



AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830
Issue date: 8/5/2021 Revision date: 8/5/2021 Supersedes version of: 7/1/2021 Version: 7.0

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

1.1. Product identifier

Product form	: Mixture
Name	: GE+ Al-Si(x)-Mg DMLM or Laser Powder
Trade name	: Al-Si(x)-Mg (AlSi10Mg, AlSi7Mg) DMLM or Laser Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)
Product code	: GEAPS003-XX, 100868, 90163, 92508, 93197, 94126
Type of product	: Alloy, Typical Laser DMLM Powder Particle Size Distribution covered: lower limit: 0/5/10/15 to upper limit: 45/53/63 microns
Formula	: Al-Si10-Mg, Al-Si7-Mg
Product group	: Metal Alloy powders

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

1.2.1. Relevant identified uses

Main use category	: Industrial use
Use of the substance/mixture	: Raw material for 3D-printing and Powder Metallurgy Uses (HIP, MIM, Additive Manufacturing). For Industrial (including Research & Development - R&D) or Laboratory Use Only. Reserve Only to Trained or Professional personnel.
Function or use category	: 55/999 Others

1.2.2. Uses advised against

Restrictions on use	: Other uses than the identified uses indicated above, Other uses than the identified uses indicated above.
---------------------	---

1.3. Details of the supplier of the safety data sheet

Supplier

GE Additive / AP&C Advanced Powders and Coatings Inc.
3765 La Vérendrye, suite 110
J7H 1R8 Boisbriand, Québec - Canada
T +1 450.434.1004
GEAdd.SDS@ge.com - www.advancedpowders.com ;
<https://www.ge.com/additive/powders-overview>

Distributor

GE Additive / Concept Laser GmbH
An der Zeil 8
96215 Lichtenfels - Germany
T +49 (0)9571 1679 0

Distributor, Only Representative

GE Additive / Arcam AB
Designvägen 2
435 33 Mölnlycke - Sweden
T +46 (0)31 710 32 00 - F +46 (0)31 710 32 01

1.4. Emergency telephone number

Emergency number	: Phone: INFOTRAC USA/Canada : 1-800-535-5053 Outside USA/Canada : +1-352-323-3500
------------------	--

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Mixtures: SDS < 2015 : Show CLP information + DPD classification in section 2.1

Not classified

Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice. In contact with water releases flammable gases.

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Precautionary statements (CLP)	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P240 - Ground and bond container and receiving equipment. P241 - Use explosion-proof electrical/ventilating/lighting equipment. P280 - Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P370+P378 - In case of fire: Use media other than water to extinguish.
Extra phrases	: For use in industrial installations only. Restricted to professional users.

2.3. Other hazards

Other hazards which do not result in classification	: Dust clouds may form explosive mixtures with air. Handling and/or processing of this material may generate a dust which may form flammable or explosive mixture with air. Such dust can also cause mechanical irritation of the eyes, skin, nose and throat. May form potentially combustible dust concentrations when suspended in air or other oxidizing medium. Risk of release of flammable gases if in contact with water.
---	---

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Comments	: The powders declared herein are considered "mixtures" from a GHS SDS point of view, but are in reality "alloyed powders" (so not a "mixture" of different "elemental" powders). The GHS & SDS structure forces us to use such "mixture" categorization. See the Notes below the table for more details.
----------	---

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
aluminium, powder, uncoated, non pyrophoric, water-reactive	CAS-No.: 7429-90-5 EC-No.: 231-072-3 EC Index-No.: 013-002-00-1 REACH-no: 01-2119529243-45-0371	89 – 99	Flam. Sol. 1, H228 Water-react. 2, H261
silicon, powder, amorphous	CAS-No.: 7440-21-3 EC-No.: 231-130-8 REACH-no: 01-2119480401-47-0268	1 – 11	Flam. Sol. 2, H228
magnesium, powder, water-reactive, self-heating, less dangerous	CAS-No.: 7439-95-4 EC-No.: 231-104-6 EC Index-No.: 012-002-00-9	≤ 0.7	Flam. Sol. 1, H228 Self-heat. 1, H251 Water-react. 2, H261

