GoldLeafand	
MetallicPowders	

SAFETY DATA SHEET

Aluminium Powder

Page : 1 / 11 Revision nr : 4 Issue date : 09/03/2015 Supersedes : 09/03/2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking				
1.1. Product identifier				
Trade name/designation	: Aluminium Powder			
Chemical name	: Aluminium			
EC Index	013-002-00-1			
EC No	231-072-3			
CAS No.	7429-90-5			
REACH registration No.	01-2119529243-45-0146			
Product code	18 (Fine Silver)			
1.2. Relevant identified uses of the sul	ostance or mixture and uses advised against			
	: Industrial uses .,Professional use .			
1.3. Details of the supplier of the safet	v data sheet			
Company	: Distributed by: Gold Leaf and Metallic Powders			
	6001 Santa Monica Boulevard Los Angeles, CA 90038 USA Telephone (800) 569-5323 E-mail: info@glandmp.com Website: www.GLandMP.com			
1.4. Emergency telephone number				
Emergency telephone	: +32 (0)475 38 36 83 (This telephone number is available 24 hours per day, 7 days per week.)			
IRELAND (REPUBLIC OF) National Poisons Information Centre Beaumont Hospital UNITED KINGDOM National Poisons Information Service	+353 18 37 99 64/+353 1 809 21 66			
(Newcastle Centre) Regional Drugs and Therapeutics Centre, Wolfson Unit	0844 892 0111 (UK only, Monday to Friday, 08.00 to 18.00 hours)			

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Classification according to Regulation (EU) 1272/2008

CLP-Classification	 The product is classified as hazardous in accordance with Regulation (EC) No. 1272/2008. This substance does not emit flammable gases in contact with water according to test N. 5 in Part III, sub-section 33.4.1.4 of the UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria
Flam. Sol. 1 H228	

Full text of H-phrases: see section 16

GOLDLEAFAND

SAFETY DATA SHEET

Aluminium Powder

Page : 2 / 11
Revision nr : 4
Issue date : 09/03/2015
Supersedes : 09/03/2015

2.1.2. Classification according to EU Directives 67/548/EEC or 1999/45/EC

Classification

F; R11

: This substance is classified as hazardous according to 67/548/EEC.

Full text of R-phrases: see section 16

2.2. Label elements

2.2.1. Labelling according to Regulation (EU) 1272/2008

Hazard pictograms



:

:

 GHS02

 Signal word
 : Danger

 Hazard statements
 : H228 - Flammable solid.

 Precautionary statements
 : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

 P240 - Ground/bond container and receiving equipment.

 P241 - Use explosion-proof electrical/ ventilating/ lighting/ / equipment.

 P280 - Wear protective gloves/protective clothing/eye protection/face protection.

 P370+P378 - In case of fire: Use ... to extinguish

2.2.2. Labelling according to Directives (67/548 - 1999/45)

Not relevant

2.3. Other hazards

Other hazards

PBT/vPvB data Not applicable Risk of dust explosion.

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance name	Product identifier	%	Classification according to Directive 67/548/EEC
Aluminium powder (stabilised)	(CAS No.) 7429-90-5 (EC No) 231-072-3 (EC Index) 013-001-00-6 (REACH-no) 01-2119529243-45-0146, 01- 2119529243-45-XXXX	100	F; R11
Substance name	Product identifier	%	Classification according to Regulation (EC) No.

			Regulation (EC) No. 1272/2008 [CLP]
Aluminium powder (stabilised)	(CAS No.) 7429-90-5 (EC No) 231-072-3 (EC Index) 013-001-00-6 (REACH-no) 01-2119529243-45-0146, 01- 2119529243-45-XXXX	100	Flam. Sol. 1, H228

Full text of R- and H-phrases: see section 16

3.2. Mixtures

Not applicable

GOLDLEAFAND
MetallicPowders

SAFETY DATA SHEET

Aluminium Powder

Page : 3 / 11 Revision nr : 4 Issue date : 09/03/2015 Supersedes : 09/03/2015

SECTION 4: First aid measures <u>4.1.</u> **Description of first aid measures** Inhalation : Provide fresh air. When in doubt or if symptoms are observed, get medical advice. Skin contact : Wash with plenty of water/. Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. : Rinse mouth thoroughly with water. In case of ingestion Rinse mouth immediately and drink plenty of water. Get medical advice/attention. Additional advice : Treat symptomatically. See also section 8 First aider: Pay attention to self-protection! When in doubt or if symptoms are observed, get medical advice. Most important symptoms and effects, both acute and delayed 4.2.

