SAFETY DATA SHEET

According to Annex II to Regulation (EC) no. 1907/2006, on the Registration, Evaluation, Authorization and Restriction of Chemical Substances (REACH), with all subsequent amendments

ALUMINIUM HYDROXIDE

Elaboration date: 06.07.2005 **Revision date: 04.12.2023**
Rev no: 5
Printing date: 14.12.2023 **Pag.: 1/13**

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/ UNDERTAKING

1.1 Product identifier

Trade names: Aluminium hydroxide, Aluminium hydrate, Hydrate
IUPAC name: aluminium oxide
Synonyms: Aluminium tri-hydroxide, Calciner Feed - Hydrate - Hydrated Alumina, Dry Aluminium Hydroxide, Grinded Dry Aluminium Hydroxide,
EC# 244-492-7
CAS # 21645-51-2
Molecular weight 78.00 g/mol
REACH Registration No.: 01-2119529246-39-0003

1.2 Use of the substance/ the preparation

Industrial use, further processing into a number of articles/products
Fire retardant, antacid, adjuvant in glass and cement industry, in biochemistry and also to obtain other products as calcined alumina, non-ferric alum, poly aluminium chloride, aluminium sulfate, aluminium fluoride, aluminium nitrate, sodium aluminate, catalysts or aluminium hydroxide gel.

1.1.Company identification

Name	S.C. ALUM S.A
Address	Str. Isaccei nr. 82 , Tulcea , 820228
Phone no	+(40) 0240 535 022; 0240 535 740
Fax	+(40) 0240 535 495; 0240 535 230
E-mail	alum@alum.ro

1.2.Emergency numbers

Emergency no:	112
Company phone no:	0240/ 0240 535 022 available 24 h/day/365 days
National Institute of Public Health through the Office for International Health Regulations and Toxicological Information is responsible for information in emergency health situations	Phone no : 0213 183 606 Monday-Friday: 8^{00}- 15^{00}

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

2.1.1. Classification according to Reg. (EC) 1272/2008

Classification

This substance or mixture does not meet the criteria for classification as dangerous in accordance with Directives 67/548/EEC or 1999/45/EC and/or Regulation (EC) No 1272/2008 including all applicable amendments. However, it contains a substance for which there are Community workplace exposure limits. This Safety Data Sheet is available upon request.
This substance has been classified as not dangerous according to CHIP3. However, the substance has an occupational exposure limit. Therefore, this Safety Data Sheet is being provided in accordance with the regulations.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains:	Aluminium hidroxide
Hazard pictograms	None.
Signal word	None.
Hazard statements	The substance does not meet the criteria for classification.

Precautionary statements

Prevention	Not applicable.
Response	Not applicable.
Storage	Not applicable.
Disposal	Not applicable.

Supplemental label information None.

2.3. Other hazards This substance does not meet vPvB / PBT criteria of Regulation (EC) No 1907/2006, Annex Xlll. None known. The substance is not included in the list established in accordance with REACH Article 59(1) for having endocrine disrupting properties.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances

Composition comments The full text for all H-statements is displayed in section 16. Complete composition is provided below and may include some components classified as non-hazardous.
General information

Chemical name	%	CAS-No.	EC No.	REACH Registration No.	Index No.	R-phrase
Aluminium hidroxide	>95	# 21645-51-2	# 244-492-7	01-2119529246-39-0003	-	-
Classification: -						

List of abbreviations and symbols that may be used above

4. FIRST-AID MEASURES

General information
If exposed or concerned: get medical attention/advice.

4.1. Description of first aid measures

Inhalation
Call a poison centre or doctor/physician if you feel unwell. Remove to fresh air. Check for clear airway, breathing, and presence of pulse. If breathing is difficult, provide oxygen. Loosen any tight clothing on neck or chest. Provide cardiopulmonary resuscitation for persons without pulse or respirations. Consult a physician.

Skin contact
Wash with soap and water for at least 15 minutes. Get medical attention if irritation develops and persists.

Eye contact
Rinse eyes with plenty of water or saline for at least 15 minutes. Consult a physician.

Ingestion
If swallowed, dilute by drinking water. Recommend quantities up to 30 ml- (-1 250 mL (—9 oz.) in adults. Never give anything by mouth to a victim who is un OSPous having convulsions.
Do NOT induce vomiting. Consult a physician.

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

Medical conditions aggravated by exposure
See Section 11 for additional information on health hazards.
Medical conditions aggravated by exposure
Asthma, chronic lung disease and skin rashes.

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

Treat symptomatically.

5. FIREFIGHTING MEASURES

General fire hazards Non-combustible.

5.1. Extinguishing media

Suitable extinguishing media Use fire fighting methods and materials that are appropriate for surrounding fire.