Comments	: The substances identified above and forming the mixture are all purposely selected to be in powder form, when available. The Table is primarily indicative of individual elements identification, classification and % in the alloyed powders. The final products are classified in the SDS, section 2. Per our metal powder SDS authoring process, we always use the powder form of a given chemical element in sect. 3, when it is available from our recognized external chemical database. This is to ensure all risk inherent to the powder form of any substance is taken into account as a baseline. Only scientific evidence and/or test data can in the end determine the final product classification and "declassify" it, if applicable. This process assures a maximum safety level for all users.
----------	--

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Full text of H- and EUH-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	: Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects	: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause respiratory irritation.
Symptoms/effects after inhalation	: Dust of the product, if present, may cause respiratory irritation after an excessive inhalation exposure. Inhalation may cause irritation (cough, short breathing, difficulty in breathing).
Symptoms/effects after eye contact	: Dust from this product may cause eye irritation.
Symptoms/effects after ingestion	: May cause irritation to the digestive tract.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Dry Sand, Class D extinguisher, Limestone, Unpressurized Water with local Safety Office/Fire Department approved metal fire additive (e.g. surfactants). Use fire extinguishing methods suitable to surrounding conditions.
Unsuitable extinguishing media	: Any media not listed as suitable (above) and/or not approved by local authorities.). Water (without local Safety Office/Fire Department approved additive).

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released.
--	--------------------------------

5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Complete protective clothing. Wear appropriate protective equipment and self-contained breathing apparatus (SBCA).
--------------------------------	---

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Avoid generating dust. Avoid breathing dust. Eliminate every possible source of ignition. No open flames. No smoking. Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment.
------------------	--

6.1.1. For non-emergency personnel

Emergency procedures	: Avoid contact with skin, eyes and clothing. Do not touch or walk on the spilled product. Only qualified personnel equipped with suitable protective equipment may intervene. See section 8 of the SDS for more information on personal protective equipment. No open flames, no sparks, and no smoking.
----------------------	---

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent entry to sewers and public waters. Do not allow to enter drains or water courses.

6.3. Methods and material for containment and cleaning up

For containment : Do not use compressed air for pumping over spills. Do not push powder long distances across the floor. Keep in small piles away from each other.

Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13. For further information refer to section 8: "Exposure controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Dust may form flammable and explosive mixture with air. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Precautions for safe handling : Ensure good ventilation of the work station. Handle under inert gas. Protect from moisture. Do not allow contact with water. Wear personal protective equipment. Maintain a supply of "coarse" (rock-type) salt and/or "Class D" (for metal fires) fire extinguisher located near processing and storage areas. Keep work areas clean and free of waste. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Provide local exhaust or general room ventilation to minimize exposure to dust. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Separate working clothes from town clothes. Launder separately. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations. Keep in a cool, well-ventilated place away from heat. Store in a well-ventilated place. Keep container tightly closed. Ensure adequate ventilation, especially in confined areas. Ground/bond container and receiving equipment. Maintain air gap between stacks/pallets.

Storage conditions : Protect from moisture. Store in a dry place. Store in a closed container. Keep cool. Protect from sunlight. Keep away from ignition sources. Store away from other materials. Store in a well-ventilated place.

7.3. Specific end use(s)

No additional information available

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. National occupational exposure and biological limit values

silicon, powder, amorphous (7440-21-3)	
Belgium - Occupational Exposure Limits	
OEL TWA	10 mg/m ³
Denmark - Occupational Exposure Limits	
Anmærkninger (DK)	10 mg/m ³
France - Occupational Exposure Limits	
VME (OEL TWA)	10 mg/m ³
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	10 mg/m ³ 4 mg/m ³
Remark (WEL)	WEL TWA: 10 mg/m ³ (inhalable aerosol); 4 mg/m ³ (respirable aerosol)
aluminium, powder, uncoated, non pyrophoric, water-reactive (7429-90-5)	
Austria - Occupational Exposure Limits	
MAK (OEL TWA)	10 mg/m ³ inhalable fraction
MAK (OEL STEL)	20 mg/m ³ inhalable fraction
Belgium - Occupational Exposure Limits	
OEL TWA	1 mg/m ³
Bulgaria - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (metal dust) 1.5 mg/m ³ (respirable fraction)
Croatia - Occupational Exposure Limits	
GVI (OEL TWA) [1]	10 mg/m ³ (total dust) 4 mg/m ³ (respirable dust)
Croatia - Biological limit values	
BLV	200 mg/l (Biological Exposure Indices - BEI: Medium: Urine - Time: no restrictions - Parameter: Aluminium)
Czech Republic - Occupational Exposure Limits	
PEL (OEL TWA)	10 mg/m ³ (dust)
Denmark - Occupational Exposure Limits	
OEL TWA [1]	5 mg/m ³ (dust, fume and powder, total) - Limit Values (Prolonged) ("Grænseværdie(langvarig)") 2 mg/m ³ (dust and powder, respirable) - Limit Values (Prolonged) ("Grænseværdie(langvarig)")
Estonia - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (total dust) 4 mg/m ³ (respirable dust)
Finland - Occupational Exposure Limits	
HTP (OEL TWA) [1]	1.5 mg/m ³

