



# SAFETY DATA SHEET

Calcined Alumina

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

### 1.1 Product identifier

**Product name** : Calcined Alumina

**EC number** : 215-691-6

**REACH Registration number**

Registration number	Legal entity
01-2119529248-35-0197	Alteo Gardanne PO Box 20062 13541 GARDANNE cedex FRANCE

**CAS number** : 1344-28-1

**Product type** : Powder.

**Other means of identification** : Smelter grade alumina, SGA, alumina, aluminium oxide

**Additional information:**

Grades available (list subject to variation and change): AMB, APN, ATS, COPES, M4R, XMD01, P series, A4series, AC series, AR series, GA series, Rebal , PEX 2XXX series, AFRZ, FLO series, DIGITAL series

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Product use** : feedstock for the manufacture of aluminium metal and various aluminium oxide based materials e.g. tabular alumina, fused alumina, bubble alumina, sintered alumina, Spinel, Mullite, calcium aluminate cement, beta-alumina, zirconia alumina. Manufacture of ceramics, tiles, porcelain, hotel-ware, refractories, abrasives, polishing and cleaning compounds, wear parts, brake linings, electrical insulating materials, spark plugs, fillers, toothpaste, cosmetics. Media for sand blasting and heat treatment.

**Area of application** : Industrial applications.

### 1.3 Details of the supplier of the safety data sheet

Alteo Gardanne  
Route de Biver BP 20062  
13541 Gardanne cedex  
FRANCE  
Telephone no.+33 442 65 22 83

**e-mail address of person responsible for this SDS** : msds@alteo-alumina.com

### 1.4 Emergency telephone number

**Supplier**

**Telephone number** : +33 (0)4 42 65 28 49

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture**

**Product definition** : Mono-constituent substance

**Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]**

Not classified.

**Classification according to Directive 67/548/EEC [DSD]**

Not classified.

See Section 16 for the full text of the R phrases or H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

**2.2 Label elements**

**Hazard pictograms** : Not applicable.

**Signal word** : No signal word.

**Hazard statements** : No known significant effects or critical hazards.

**Precautionary statements**

**Prevention** : Not applicable.

**Response** : Not applicable.

**Storage** : Not applicable.

**Disposal** : Not applicable.

**Hazardous ingredients** : Calcined Alumina

**Supplemental label elements** : Safety data sheet available on request.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

**Special packaging requirements**

**Containers to be fitted with child-resistant fastenings** : Not applicable.

**Tactile warning of danger** : Not applicable.

**2.3 Other hazards**

**Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII** : Not applicable.

**Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : Not applicable.

**Other hazards which do not result in classification** : Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

### SECTION 3: Composition/information on ingredients

**Substance/mixture** : Mono-constituent substance

Product/ingredient name	Identifiers	%	Classification		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
aluminium oxide	REACH #: 01-2119529248-35 EC: 215-691-6 CAS: 1344-28-1	>98	Not classified.	Not classified.	[A]

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

Type

[A] Constituent

[B] Impurity

[C] Stabilising additive

Occupational exposure limits, if available, are listed in Section 8.

### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Move exposed person to fresh air. Get medical attention if symptoms occur.
- Skin contact** : Wash with soap and water. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Get medical attention if symptoms occur.
- Protection of first-aiders** : No special measures required. See Section 8 for information on appropriate personal protective equipment.

#### 4.2 Most important symptoms and effects, both acute and delayed

##### Potential acute health effects

- Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

##### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
irritation  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

#### 4.3 Indication of any immediate medical attention and special treatment needed

- Notes to physician** : Treat symptomatically. No specific treatment.
- Specific treatments** : No specific treatment.

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

**5.2 Special hazards arising from the substance or mixture**

- Hazards from the substance or mixture** : No specific fire or explosion hazard.
- Hazardous thermal decomposition products** : None.

**5.3 Advice for firefighters**

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

- For non-emergency personnel** : Put on appropriate personal protective equipment (see Section 8).
- For emergency responders** : Put on appropriate personal protective equipment (see Section 8).