Unsuitable extinguishing media None known.

5.2. Special hazards arising from the substance or mixture

No unusual fire or explosion hazards noted.

Hazardous combustion products No hazardous decomposition products are known.

5.3. Advice for firefighters

Special protective equipment for firefighters

	Firefighters should wear CE, positive pressure, self - contained breathing apparatus and full protective clothing when appropriate.
Special fire fighting procedures	Use fire fighting methods and materials that are appropriate for surrounding fire.
Explosion data	
Sensitivity to mechanical impact	Not sensitive.
Sensitivity to static discharge	Not applicable.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	Avoid contact with skin and eyes. Avoid generating dust.
For emergency responders	Avoid generating dust. Avoid contact with skin and eyes.
Evacuation procedures	None necessary.

6.2. Environmental precautions No special environmental precautions required. Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Return to containers using shovels, buckets or brooms. Clean up in accordance with all applicabie regulations.

6.4. Reference to other sections For personal protection, see section 8 of the MSDS. For waste disposal, see section 13.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling Avoid generating dust. Avoid contact with skin and eyes. Avoid breathing dust. Wet alumina should not be added to an aluminium reduction cell.

7.2. Conditions for safe storage, including any incompatibilities

Keep material dry.

7.3. Specific end use(s) Not assigned.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure limits

8.1.1 Occupational exposure limits (air):

Occupational exposure limits (air): generally same as for nuisance dust
Germany
10*/3* mg/m3 (inhalable dust; ** respirable dust)

Great Britain
10*/4* mg/m3 (inhalable dust; ** respirable dust)
United States
OSHA 15 mg/m3 (total dust); 5 mg/m3 TWA (respirable fraction)
Some additional EU countries: 10 mg/m3

8.1.2 Biological tolerable limit

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8.2. Exposure controls

Appropriate engineering controls	Use with adequate ventilation to meet the limits listed in Section 8.
Individual protection measures, such as personal protective equipment	
General information	Not available.
Eye/face protection	Safety glasses with full side shields or goggles recommended. Use tight fitting goggles if excessive levels of dust are generated.
Skin protection	
- Hand protection	Wear appropriate gloves to avoid any skin injury.
- Other	Not available.
Respiratory protection	Use CE-approved respiratory protection as specified by an Industrial Hygienist or other qualified professional if concentrations exceed the limites in Section 8. Suggested respiratory protection: P2
Thermal hazards	Not available.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practices.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comp!} with the requirements of environmental protection legislation. Fume scrubbers, fitters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	
Physical state	Solid.
Form	Solid. Solid, powder.
Colour	White.
Odour	Odourless

Odour threshold	Not applicable
pH	Not relevant
Melting point/ Melting range:	300 ºC / Transforms to alumina in temperature range 300 º C-600 º C
Boiling Point/ Boiling range:	2980ºC
Flash point:	Not relevant
Flammability:	Not relevant
Explosive properties:	Not relevant
Relative Density at 200C:	2,42 g/cm3
Solubility in water (20 oc):	Almost insoluble
Other physical-chemical properties:	Not relevant
Granulometry	-
Vapour pressure	Not relevant

9.2. Other information

Information with regard to physical hazard classes:
Hazard classes acc. to GHS (physical hazards):
not relevant

Other safety characteristics: There is no additional information.

10. STABILITY AND REACTIVITY

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Stable under normal conditions of use, storage, and transportation.
10.3. Possibility of hazardous reactions	Violent reaction with: strong oxidiser, Acids.
10.4. Conditions to avoid	Keep away from heat. Decompostion takes place from temperatures above: 150 – 220 °C.
10.5. Incompatible materials	There is no additional information.
10.6. Hazardous decomposition products	Hazardous combustion products: see section 5.

11. TOXICOLOGICAL INFORMATION

11.1 Toxic kinetics, metabolism and distribution:
Oral uptake < 0.1%, nearly insoluble in lung fluids, most aluminium hydroxide absorbed is rapidly excreted through urine, main deposit in body is in bone structure. Used as an antacid and filler for some medicines. Used as adjuvant for some vaccines.