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

aluminium, powder, uncoated, non pyrophoric, water-reactive (7429-90-5)	
France - Occupational Exposure Limits	
VME (OEL TWA)	10 mg/m ³ 5 mg/m ³
Note (FR)	VME conditions: 10 mg/m ³ - metal; 5 mg/m ³ - dust
Germany - Occupational Exposure Limits (TRGS 900)	
AGW (OEL TWA) [1]	3 mg/m ³ (dust, fume and powder, total)
AGW (OEL TWA) [2]	1 mg/m ³ (dust and powder, respirable)
Greece - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable fraction) 5 mg/m ³ (respirable fraction)
Hungary - Occupational Exposure Limits	
AK (OEL TWA)	6 mg/m ³ (respirable dust)
Ireland - Occupational Exposure Limits	
OEL TWA [1]	1 mg/m ³ (respirable dust)
OEL STEL	3 mg/m ³ (calculated - respirable dust)
Latvia - Occupational Exposure Limits	
OEL TWA	2 mg/m ³
Lithuania - Occupational Exposure Limits	
IPRV (OEL TWA)	5 mg/m ³ (inhalable fraction) 2 mg/m ³ (respirable fraction) 1 mg/m ³
Netherlands - Occupational Exposure Limits	
MAC-TGG (OEL TWA)	0.05 mg/m ³
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	2.5 mg/m ³ (inhalable fraction) 1.2 mg/m ³ (respirable fraction)
Portugal - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (dust, fume and powder, total) 5 mg/m ³ (dust and powder, respirable)
Romania - Occupational Exposure Limits	
OEL TWA	3 mg/m ³ (dust) 1 mg/m ³ (inhalable fraction)
OEL STEL	10 mg/m ³ (powder) 3 mg/m ³ (fume)
Romania - Biological limit values	
BLV	200 µg/l (Medium: urine - Time: no restrictions - Parameter: Aluminium)
Remark	Biological Exposure Index
Slovakia - Occupational Exposure Limits	
NPHV (OEL TWA) [1]	6 mg/m ³ (total aerosol) 1.5 mg/m ³ (metal)

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

aluminium, powder, uncoated, non pyrophoric, water-reactive (7429-90-5)	
Slovakia - Biological limit values	
BLV	60 µg/g creatinine (Medium: urine - Time: no restrictions - Parameter: Aluminium)
Spain - Occupational Exposure Limits	
VLA-ED (OEL TWA) [1]	10 mg/m ³ (dust)
Sweden - Occupational Exposure Limits	
NGV (OEL TWA)	5 mg/m ³ (total dust) 2 mg/m ³ (respirable dust)
United Kingdom - Occupational Exposure Limits	
WEL TWA (OEL TWA) [1]	10 mg/m ³ 4 mg/m ³
Remark (WEL)	WEL conditions: 10 mg/m ³ - inhalable dust; 4 mg/m ³ - respirable dust
Norway - Occupational Exposure Limits	
Grønseverdi (OEL TWA) [1]	5 mg/m ³ (pyrotechnical-powder)
Korttidsverdi (OEL STEL)	5 mg/m ³ (pyrotechnical-powder)
Switzerland - Occupational Exposure Limits	
MAK (OEL TWA) [1]	3 mg/m ³ (VME, respirable dust)
Switzerland - Biological limit values	
BAT	60 µg/g creatinine (Medium: urine - Time: no restrictions - Parameter: Aluminium)
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	1 mg/m ³ (Respirable fraction)
Remark (ACGIH)	TLV: 1 mg/m ³ ; OSHA PEL (TWA): 15 mg/m ³ (total dust) & 5 mg/m ³ (respirable fraction); NIOSH REL (TWA): 10 mg/m ³ (total dust) & 5 mg/m ³ (respirable dust)