Inhalation	 Repeated or prolonged exposure: (dust) : May cause respiratory impairment and lung damage.
Skin contact	: No adverse effects are expected.
Eye contact	: Dust contact with the eyes can lead to mechanical irritation.
Ingestion	: May be irritating.
Other adverse effects	: none.

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

No data available

SECTION 5: Firefighting measures				
5.1. Extinguishing media				
Suitable extinguishing media	: Special powder against metal fire . Dry sand . Co-ordinate fire-fighting measures to the fire surroundings.			
Extinguishing media which must not be used	: Water			
for safety reasons:	Foam			
	Carbon dioxide			
	ABC-powder			
5.2. Special hazards arising from the substance or mixture				
Fire hazard	: Flammable solid			
Specific hazards	: Dust may form explosive mixture in air.			
5.3. Advice for firefighters				
Advice for firefighters	: Special protective equipment for firefighters. In case of fire: Wear self-contained breathing apparatus.			
SECTION 6: Accidental release measures				

was to a three a surface and an a surface second se

6.1. Personal precautions, protective equipment and emergency procedures		
For non-emergency personnel	 Evacuate area. Prevent unauthorised persons entering the zone. Provide adequate ventilation. Use personal protective equipment as required. Personal protection equipment: see section 8 Avoid generation of dust. 	

SAFETY DATA SHEET		Page : 4 / 11	
	•••••••••••••••••	Revision nr : 4	
GoldLeafand		Issue date : 09/03/2015	
METALLIC POWDERS	Aluminium Powder	Supersedes : 09/03/2015	
For emergency responders	 Keep away from sources of ignition No smokin Use only non-sparking tools. Use explosion-proof machinery, apparatus, venti Ensure procedures and training for emergency d disposal are in place. Personal protection equipment: see section 8. 	ilation facilities, tools etc.	
6.2. Environmental pre-	cautions		
Environmental precautions : Do not allow to enter into surface water or drains.			
6.3. Methods and material for containment and cleaning up			
Methods for cleaning up	: Stop leak if safe to do so. Dam up. Take up mechanically. Do not rinse down with water. / Water (with cleaning agent) Dispose according to legislation.		
6.4. Reference to other	sections		
Personal protection equipmer	nt: see section 8		

Disposal: see section 13.

SECTION 7: Handling and storage

<u>7.1.</u>	Precautions for safe handling		
Handling Advices on general occupational hygiene		:	Provide adequate ventilation. Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Personal protection equipment: see section 8 Dust may form explosive mixture in air. Avoid generation of dust. Remove dust regularly from electrical supply and distribution points. Keep away from sources of ignition No smoking. Ensure that the equipment is adequately grounded. Use only non-sparking tools. Take any precaution to avoid mixing with incompatible materials. Contact with water liberates highly flammable gases. (H2) See also section 10 Do not allow to enter into surface water or drains. Keep good industrial hygiene. When using do not eat, drink or smoke. Wash hands before breaks and immediately after using the product. Take off contaminated clothing.
7.2.	Conditions for safe storage, include	din	g any incompatibilities
Storage		:	Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near or with any of the incompatible materials listed in section 10. Protect against water. / Humidity
Packag	ing materials	:	Keep/Store only in original container.
<u>7.3</u> No data	Specific end use(s) available.		

SECTION 8: Exposure controls/personal protection

:

