SAFETY DATA SHEET
(in accordance with Regulation (EU) 2015/830)

ALUMINIUM/MAGNESIUM

SECTION 1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY/UNDERTAKING.

1.1 Product identifier.

Product Name: ALUMINIUM/MAGNESIUM

1.2 Relevant identified uses of the mixture and uses advised against.

Pyrotechnical compositions

Uses advised against:
Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet.

Company: **ALDEBARÁN SISTEMAS SL**
Address: C/Jerónimo Zurita, 10, entlo izda, 50001
City: Zaragoza
Province: Zaragoza
Telephone: 0034976796134
E-mail: aldebaran@aldebaransistemas.com

1.4 Emergency telephone number: 0034915620420 (Available 24 hours)

SECTION 2: HAZARDS IDENTIFICATION.

2.1 Classification of the mixture.
In accordance with Regulation (EU) No 1272/2008:
Flam. Sol. 1 : Flammable solid.
Water-react. 2 : In contact with water releases flammable gases.

2.2 Label elements.
Labelling in accordance with Regulation (EU) No 1272/2008:
Pictograms:

Signal Word:
Danger
H statements:

H228	Flammable solid.
H261	In contact with water releases flammable gases.

P statements:

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P232	Protect from moisture.
P240	Ground/bond container and receiving equipmenT.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P370+P378	In case of fire: Use special powder for metal fire to extinguish.
P501	Dispose of contents/container to local/national normative

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2.3 Other hazards.
In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

3.1 Substances.
Not Applicable.

3.2 Mixtures.
Substances posing a danger to health or the environment in accordance with the Regulation (EC) No. 1272/2008, assigned a Community exposure limit in the workplace, and classified as PBT/vPvB or included in the Candidate List:

Identifiers	Name	Concentrate	(*)Classification - Regulation (EC) No 1272/2008	
			Classification	specific concentration limit
Index No: 012-002-00-9 CAS No: 7439-95-4 EC No: 231-104-6 Registration No: 01-2119537203-49-XXXX	magnesium, powder or turnings	40 - 60 %	Flam. Sol. 1, H228 - Self-heat. 1, H251 - Water-react. 2, H261	-
Index No: 013-002-00-1 CAS No: 7429-90-5 EC No: 231-072-3 Registration No: 01-2119529243-45-XXXX	[1] aluminium powder (stabilised)	40 - 60 %	Flam. Sol. 1, H228 - Water-react. 2, H261	-

(*) *The complete text of the H phrases is given in section 16 of this Safety Data Sheet.*
[1] Substance with a Community workplace exposure limit (see section 8.1).

SECTION 4: FIRST AID MEASURES.

4.1 Description of first aid measures.
Take affected persons out of danger area and lay down.

Inhalation.
Supply fresh air; consult doctor in case of complaints.

Eye contact.
Rinse opened eye for several minutes under water. If symptoms persist, consult a doctor.

Skin contact.
Generally the product does not irritate the skin.

Ingestion.
If symptoms persist consult doctor.

4.2 Most important symptoms and effects, both acute and delayed.
No known acute or delayed effects from exposure to the product.

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4.3 Indication of any immediate medical attention and special treatment needed.
No further relevant information available.

SECTION 5: FIREFIGHTING MEASURES.

5.1 Extinguishing media.
Recommended extinguishing methods.
Special powder for metals fires. Do not use water.

Unsuitable extinguishing methods.
Water, foam, Carbon dioxide.

5.2 Special hazards arising from the mixture.
Contact with water releases flammable gases.
Dust can combine with air to form an explosive mixture.

5.3 Advice for firefighters.
Protective equipment: visor with mirrored-glass

SECTION 6: ACCIDENTAL RELEASE MEASURES.

6.1 Personal precautions, protective equipment and emergency procedures.
Avoid formation of dust
Keep away from ignition sources.
Wear protective equipment. Keep unprotected persons away

6.2 Environmental precautions.
Prevent the contamination of drains, surface or subterranean waters, and the ground.

6.3 Methods and material for containment and cleaning up.
Pick up mechanically. Do not flush with water or aqueous cleansins agents

6.4 Reference to other sections.
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.

SECTION 7: HANDLING AND STORAGE.