Exposure limit values for the other components

titanium, powder, dry, slightly self-heating (7440-32-6)	
Bulgaria - Occupational Exposure Limits	
OEL TWA	1 mg/m ³
Latvia - Occupational Exposure Limits	
OEL TWA	10 mg/m ³
Poland - Occupational Exposure Limits	
NDS (OEL TWA)	10 mg/m ³
NDSch (OEL STEL)	30 mg/m ³
Romania - Occupational Exposure Limits	
OEL TWA	10 mg/m ³
OEL STEL	15 mg/m ³

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment:

Dust formation: dust mask.

Personal protective equipment symbol(s):



8.2.2.1. Eye and face protection

Eye protection:

Safety glasses

8.2.2.2. Skin protection

Skin and body protection:

Wear suitable protective clothing

8.2.2.3. Respiratory protection

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the material, and the safe working limits of the selected respirator. Recommendation: Filter P3 or N95 or P100 based on exposure level.

8.2.2.4. Thermal hazards

Thermal hazard protection:

Wear fire/flammable resistant/retardant clothing.

8.2.3. Environmental exposure controls

Environmental exposure controls:

Install and operate general and/or local exhaust ventilation systems of sufficient power to maintain airborne concentration below the defined or recommended limit. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard. Respirator selection must be based on known or anticipated exposure levels, the hazards of the material, and the safe working limits of the selected respirator. Avoid release to the environment.

Consumer exposure controls:

Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Proper grounding procedures to avoid static electricity should be followed. Use explosion-proof equipment. Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment can be equipped with proper dust collection devices to minimize explosion risk. Dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product could include explosion relief vents or an explosion suppression system or an oxygen-deficient environment to minimize explosion risk.

Other information:

Do not eat, drink or smoke when using this product.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Appearance	: Solid metallic powder, grey.
Colour	: Grey.
Odour	: Odourless.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 557 – 705 °C
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable, In contact with water releases flammable gases.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: ≈ 2.65
Solubility	: Insoluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: Dust clouds may form explosive mixtures with air. May release explosive gas when in contact with water. Risk of explosion if heated under confinement.
Oxidising properties	: not expected.
Explosive limits	: Not applicable
Dust deflagration index	: 30 – 45 g/m ³ Minimum Explosive Concentration (MEC) - Typical lower values 120 – 300 bar·m/s Kst Typical higher values. Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Dust explosion category	: St 2 - Strong explosion
Particle size	: See section 1. See also NFPA 484 (sec. A4.3.1) for further data on specific particle sizes reactivity
Particle shape	: Spherical

9.2. Other information

Bulk density	: 0.8 – 1.4 g/cm ³
Other properties	: Explosivity/ Reactivity characteristics may vary with particle size and composition.
Minimum Ignition Energy (MIE)	: 4-10 mJ
Minimum Ignition Temperature (MIT) - Layer	: 650 °C

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. In contact with water releases flammable gases.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Water, humidity. Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Aqueous solution. Combustible materials. Halogenated hydrocarbons. Incompatible with water, humid air. Oxidizing agent. Strong acids. Strong bases.

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

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 (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

silicon, powder, amorphous (7440-21-3)

LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 401 (Acute Oral Toxicity)
---------------	--

LD50 dermal rabbit	> 5000 mg/kg bodyweight Animal: rabbit
--------------------	--

magnesium, powder, water-reactive, self-heating, less dangerous (7439-95-4)

LD50 oral rat	> 2000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method)
---------------	---

LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
-----------------	--

LC50 Inhalation - Rat	> 2.1 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation)), Guideline: EPA OPPTS 870.1300 (Acute inhalation toxicity)
-----------------------	--

aluminium, powder, uncoated, non pyrophoric, water-reactive (7429-90-5)