**6.2 Environmental precautions**

- : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

**6.3 Methods and materials for containment and cleaning up**

- Small spill** : Recycle, if possible. Waste must be disposed of according to applicable regulations.
- Large spill** : Recycle, if possible. Waste must be disposed of according to applicable regulations. Avoid creating dusty conditions and prevent wind dispersal.

**6.4 Reference to other sections**

- : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

**SECTION 7: Handling and storage**

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

**7.1 Precautions for safe handling**

- Protective measures** : Avoid creating dusty conditions and prevent wind dispersal. Put on appropriate personal protective equipment (see Section 8). Avoid breathing dust. Workers should wash hands and face before eating, drinking and smoking.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**7.2 Conditions for safe storage, including any incompatibilities**

## SECTION 7: Handling and storage

Store in accordance with local regulations. Avoid creating dusty conditions and prevent wind dispersal.

### 7.3 Specific end use(s)

**Recommendations** : Not available.

**Industrial sector specific solutions** : Not available.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 8.1 Control parameters

#### Occupational exposure limits

Product/ingredient name	Exposure limit values
aluminium oxide	<b>EH40/2005 WELs (United Kingdom (UK), 8/2007).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. Form: inhalable dust

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
aluminium oxide	DNEL	Short term Oral	6.2 mg/kg bw/day	-	-
	DNEL	Short term Inhalation	15.6 mg/m <sup>3</sup>	-	-

#### PNECs

No PNECs available

### 8.2 Exposure controls

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : If operating conditions cause high dust concentrations to be produced, use dust goggles. Safety eyewear should be used when there is a likelihood of exposure.

#### Skin protection

**Hand protection** : Wear suitable gloves.

**SECTION 8: Exposure controls/personal protection**

- Body protection** : No special protective clothing is required.
- Other skin protection** : No special protective clothing is required.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Environmental exposure controls** : Avoid creating dusty conditions and prevent wind dispersal.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties****Appearance**

- Physical state** : Solid. [Powder.]
- Colour** : White.
- Odour** : Odourless.
- Odour threshold** : Not applicable.
- pH** : Not applicable.
- Melting point/freezing point** : 2072°C
- Initial boiling point and boiling range** : 2977°C
- Flash point** : Not applicable.
- Evaporation rate** : Not applicable.
- Flammability (solid, gas)** : Non-flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts, oxidizing materials, reducing materials, combustible materials, organic materials, metals, acids, alkalis and moisture.
- Burning time** : Not applicable.
- Burning rate** : Not applicable.
- Upper/lower flammability or explosive limits** : Not available.
- Vapour pressure** : Not applicable.
- Vapour density** : Not available.
- Relative density** : 3.97
- Solubility(ies)** : Insoluble in the following materials: cold water and hot water.
- Solubility in water** : Not available.
- Partition coefficient: n-octanol/ water** : Not applicable.
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : Not applicable.
- Viscosity** : Not applicable.
- Explosive properties** : Not available.
- Oxidising properties** : Not available.

**9.2 Other information**

No additional information.

## SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.  
Under normal conditions of storage and use, hazardous polymerisation will not occur.
- 10.4 Conditions to avoid** : None known.
- 10.5 Incompatible materials** : None known.
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

**Conclusion/Summary** : No known significant effects or critical hazards.

#### Irritation/Corrosion

##### **Conclusion/Summary**

**Skin** : No significant irritation expected other than possible mechanical irritation.

**Eyes** : No significant irritation expected other than possible mechanical irritation.

**Respiratory** : No significant irritation expected other than possible mechanical irritation.

#### Sensitisation

##### **Conclusion/Summary**

**Skin** : Non-irritant to skin.

**Respiratory** : Non-irritating to the respiratory system.

#### Mutagenicity

**Conclusion/Summary** : No mutagenic effect.

#### Carcinogenicity

**Conclusion/Summary** : No carcinogenic effect.

#### Reproductive toxicity

**Conclusion/Summary** : Not considered to be toxic to the reproductive system.

#### Teratogenicity

**Conclusion/Summary** : No teratogenic effect.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

#### Potential acute health effects

**Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

## SECTION 11: Toxicological information

- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
irritation  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Potential chronic health effects

Not available.