11.2 Acute effects (acute toxicity, irritation and corrosivity):
No acute effects.

11. 2.1. Acute toxicity:
LD50 (oral): > 5000mg/kg bwt (rats)
LD50 (dermal): No effect
LD50 (inhalative): > 5 mg/l (rats)

11.2.2 Specific symptoms in animal tests:
After swallowing: None
After skin contact: None
After inhalation: None

11.2.3 Irritation/Corrosive effects:
Irritant effects on skin: No effects
Irritant effect on eyes: No effects

11.3 Sensitisation:
After skin contact: None
After inhalation: None
Remarks: None

11.4 Toxicity after repeated intake (sub-acute, sub chronic, chronic):
Sub-acute oral Toxicity: None, calculated DNEL 6,85 mg/kg bwt/day
Sub-acute inhalative Toxicity : None, see occupational exposure limits. Calculated DNEL 3,59 mg/m3 respirable

11.5 CMR-effects (carcinogenic, mutagenic and reproductive effects)
Carcinogenicity: None
Mutagenicity: None
Reproductive toxicity: None

Assessment of CMR properties: Not classified for CMR
Product components not listed under IARC/NTP/ACGIH (ingredient carcinogenicity)

11.6 Practical experience:
Observations relevant for classification: None
Other observations: None

11.7 Endocrine disrupting properties: Not listed.

12. ECOLOGICAL INFORMATION

12.1. Toxicity Shall not be classified as hazardous to the aquatic environment

Product	Test	Result	Species	Exposure
Aluminium Hydroxide	Peste - OECD TG 203	>100 mg/l	Salmo trutta	pH 8
Aluminium Hydroxide	Daphnia - OECD TG 202	>100mg/l	Daphnia Magna	pH 8
Aluminium Hydroxide	Alge - OECD TG 201	>100mg/l	Selenastrum Capricornutum	pH 8

12.2. Mobility:
Not mobile under normal environmental conditions

12.3. Persistence and degradability Not relevant for metal compounds. Not degradable.
12.4. Bioaccumulative potential Not bio accumulative

12.5. Long term Eco toxicity Not classified for Eco toxicity
12.6. Results of PBT and vPvB assessment Not relevant for metal compounds.
12.7. Endocrine disrupting properties Data are not available.
12.8. Other adverse effects No

Final assessment No acute or chronic classification is appropriate for Al metal massive based on non-toxic results the Eco toxicity Reference Value (ERV) of aluminium metal, oxide and hydroxide at of 100 mg/L at pH 8-8.5 (maximum solubility expected).
Aluminium in soil or the aquatic environment from natural sources. Local sources insignificant contribution and impact environment apart from limited local sources.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods
Disposal methods/information Reuse or recycle material whenever possible. If reuse or recycling is not possible, disposal must be made according to local or governmental regulations.

13.2 Packaging:
Not relevant.

14. TRANSPORT INFORMATION

14.1	**UN number or ID number**	not subject to transport regulations
14.2	**UN proper shipping name**	not assigned
14.3	**Transport hazard class(es)**	none
14.4	**Packing group**	not assigned
14.5	**Environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations
14.6	**Special precautions for user**	There is no additional information.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information

Not subject to ADR, RID and ADN.

International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

Disclaimer

This section provides basic classification information and, where relevant, information with respect to specific modal regulations, environmental hazards and special precautions. Otherwise, it is presumed that the information is not availabie/not relevant.

15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture
EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants recast), as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex l, part 3 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex Il Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended

Not listed.

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended

Not listed.

Directive 94/33/EC on the protection of young people at work, as amended

Not listed.

Other regulations

Conforms to Regulation (EC) NO 1906/2006 (REACH), Annex II, as amended by Comission Regulations (EU) 2020/878.

National regulations

Not available.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Europe	REACH Reg.	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

15.2. Chemical safety assessment Chemical Safety Assessment carried out.

16. OTHER INFORMATION

In dealing with chemicals the national laws and regulation must be observed and applied.

Disclaimer 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

Recommended use Recommended limitations of use by manufacturer:
For industrial use and as component in consumer products.

Version history:
Original: 2005-07-06 Latest version: 04.12.2023
Revision: 1 Revision: 5
Doc.ID: FDS 134-02 EN
SDS Status: 04.12.2023: Change(s) in Section: 1, 2, 3,11, 12, 15, and 16. (Conforms to Regulation (EC) NO 1906/2006 (REACH), Annex II, as amended by Comission Regulations (EU) 2020/878).

Department issuing MSDS:
Technical & Quality Departament

Abbreviations and acronyms

Other information

Guide to Occupational Exposure Values 2012, Compiled by the American Conference of Governmental Industrial Hygienists (ACGIH).