LD50 oral rat	> 15900 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Read-across, Oral, 14 day(s))
---------------	--

LC50 Inhalation - Rat	> 0.89 mg/l air (Equivalent or similar to OECD 403, 4 h, Rat, Male, Experimental value, Inhalation (aerosol), 14 day(s))
-----------------------	--

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified

silicon, powder, amorphous (7440-21-3)

NOAEL (animal/male, F0/P)	5000 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: other:OECD Guideline 478 (Genetic Toxicology: Rodent Dominant Lethal Test)
---------------------------	--

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

Al-Si(x)-Mg (AlSi10Mg, AlSi7Mg) DMLM or Laser Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Viscosity, kinematic	Not applicable
----------------------	----------------

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Hazardous to the aquatic environment, short-term (acute) : Not classified

Hazardous to the aquatic environment, long-term (chronic) : Not classified

Not rapidly degradable

silicon, powder, amorphous (7440-21-3)	
EC50 72h - Algae [1]	≈ 250 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
magnesium, powder, water-reactive, self-heating, less dangerous (7439-95-4)	
LC50 - Fish [1]	569 mg/l Test organisms (species): Pimephales promelas
LC50 - Fish [2]	541 mg/l Test organisms (species): Pimephales promelas
LC50 - Other aquatic organisms [1]	64.7 mg/l Source: ECOTOX
EC50 72h - Algae [1]	> 99.2 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	> 20 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)

12.2. Persistence and degradability

silicon, powder, amorphous (7440-21-3)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
BOD (% of ThOD)	Not applicable
magnesium, powder, water-reactive, self-heating, less dangerous (7439-95-4)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
aluminium, powder, uncoated, non pyrophoric, water-reactive (7429-90-5)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

magnesium, powder, water-reactive, self-heating, less dangerous (7439-95-4)	
BCF - Other aquatic organisms [1]	41 – 44 (Lamellibranchiata, Intestines)
Partition coefficient n-octanol/water (Log Pow)	-0.57 Source: SRC
aluminium, powder, uncoated, non pyrophoric, water-reactive (7429-90-5)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

silicon, powder, amorphous (7440-21-3)	
Surface tension	0.74 N/m (1410 °C)

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

aluminium, powder, uncoated, non pyrophoric, water-reactive (7429-90-5)	
Surface tension	900 mN/m (700 °C)
Ecology - soil	Adsorbs into the soil.

12.5. Results of PBT and vPvB assessment

Component	
aluminium, powder, uncoated, non pyrophoric, water-reactive (7429-90-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.2. UN proper shipping name				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards				
Not regulated	Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available				

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

Air transport

Not regulated

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

Germany

Employment restrictions : Observe restrictions according Act on the Protection of Working Mothers (MuSchG)
Observe restrictions according Act on the Protection of Young People in Employment (JArbSchG)

Water hazard class (WGK) : WGK 1, Slightly hazardous to water (Classification according to AwSV, Annex 1)

Hazardous Incident Ordinance (12. BImSchV) : Is not subject of the Hazardous Incident Ordinance (12. BImSchV)

Netherlands

ABM category : B(4) - low hazard for aquatic organisms

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : None of the components are listed

SZW-lijst van reprotoxische stoffen – Vruchtbaarheid : None of the components are listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : None of the components are listed

Switzerland
Storage class (LK) : LK 4.3 - In contact with water, may partially decompose and release combustible gases

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms

CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
WGK	Water Hazard Class
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Abbreviations and acronyms	
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disrupting properties

Full text of H- and EUH-statements	
Flam. Sol. 1	Flammable solids, Category 1
Flam. Sol. 2	Flammable solids, Category 2
Self-heat. 1	Self-Heating Substances and Mixtures, Category 1
Water-react. 2	Substances and Mixtures which, in contact with water, emit flammable gases, Category 2

AlSi10Mg, AlSi7Mg Powder (CL 31AL, CL 32AL, CL 33AL, CL 34AL, CL 35AL)

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830

Full text of H- and EUH-statements	
H228	Flammable solid.
H251	Self-heating: may catch fire.
H261	In contact with water releases flammable gases.

The classification complies with : ATP 12

Safety Data Sheet (SDS), EU

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new processed material.