7.1 Precautions for safe handling.
Store, in tightly closed containers, in a dry and cool environment.
Avoid the formation of dust.
Remove the dust that is inevitably formed regularly.
Prevention of fires and explosions:
Keep away from ignition sources. No Smoking.
Protect against electrostatic charges.
Protect from heat
The combination of air, dust can form an explosive mixture.

7.2 Conditions for safe storage, including any incompatibilities.
No special measures are required.
Store in a dry place.

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7.3 Specific end use(s).
Pyrotechnical mixtures

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

8.1 Control parameters.

Ingredients with limit values that require monitoring at the workplace:	
7429-90-5 Aluminium	
WEL	Long-term value: 10* * 5* mg/m^3 *inhalable dust, **respirable dust

DNELss
Magnesium:
Acute / long-term DNEL (tworker, inhalation, local effects): No effects
Long term DNEL (worker, inhalation, systemic effect): 46,3 mg/m^3
Long term DNEL (population, oral, systemic effect): 3,6 mg/kg bw/day

PNECs
Magnesium:
PNEC water (freshwater): 0,41 mg/l
PNEC water (marine water): 0,41 mg/l
PNEC water (intermettant releases): 1,4 mg/l
PNEC sediment (freshwater): 268 mg/kg sediments dw
PNEC sediment (marine water): 268 mg/kg sediments dw

The list valid during the making were used as basis

8.2 Exposure controls.

Personal protective equipment:
General protective and hygienic measures:
Do not eat, drink, smoke and sniff while working
Wash hands before breaks and at the end of work.

Respiratory protection:
Filter P1
Filter P2

Protection of hands:
Leather gloves
Preventive skin protection by use of skin-protecting agents is recommended. protective gloves

Eye protection:
Safety glasses

Body protection
Protetcive work clothing

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties.
Appearance:Powder
Colour: Silver grey
Odour:Oudorless
Odour threshold:N.A./N.A.
pH:N.A./N.A.
Melting point:440 ºC
Boiling Point: 1107 ºC
Flash point: 11 ºC
Evaporation rate: N.A./N.A.
Inflammability (solid, gas): Easily flammable. It reacts with water, liberating extremely flammable gases.
Lower Explosive Limit: 30 g/m3
Upper Explosive Limit: N.A./N.A.
Vapour pressure: N.A./N.A.
Vapour density:N.A./N.A.
Relative density:2,2 g/cm^3
Solubility:Insoluble
Liposolubility: N.A./N.A.
Hydrosolubility: N.A./N.A.
Partition coefficient (n-octanol/water): N.A./N.A.
Auto-ignition temperature: Not self-igniting ºC
Decomposition temperature: N.A./N.A.
Viscosity: N.A./N.A.
Explosive properties: N.A./N.A.
Oxidizing properties: N.A./N.A.
N.A./N.A.= Not Available/Not Applicable due to the nature of the product

9.2 Other information.
Pour point: N.A./N.A.
Blink: N.A./N.A.
Kinematic viscosity: N.A./N.A.
N.A./N.A.= Not Available/Not Applicable due to the nature of the product

SECTION 10: STABILITY AND REACTIVITY.

10.1 Reactivity.
No information is available

10.2 Chemical stability.
It does not decompose if stored and handled properly.

10.3 Possibility of hazardous reactions.
Danger of dust explosion. Reacts with acids, alkalis and oxidants.
Upon contact with acids, flammable gases are released.

10.4 Conditions to avoid.
No information is available

10.5 Incompatible materials.
No information is available

10.6 Hazardous decomposition products.
Hidrogen.

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SECTION 11: TOXICOLOGICAL INFORMATION.

11.1 Information on toxicological effects.

a) acute toxicity;
No irritant effect

b) skin corrosion/irritation;
No irritant effect

c) serious eye damage/irritation;
No irritant effect.

d) respiratory or skin sensitisation;
No sentitising effects know.

e) germ cell mutagenicity;
No further relevant information available

f) carcinogenicity;
No further relevant information available

g) reproductive toxicity;
No further relevant information available

h) STOT-single exposure;
Not conclusive data for classification.

i) STOT-repeated exposure;
Not conclusive data for classification.

j) aspiration hazard;
Not conclusive data for classification.