<u>8.1.</u> Control parameters

Exposure limit values

Aluminium Powder

Page : 5 / 11 Revision nr : 4 Issue date : 09/03/2015 Supersedes : 09/03/2015

Aluminium powder (stabilised) (7429-90-5)				
Austria	MAK (mg/m ³) 10 mg/m ³ (inhalable fraction)			
Austria	MAK Short time value (mg/m ³)	20 mg/m ³ (inhalable fraction)		
Belgium	Limit value (mg/m ³)	1 mg/m ³		
Bulgaria	OEL TWA (mg/m³)	10,0 mg/m ³ (metal dust) 1,5 mg/m ³ (respirable fraction)		
Croatia GVI (granična vrijednost izloženosti) (mg/m ³)		10 mg/m ³ (total dust) 4 mg/m ³ (respirable dust)		
France VME (mg/m ³)		10 mg/m ³ (metal) 5 mg/m ³ (dust)		
Greece	OEL TWA (mg/m³)	10 mg/m ³ (inhalable fraction) 5 mg/m ³ (respirable fraction)		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m³)	1 mg/m ³ (respirable fraction)		
Latvia	OEL TWA (mg/m ³)	2 mg/m ³		
Spain	VLA-ED (mg/m ³)	10 mg/m ³ (dust)		
Switzerland	VME (mg/m ³)	3 mg/m ³ (respirable)		
United Kingdom WEL TWA (mg/m ³)		10 mg/m ³ (inhalable dust) 4 mg/m ³ (respirable dust)		
United Kingdom WEL STEL (mg/m ³)		30 mg/m ³ (calculated-inhalable dust) 12 mg/m ³ (calculated-respirable dust)		
Czech Republic Expoziční limity (PEL) (mg/m ³)		10,0 mg/m ³ (dust)		
Denmark Grænseværdie (langvarig) (mg/m ³)		5 mg/m ³ (dust, fume and powder, total) 2 mg/m ³ (dust and powder, respirable)		
Hungary	AK-érték	6 mg/m ³ (respirable dust)		
Ireland	OEL (8 hours ref) (mg/m ³)	1 mg/m ³ (respirable dust)		
Ireland				
Lithuania	IPRV (mg/m³)	5 mg/m ³ (inhalable fraction) 2 mg/m ³ (respirable fraction) 1 mg/m ³		
Norway	Gjennomsnittsverdier (AN) (mg/m ³)	5 mg/m ³ (pyrotechnical-powder)		
Norway	Gjennomsnittsverdier (Korttidsverdi) (mg/m3)	10 mg/m ³ (pyrotechnical-powder)		
Poland	NDS (mg/m ³)	2,5 mg/m ³ (inhalable fraction) 1,2 mg/m ³ (respirable fraction)		
Romania	OEL TWA (mg/m³)	3 mg/m ³ (dust) 1 mg/m ³ (fume)		
Romania	OEL STEL (mg/m ³)	10 mg/m ³ (powder) 3 mg/m ³ (fume)		
Slovakia	NPHV (priemerná) (mg/m ³)	1,5 mg/m ³ (metal) 6 mg/m ³ (total aerosol)		
Sweden	nivågränsvärde (NVG) (mg/m ³)	5 mg/m ³ (total dust) 2 mg/m ³ (respirable dust)		

Recommended monitoring procedures

DNEL PNEC : Concentration measurement in air Personal air monitoring

: 3 mg/m³ : 46 - 17800 µg/l

8.2. Exposure controls

Personal protection equipment

: The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific

GoldLeafand
MetallicPowders

SAFETY DATA SHEET

Aluminium Powder

Page : 6 / 11
Revision nr : 4
Issue date : 09/03/2015
Supersedes : 09/03/2015

Respiratory protection	workplace. : dust : Use appropriate respiratory protection. Effective dust mask. (EN 149) Respirator with a particle filter (EN 143) Filter type: P1
Hand protection	: Wear gloves in accordance with EN 388 as a protection against mechanical risks.,Leather gloves,Gloves with long cuffs,The selection of specific gloves for a specific application and time of use in a working area, should also take into account other factors on the working space, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves.
Eye protection	: Dust protection eye glasses (EN 166)
Body protection	: Antistatic boots Flame-retardant protective clothing (EN ISO 11612 / EN 1149)
Thermal hazard protection	: Use dedicated equipment.
Engineering control measures	 Use only in area provided with appropriate exhaust ventilation. Apply measures to prevent dust explosions. Organisational measures to prevent/limit releases, dispersion and exposure See also section 7
Environmental exposure controls	 Do not allow to enter into surface water or drains. Comply with applicable Community environmental protection legislation.