NIOSH	Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, September 2005.
ACGIH	American Conference of Governmental Industrial Hygienists
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstract Services
CERCI-A	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPR	Cardio-pulmonary Resuscitation
DOT	Department of Transportation
DSL	Domestic Substances List (Canada)
EC	Effective Concentration
ED	Effective Dose
EINECS	European Inventory of Existing Commercial Chemical Substances
ENCS	Japan - Existing and New Chemical Substances
EVVC	European Waste Catalogue Environmental Protective Agency
IARC	International Agency for Research on Cancer
LC	Lethal Concentration 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
PMCC	Pensky Marten Closed Cup
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SIMDUT	Système d'lnformation sur les Matières Dangereuses Utilisées au Travail
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

WHMIS Workplace Hazardous Materials Information System m metre, cm centimetre, mm millimetre, in inch, g gram, kg kilogram, 1b pound, ug microgram, ppm parts per million, ft feet

Precautionary statement(s)

Prevention	Not applicable.
Response	Not applicable
Storage	Not applicable
Disposal	Not applicable
Hazard pictograms	None.
Signal word	None.
Hazard statements	The substance does not meet the criteria for classification.

None.

Supplemental Information

Contains:	Chemical name	Aluminium hidroxide
	%	>95
	CAS-No.	# 21645-51-2
	EC No.	# 244-492-7
	REACH Registration No.	01-2119529246-39-0003

Inhalation Call a poison centre or doctor/physician if you feel unwell. Remove to fresh air. Check for clear airway, breathing, and presence of pulse. If breathing is difficult, provide oxygen. Loosen any tight clothing on neck or chest. Provide cardiopulmonary resuscitation for persons without pulse or respirations. Consult a physician.
Skin contact Wash with soap and water for at least 15 minutes. Get medical attention if irritation develops and persists.
Eye contact Rinse eyes with plenty of water or saline for at least 15 minutes. Consult a physician.
Ingestion If swallowed, dilute by drinking water. Recommend quantities up to 30 ml-250 mL (1-9 oz.) in adults. Never give anything by mouth to a victim who is unconscious or who is having convulsions. Do NOT induce vomiting. Consult a physician.
Non-combustible. Not an explosion hazard.
Fire fighting measures: Use fire fighting methods and materials that are appropriate for surrounding fire.
In case of spill: Avoid the generation of dusts during clean-up. Avoid contact with skin and eyes. Pick up mechanically.
See ALUM SDS Number FDS 134-02 EN

Name S.C. ALUM S.A
Address Str. Isaccei nr. 82 , Tulcea , 820228
Phone no +(40) 0240 535 022; 0240 535 740
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Emergency no: 112

Company phone no: 0240/ 0240 535 022 available 24 h/day/365 days
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Phone no : 0213 183 606
Monday-Friday: 8^{00}- 15^{00}

Faze de precautie

Prevenire	Nu se aplică.
Raspuns	Nu se aplică.
Depozitare	Nu se aplică.
Eliminare	Nu se aplică.
Pictograme de pericol	Nici unul.
Cuvant de semnal	Nici unul.
Fraze de pericol	Substanța nu îndeplinește criteriile de clasificare..

Nici una.

Informatii suplimentare

Substante:	Denumire chimica	Hidroxid de aluminiu
	%	>95
	Nr. CAS	# 21645-51-2
	Nr. EC	# 244-492-7
	Nr. inregistrare REACH	01-2119529246-39-0003

Inhalare Sunați la un centru de otrăvire sau la un medic/medic dacă nu vă simțiți bine. Scoatere la aer curat. Verificați căile respiratorii libere, respirația și prezența pulsului. Dacă respirația este dificilă, furnizați oxigen. Slăbiți orice îmbrăcăminte strânsă de pe gât sau pe piept. Asigurați resuscitare cardiopulmonară pentru persoanele fără puls sau respirații. Consultați un medic.
Contact cu pielea Spălați cu apă și săpun cel puțin 15 minute. Solicitați asistență medicală dacă iritația se dezvoltă și persistă.
Contact cu ochiul Clătiți ochii cu multă apă sau soluție salină timp de cel puțin 15 minute. Consultați un medic.
Ingestie Dacă este înghițit, diluați cu apă potabilă. Se recomandă cantități de până la 30 ml-250 ml (1-9 oz.) la adulți. Nu administrați niciodată nimic pe cale orală unei victime care inconstienta sau care are convulsii.
Nu provocați voma. Consultați un medic.
Non-combustibil. Nu exista pericol de explozie.
Mijloace de stingere a incendiilor: Utilizați metode și materiale de stingere a incendiilor adecvate pentru incendiul înconjurător
Măsuri împotriva pierderilor accidentale: Evitați contactul cu pielea și ochii. Evitați generarea de praf. Se indeparteaza folosind lopeți, găleți sau mături.
A se vedea Fisa cu date de scuritate ALUM cod: FDS 134-02 RO

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Institutul Național de Sănătate Publică prin Oficiul pentru Reglementări Sanitare Internaționale și Informații Toxicologice este responsabil pentru informarea în situații de urgență sanitară
Nr. telefon : 0213 183 606
Luni-Vineri: 8^{00}- 15^{00}