

# Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 09/03/2010

Reviewed on 09/03/2010

## 1 Identification of substance

- **Product details**
- **Trade name:** AlSi12
- **Article number:** 791061000
- **Application of the substance / the preparation** Metalpowder
- **Manufacturer/Supplier:**  
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## 2 Composition/Data on components

- **Chemical characterization**
- **Description:** Mixture of the substances listed below with nonhazardous additions.
- **Dangerous components:**

7429-90-5 aluminium powder (pyrophoric)	88%
7440-21-3 silicon	12%

## 3 Hazards identification

- **Hazard description:**



Highly flammable

- **Information pertaining to particular dangers for man and environment:**  
Contact with water liberates extremely flammable gases.
- **Classification system:**  
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
- **NFPA ratings (scale 0 - 4)**



Health = 0  
Fire = 2  
Reactivity = 3

- **HMIS-ratings (scale 0 - 4)**



Health = 0  
Fire = 2  
Reactivity = 3

## 4 First aid measures

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

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- **After swallowing:**

Rinse out mouth and then drink plenty of water.  
Induce vomiting and call for medical help.

## 5 Fire fighting measures

- **Suitable extinguishing agents:**

Special powder for metal fires. Do not use water.  
Dry sand

- **For safety reasons unsuitable extinguishing agents:**

Water  
Extinguishing powder  
Foam

- **Protective equipment:**

Wear self-contained respiratory protective device.  
Wear fully protective suit.

## 6 Accidental release measures

- **Person-related safety precautions:**

Ensure adequate ventilation  
Keep away from ignition sources  
Wear protective equipment. Keep unprotected persons away.  
Avoid formation of dust.

- **Measures for environmental protection:** Do not allow to enter sewers/ surface or ground water.

- **Measures for cleaning/collecting:**

Pick up mechanically.  
Dispose of the collected material according to regulations.

## 7 Handling and storage

- **Handling:**

- **Information for safe handling:**

Keep receptacles tightly sealed.  
Prevent formation of dust.

- **Information about protection against explosions and fires:**

Keep ignition sources away - Do not smoke.  
Dust can combine with air to form an explosive mixture.  
Use explosion-proof apparatus / fittings and spark-proof tools.  
Protect against electrostatic charges.

- **Storage:**

- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.

- **Information about storage in one common storage facility:**

Store away from oxidizing agents.  
Store away from flammable substances.  
Store away from water.

- **Further information about storage conditions:**

Store in dry conditions.  
Protect from humidity and water.

## 8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Components with limit values that require monitoring at the workplace:**

**7429-90-5 aluminium powder (pyrophoric)**

PEL 15\* 5\*\* mg/m<sup>3</sup>

Metal dust \*total dust \*\*respirable fraction

REL 10\* 5\*\* mg/m<sup>3</sup>

Metal dust \*total dust \*\*respirable fraction

TLV 1\* mg/m<sup>3</sup>

\*as respirable fraction

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**7440-21-3 silicon**PEL 15\* 5\*\* mg/m<sup>3</sup>

\*total dust \*\*respirable fraction

REL 10\* 5\*\* mg/m<sup>3</sup>

\*total dust \*\*respirable fraction

TLV TLV withdrawn

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

- **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Filter P2

Filter P3

- **Protection of hands:**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Nitrile rubber, NBR

Butyl rubber, BR

Fluorocarbon rubber (Viton)

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

## 9 Physical and chemical properties

- **General Information**

**Form:** Powder

**Color:** Silver grey

**Odor:** Odorless

- **Change in condition**

**Melting point/Melting range:** 530-580 °C (986-1076 °F)

**Boiling point/Boiling range:** 2467 °C (4473 °F)

- **Flash point:**

Not applicable.

- **Ignition temperature:**

500-680 °C (932-1256 °F)

- **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

Explosive dust/air mixture possible

- **Explosion limits:**

**Lower:** 30 g/m<sup>3</sup>

**Upper:** 9-13 bar

- **Density at 20 °C (68 °F):**

2.70 g/cm<sup>3</sup>

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- **Solubility in / Miscibility with Water:** Insoluble.
- **Solvent content:**
  - Organic solvents:** 0.0 %
  - Solids content:** 100.0 %

## 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Materials to be avoided:**  
Reacts with alcohols, amines, aqueous acids and alkalis.  
Reacts with humid air.
- **Dangerous reactions**  
Violent reactions with strong alkalis and oxidizing agents.  
Risk of dust explosion.  
Reacts with alcohols, amines, aqueous acids and alkalis.  
Reacts with halogenated compounds.  
Reacts with oxygen.
- **Dangerous products of decomposition:**  
Flammable gases/vapors  
-

## 11 Toxicological information

- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

## 12 Ecological information

- **Behavior in environmental systems:**
- **Mobility and bioaccumulation potential:** Undetermined.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

## 13 Disposal considerations

- **Product:**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

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## 14 Transport information

### • Land transport ADR/RID (cross-border):



- **ADR/RID class:** 4.3 Substances which, in contact with water, emit flammable gases
- **Danger code (Kemler):** 423
- **UN-Number:** 1396
- **Packaging group:** II
- **Label:** 4.3
- **Description of goods:** 1396 ALUMINIUM POWDER, UNCOATED

### • Maritime transport IMDG:



- **UN Number:** 1396
- **Label:** 4.3
- **Packaging group:** II
- **EMS Number:** F-G,S-O
- **Marine pollutant:** No
- **Segregation groups:** Powdered metals
- **Propper shipping name:** ALUMINIUM POWDER, UNCOATED

### • Air transport ICAO-TI and IATA-DGR:



- **UN/ID Number:** 1396
- **Label:** 4.3
- **Propper shipping name:** ALUMINIUM POWDER, UNCOATED

## 15 Regulations

### • Sara

#### • **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

#### • **Section 313 (Specific toxic chemical listings):**

7429-90-5 aluminium powder (pyrophoric)

#### • **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

#### • **Proposition 65**

#### • **Chemicals known to cause cancer:**

None of the ingredients is listed.

#### • **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

#### • **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

#### • **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

#### • **Carcinogenity categories**

#### • **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

#### • **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

#### • **NTP (National Toxicology Program)**

None of the ingredients is listed.

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**• TLV (Threshold Limit Value established by ACGIH)**

7429-90-5 aluminium powder (pyrophoric): A4

**• NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

**• OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

**• Product related hazard informations:**

Observe the general safety regulations when handling chemicals.

The product has been classified and marked in accordance with directives on hazardous materials.

**• Hazard symbols:**

Highly flammable

**• Risk phrases:**

Contact with water liberates extremely flammable gases.

**• Safety phrases:**

Keep container tightly closed and dry.

Take precautionary measures against static discharges.

In case of fire, use powdered extinguishing agent. Never use water.

**16 Other information**

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.

**• Department issuing MSDS: QM****• Contact: Thorsten Laudi**

USA