SECTION 9: Physical and chemical properties

	a 0.	
Appearance	:	Powder
Colour	:	silver
Odour	:	odourless
Odour threshold:	:	No data available
Odour threshold:	:	No data available
рН	:	Not applicable
Melting point/freezing point	:	660 °C
Initial boiling point and boiling range	:	> 999 °C
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Flammable.
Upper/lower flammability or explosive limits	:	No data available
Vapour pressure	:	No data available
Vapour density	:	No data available
Density	:	2,7 g/cm ³ @ 20°C
Relative density	:	No data available
Water solubility	:	Insoluble
Solubility in different media	:	No data available
Partition coefficient n-octanol/water	:	No data available
Auto-ignition temperature	:	Not applicable
Decomposition temperature	:	No data available
Viscosity	:	No data available

GoldLeafand	SAFETY DATA SHEET	Page : 7 / 11 Revision nr : 4 Issue date : 09/03/2015		
	Aluminium Powder	Supersedes : 09/03/2015		
Explosive properties	•	The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the		
Oxidising properties		The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with		
9.2. Other information	: Dust may form explosive mixture in air.			
	Lower explosion limit (g/m³) : 30 Ignition temperature : > 400°C	Lower explosion limit (g/m ³) : 30 Ignition temperature : > 400°C Minimum ignition temperature of a 5 mm dust layer (glowing temperature) : > 230°C		

SECTION 10: Stability and reactivity			
10.1.	Reactivity		
Reactivity	у	:	None under normal processing. UN Test N.5: Test method for substances which in contact with water emit flammable gases The substance or mixture does not emit flammable gases in contact with water. Reference to other sections: 10.5
10.2.	Chemical stability		
Stability		:	The product is stable under storage at normal ambient temperatures.
10.3.	Possibility of hazardous reactions		
Possibilit	y of hazardous reactions	:	Risk of dust explosion. The substance or mixture does not emit flammable gases in contact with water. (UN Test N.5: Test method for substances which in contact with water emit flammable gases) Reference to other sections: 10.4/10.5
<u>10.4.</u>	Conditions to avoid		
Conditior	ns to avoid	:	Remove all sources of ignition. See also section 7
<u>10.5.</u>	Incompatible materials		
Incompat	tible materials	:	Reacts with the following substances:, Acids and bases,, Halogens,, Halogenated compounds,, Oxidising substances
<u>10.6.</u>	Hazardous decomposition products		
Hazardou	us decomposition products	:	none

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	Not classified (Based on available data, the classification criteria are not met.)		
Aluminium Powder (7429-90-5)			
LD50/oral/rat	> 2000 mg/kg		
LC50/inhalation/4h/rat	> 888 mg/l		

	SAFETY DATA SHEET	Page : 8 / 11 Revision nr : 4	
GOLDLEAFAND		Issue date : 09/03/2015	
	Aluminium Powder	Supersedes : 09/03/2015	
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met.) pH: Not applicable		
Serious eye damage/eye irritation	: Not classified (Based on available data, the classification criteria are not met.) pH: Not applicable		
Respiratory or skin sensitisation	: Not classified (Based on available data, the classification criteria are not met.)		
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met.)		
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met.)		
Reproductive toxicity	: Not classified (Based on available data, the clas	sification criteria are not met.)	
STOT-single exposure	: Not classified (Based on available data, the clas	sification criteria are not met.)	
STOT-repeated exposure	: Not classified (Based on available data, the clas	sification criteria are not met.)	

STOT-repeated exposure

Aspiration hazard

Other information

Symptoms related to the physical, chemical and toxicological characteristics, Reference to other sections: 4.2

SECTION 12: Ecological information			
<u>12.1. Toxicity</u>			
Toxicity	:	Ecological injuries are not known or expected under normal use.	
12.2. Persistence and degradability			
Persistence and degradability	:	Not applicable	
12.3. Bioaccumulative potential			
Bioaccumulation	:	No data available	
Partition coefficient n-octanol/water	:	No data available	
12.4. Mobility in soil			
Mobility	:	No data available	
12.5. Results of PBT and vPvB assess	mer	<u>nt</u>	
PBT/vPvB data	:	PBT/vPvB data : Not applicable	
12.6. Other adverse effects			
Other information	:		

: Not classified (Based on available data, the classification criteria are not met.)

SECTION 13: Disposal considerations

13.1. Waste treatment methods	
Product waste:	 Do not dispose of together with household waste. If recycling is not practicable, dispose of in compliance with local regulations.
Contaminated packaging	: Delivery to an approved waste disposal company.
Further ecological information	: Do not allow to enter into surface water or drains.