SECTION 12: ECOLOGICAL INFORMATION.

12.1 Toxicity.
No information is available regarding the ecotoxicity of the substances present.

12.2 Persistence and degradability.
No information is available about persistence and degradability of the product.

12.3 Bioaccumulative potencial.
No information is available regarding the bioaccumulation of the substances present.

12.4 Mobility in soil.
No information is available about the mobility in soil.
The product must not be allowed to go into sewers or waterways.
Prevent penetration into the ground.

12.5 Results of PBT and vPvB assessment.
No information is available about the results of PBT and vPvB assessment of the product.

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12.6 Other adverse effects.
No information is available about other adverse effects for the environment.

SECTION 13 DISPOSAL CONSIDERATIONS.

13.1 Waste treatment methods.
Must not be disposed together with household garbage. Do not allow product to reach sewage system. Contact manufacturer for recycling information.

European Waste Catalogue
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste Codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

16 03 00	Off-specification batches and unused products
16 03 03*	Inorganic wastes containing dangerous substances

Disposal must be made according to official regulations.

SECTION 14: TRANSPORT INFORMATION.

Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.
Land: Transport by road: ADR, Transport by rail: RID.
Transport documentation: Consignment note and written instructions
Sea: Transport by ship: IMDG.
Transport documentation: Bill of lading
Air: Transport by plane: ICAO/IATA.
Transport document: Airway bill.

14.1 UN number.
UN No: UN1418

14.2 UN proper shipping name.
Description:
ADR: UN 1418, MAGNESIUM ALLOYS POWDER, 4.3 (4.2), PG II, (D/E)
IMDG: UN 1418, MAGNESIUM ALLOYS POWDER, 4.3 (4.2), PG II
ICAO: UN 1418, MAGNESIUM ALLOYS POWDER, 4.3 (4.2), PG II

14.3 Transport hazard class(es).
Class(es): 4.3

14.4 Packing group.
Packing group: II

14.5 Environmental hazards.
Marine pollutant: No

14.6 Special precautions for user.
Labels: 4.3, 4.2

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Hazard number: 423
ADR LQ: 0
IMDG LQ: 0
ICAO LQ: 0

Provisions concerning carriage in bulk ADR: Not authorized carriage in bulk in accordance with ADR.
Transport by ship, FEm – Emergency sheets (F – Fire, S - Spills): F-G,S-O
Proceed in accordance with point 6.
IMDG Code segregation group: 15 Powdered metals

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code.
The product is not transported in bulk.

SECTION 15: REGULATORY INFORMATION.

15.1 Safety, health and environmental regulations/legislation specific for the mixture.
National regulations:
Waterhazard class: Generally not hazardous for water.

15.2 Chemical safety assessment.
No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

SECTION 16: OTHER INFORMATION.

This information is based on our present knowledge. However, this shall not constitute a guarateee for any specific product features and shall not establish a legally valid coontactual relationship.
National laws and provisions have to be observed by the recipient of the product in his sole responsibility.

Complete text of the H phrases that appear in section 3:

H228	Flammable solid.
H251	Self-heating: may catch fire.
H261	In contact with water releases flammable gases.

Classification codes:

Flam. Sol. 1 : Flammable solid, Category 1
Self-heat. 1 : Self-heating substance or mixture, Category 1
Water-react. 2 : Substances and mixtures, which in contact with water, emit flammable gases, Category 2

4,5,6,13

It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Abbreviations and acronyms used:
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

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CEN: European Committee for Standardization.
DMEL: Derived Minimal Effect Level, exposure level corresponding to a low risk, that risk should be considered a tolerable minimum.
DNEL: Derived No Effect Level, level of exposure to the substance below which adverse effects are not anticipated.
PPE: Personal protection equipment.
IATA: International Air Transport Association.
ICAO: International Civil Aviation Organization.
IMDG: International Maritime Code for Dangerous Goods.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

Key literature references and sources for data:
http://eur-lex.europa.eu/homepage.html
http://echa.europa.eu/
Regulation (EU) 2015/830.
Regulation (EC) No 1907/2006.
Regulation (EU) No 1272/2008.

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.

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