>
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<tr>
<td>Solubility in other solvents</td>
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<tr>
<td>Partition coefficient</td>
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<td>Not applicable</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
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</tr>
<tr>
<td>Hyphen</td>
<td>No data available</td>
<td>None known</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
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<td>Not applicable</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
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<td>Not applicable</td>
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</table>

Other information

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosive properties</td>
<td>No information available</td>
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<tr>
<td>Oxidising properties</td>
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<tr>
<td>Softening point</td>
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<tr>
<td>Molecular weight</td>
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<tr>
<td>VOC Content (%)</td>
<td>None . ?</td>
<td></td>
</tr>
<tr>
<td>Liquid Density</td>
<td>2.7-3.94 g/cm³</td>
<td></td>
</tr>
<tr>
<td>Bulk density</td>
<td>350-1250 kg/m³</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 10: Stability and reactivity

Reactivity
None under normal processing.

Chemical stability
Stable under normal conditions.

Possibility of hazardous reactions
None under normal processing.

Hazardous polymerisation
Hazardous polymerisation does not occur.

Conditions to avoid
None known based on information supplied.

Incompatible materials
None known based on information supplied.

Hazardous decomposition products
None known based on information supplied.
SECTION 11: Toxicological information

Information on likely routes of exposure

Product Information

- **Inhalation**
  - May cause irritation.

- **Eye contact**
  - Dust contact with the eyes can lead to mechanical irritation.

- **Skin contact**
  - No known hazard in contact with skin.

- **Ingestion**
  - No known effect based on information supplied.

Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms**

- No information available.

Numerical measures of toxicity

Product Information

<table>
<thead>
<tr>
<th>Component Information</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide</td>
<td>&gt; 5000 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation**

- No information available.

Product Information

- **Serious eye damage/eye irritation**
  - No information available.

Product Information

- **Respiratory or skin sensitisation**
  - No information available.

Product Information

- **Germ cell mutagenicity**
  - No information available.

Product Information

- **Carcinogenicity**
  - No information available.

Product Information

- **Reproductive toxicity**
  - No information available.

Product Information

- **STOT - single exposure**
  - No information available.

Product Information

- **STOT - repeated exposure**
  - No information available.

Product Information

- **Aspiration hazard**
  - No information available.
SECTION 12: Ecological information

Ecotoxicity
Not considered to be harmful to aquatic life.

Persistence and degradability
Not readily biodegradable.

Bioaccumulation
MATERIAL DOES NOT BIOACCUMULATE.

Mobility
No information available.

Other adverse effects
No information available.

SECTION 13: Disposal considerations

Waste treatment methods

Waste from residues/unused products
Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging
Do not reuse empty containers.

SECTION 14: Transport information

DOT
Not regulated

TDG
Not regulated

MEX
Not regulated

ICAO (air)
Not regulated

IATA
Not regulated

IMDG
Not regulated

RID
Not regulated

ADR
Not regulated

ADN
Not regulated

SECTION 15: Regulatory information

International Inventories
TSCA
Complies.
Contact supplier for inventory compliance status.

Complies.

Complies.

Complies.

Complies.

Complies.

Complies.

Complies.

Contact supplier for inventory compliance status.

Complies.

Complies.

Complies.

Complies.

Complies.

US Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications. Under the amended regulations at 40 CFR 370, EPCRA 311/312 Tier II reporting for the 2017 calendar year will need to be consistent with updated hazard classifications.

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum oxide 1344-28-1</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable
SECTION 16: Other information

NFPA Health hazards Flammability Instability Physical and chemical properties
0 0 0 -

HMIS Health hazards Flammability Physical hazards Personal protection
0 0 0 X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION
TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)
Ceiling Maximum limit value Skin designation

Key literature references and sources for data used to compile the SDS
Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
RTECS (Registry of Toxic Effects of Chemical Substances)
World Health Organization

Prepared By
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+31-181-270124
info@almatis.com.

Issuing Date
18-Feb-2020

Revision date
26-Nov-2020

Revision Note
No information available.

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the
date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage,
transportation, disposal and release and is not to be considered a warranty or quality specification. The information
relates only to the specific material designated and may not be valid for such material used in combination with any other
materials or in any process, unless specified in the text.

End of Safety Data Sheet