- Conclusion/Summary** : No known significant effects or critical hazards.
- General** : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Teratogenicity** : No known significant effects or critical hazards.
- Developmental effects** : No known significant effects or critical hazards.
- Fertility effects** : No known significant effects or critical hazards.

**Other information** : Not available.

## SECTION 12: Ecological information

### 12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
aluminium oxide	EC50 >100 mg/l	Algae - Selenastrum capricornutum	72 hours
	EC50 >100 mg/l	Daphnia - Daphnia magna	48 hours
	EC50 >100 mg/l	Fish - Salmo trutta	96 hours

- Conclusion/Summary** : No acute or chronic classification is appropriate for Al metal massive based on non toxic results below the Ecotoxicity Reference Value (ERV) of tests with aluminium metal, oxide and hydroxide at loadings of 100 mg/L at pH 8-8.5 (maximum solubility of Al expected).  
All aluminium in soil or the aquatic environment comes from natural sources. Local sources has an insignificant contribution and impact on environment.

### 12.2 Persistence and degradability



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## SECTION 12: Ecological information

**Conclusion/Summary** : Not readily biodegradable.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
aluminium oxide	-	-	Not readily

### 12.3 Bioaccumulative potential

Not available.

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Mobility** : Not mobile under normal environmental conditions. May be leached from the ground at low pH (<5.5) or high pH (>8.5)

### 12.5 Results of PBT and vPvB assessment

**PBT** : Not applicable.  
PBT: Specified

**vPvB** : Not applicable.  
vPvB: Specified

**12.6 Other adverse effects** : No known significant effects or critical hazards.

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

### 13.1 Waste treatment methods

#### Product

**Methods of disposal** : Recycle, if possible. The generation of waste should be avoided or minimised wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

#### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
<b>14.1 UN number</b>	Not regulated.	Not regulated.	Not regulated.	Not regulated.
<b>14.2 UN proper shipping name</b>	-	-	-	-
<b>14.3 Transport hazard class(es)</b>	-	-	-	-

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## SECTION 14: Transport information

<b>14.4 Packing group</b>	-	-	-	-
<b>14.5 Environmental hazards</b>	No.	No.	No.	No.
<b>Additional information</b>	-	-	-	-

**14.6 Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## SECTION 15: Regulatory information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**  
[EU Regulation \(EC\) No. 1907/2006 \(REACH\)](#)

[Annex XIV - List of substances subject to authorisation](#)

[Substances of very high concern](#)

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

[Other EU regulations](#)

[Europe inventory](#) : All components are listed or exempted.

[Seveso II Directive](#)

This product is not controlled under the Seveso II Directive.

**15.2 Chemical Safety Assessment** : This product contains substances for which Chemical Safety Assessments are still required.

**15.3 Registration status** : Applicable.

## SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
 CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
 DMEL = Derived Minimal Effect Level  
 DNEL = Derived No Effect Level  
 EUH statement = CLP-specific Hazard statement  
 PBT = Persistent, Bioaccumulative and Toxic  
 PNEC = Predicted No Effect Concentration  
 RRN = REACH Registration Number  
 vPvB = Very Persistent and Very Bioaccumulative

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## SECTION 16: Other information

**Key literature references and sources for data** : Regulation (EC) No. 1272/2008 [CLP]; European convention concerning international road transport of dangerous goods (ADR) done in Geneva on September 30, 1957 (Dz. U. no. 35/1975, pos. 189) plus amendments; Regulation for the transport of dangerous materials on the Rhine (ADN); Occupational exposure limits; International regulations

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Not classified.	

**Full text of abbreviated H statements** : Not applicable.

**Full text of classifications [CLP/GHS]** : Not applicable.

**Full text of abbreviated R phrases** : Not applicable.

**Full text of classifications [DSD/DPD]** : Not applicable.

**Training advice** : Ensure operatives are trained to minimise exposures. Training staff on good practice.

**Date of issue/ Date of revision** : 27/01/2016

**Date of previous issue** : 27/08/2013

**Version** : 1.01

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.