GoldLeafand MetallicPowders	SAFETY DATA SHEET	Page : 9 / 11 Revision nr : 4 Issue date : 09/03/2015 Supersedes : 09/03/2015
	Aluminium Powder	
List of proposed waste codes/waste designations in accordance with EWC	 Waste codes should be assigned by the user, prefe waste disposal authorities. The following Waste Codes are only suggestions: 12 01 04 	rably in discussion with the
SECTION 14: Transport information	ion	
14.1. UN number		
UN number	: 1309	
14.2.UN proper shipping nameProper Shipping NameProper shipping name IATA/IMDG14.3.Transport hazard class(es)14.3.1. Overland transportADR/RIDClass(es)Hazard identification number (Kemler No.)Classification codeADR/RID-Labels	 ALUMINIUM POWDER, COATED ALUMINIUM POWDER, COATED tunnel restriction code : E 4.1 - Flammable solids, self-reactive substances an 40 F3 4.1 - Flammable solid 	nd solid desensitized explosives
14.3.2. Inland waterway transport (ADN)		
ADN Class (UN)	: Not classified for this transport way. : 4.1	
14.3.3. Transport by sea		
Class or Division	: 4.1 - Flammable solids, self-reactive substances an	d solid desensitized explosives
14.3.4. Air transport	· 11 Elemmetric colide colt repetive curters are	d colid deconsitized evaluations
Class or Division	: 4.1 - Flammable solids, self-reactive substances an	iu soliu desensitized explosives
14.4. Packing group Packing group	: 11	

14.5. Environmental hazards Other information

<u>14.6</u>

Special precautions for user Special precautions for user

: Not applicable.

: Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Code: IBC

: Not applicable.

SECTION 15: Regulatory information

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

:

15.1.1. EU-Regulations

The following restrictions are applicable according to Annex XVII of the REACH Regulation (EC) No 1907/2006

	SAFETY DATA SHEET	Page : 10 / 11 Revision nr : 4
GOLDLEAFAND METALLICPOWDERS In The Family OF	Aluminium Powder	Issue date : 09/03/2015 Supersedes : 09/03/2015

40. Substances classified as flammable gases category 1 or 2, flammable liquids categories 1, 2 or 3, flammable solids category 1 or 2, substances and mixtures which, in contact with water, emit flammable gases, category 1, 2 or 3, pyrophoric liquids category 1 or pyrophoric solids category 1, regardless of whether they appear in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or not.		Aluminium Powder - Aluminium powder (stabilised)	
This product contains an ingredient according to the candidate list of Annex XIV of the REACH Regulation 1907/2006/EC.	:	none	
Authorisations	:	Not applicable	
15.1.2. National regulations			
DF · WGK		nwa	

$ \nu$	JE :	WGK		nwg	
D	DE :	German storage class (LGK)	:	LGK 4.1B - Flammable solids	
D	DE :	TA-Luft	:	Total dust	
D)E :	Technische Regeln für Gefahrstoffe (TRGS)	:	applicable	
F	R :	Installations classées	:	1450	
N	IL :	ABM	:	11 - Weinig schadelijk voor in het water levende organismen (B)	
N	IL :	NeR (Nederlandse emissie Richtlijn)	:	Inorganic substances in powdered form	

: For this substance a chemical safety assessment has been carried out.

15.2. Chemical safety assessment

Chemical Safety Assessment

SECTION 16: Other information

Full text of R-, H- and EUH-phrases: Flam. Sol. 1 H228 R11 F	:	Flammable solids, Hazard Category 1 Flammable solid. Highly flammable. Highly flammable
Key literature references and sources for data	:	European Metal Particulate Association (EMPA)
Safety datasheet sections which have been updated	:	8
Abbreviations and acronyms	:	ADN = Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC IATA = International Air Transport Association IMDG = International Maritime Dangerous Goods Code LEL = Lower Explosive Limit/Lower Explosion Limit UEL = Upper Explosion Limit/Upper Explosive Limit REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals TWA = time weighted average STEL = Short term exposure limit PBT = persistent, bioaccumulating and toxic (PBT). vPvB = very persistent and very bioaccumulating EWC = European Waste Catalogue NA = Not applicable LC50 = Median lethal concentration LD50 = Median lethal dose



SAFETY DATA SHEET

Aluminium Powder

Page : 11 / 11 Revision nr : 4 Issue date : 09/03/2015 Supersedes : 09/03/2015

DNEL = Derived No Effect Level PNEC = Predicted No Effect Concentration

The contents and format of this SDS are in accordance with EEC Commission Directive 1999/45/EC, 67/548/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

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