

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006



## STANDART RESIST 211 Aluminium Powder

Version 1.1

Revision Date 07.02.2014

Print Date 19.11.2018

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

#### 1.1 Product identifier

Trade name : STANDART RESIST 211 Aluminium Powder

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

This information is not available.

#### 1.3 Details of the supplier of the safety data sheet

Company : ECKART GmbH  
Guentersthal 4  
91235 Hartenstein  
Telephone : +499152770  
Telefax : +499152777008  
E-mail address : msds.eckart@altana.com  
Responsible/issuing person

#### 1.4 Emergency telephone number

GBK Gefahrgut Büro GmbH, Ingelheim, Germany:  
From outside US: : (001) 352-323-3500  
(First call in English, response in your language is possible)  
US & Canada (toll free) : 1-800-5355-053

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Classification (REGULATION (EC) No 1272/2008)

Flammable solids , Category 1 H228: Flammable solid.

##### Classification (67/548/EEC, 1999/45/EC)

Highly flammable R11: Highly flammable.

**Information concerning particular hazards for human and environment:** : Please refer to our website for further important safety instructions for handling aluminium powder:  
[http://www.eckart.net/fileadmin/eckart/Service/GDA\\_Alupulver\\_Safety\\_engl.pdf](http://www.eckart.net/fileadmin/eckart/Service/GDA_Alupulver_Safety_engl.pdf)

#### 2.2 Label elements

##### Labelling (REGULATION (EC) No 1272/2008)

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|                          |   |   |
|--------------------------|---|---|
| Hazard pictograms        | : |   |
| Signal word              | : | Danger  |
| Hazard statements        | : | H228 Flammable solid.   |
| Precautionary statements | : | <b>Prevention:</b><br>P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.<br>P240 Ground/bond container and receiving equipment.<br>P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.<br>P280 Wear protective gloves/ eye protection/ face protection.<br><b>Response:</b><br>P370 + P378 In case of fire: Use for extinction: Special powder for metal fires.<br>P370 + P378 In case of fire: Use for extinction: Dry sand. |

### 2.3 Other hazards

No information available.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

| Chemical Name | CAS-No.<br>EC-No.<br>Registration number   | Classification<br>(67/548/EEC) | Classification<br>(REGULATION<br>(EC) No<br>1272/2008) | Concentration<br>[%] |
|---------------|--|--------------------------------|--|----------------------|
| aluminium     | 7429-90-5<br>231-072-3<br>01-2119529243-45 | F; R11                         | Flam. Sol. 1; H228                                     | >= 50 - <= 100       |

For the full text of the R-phrases mentioned in this Section, see Section 16.

For the full text of the H-Statements mentioned in this Section, see Section 16.

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**SECTION 4: First aid measures****4.1 Description of first aid measures**

- General advice : Move out of dangerous area.  
Move the victim to fresh air.
- If inhaled : If unconscious place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : If on skin, rinse well with water.  
If on clothes, remove clothes.  
Wash off immediately with soap and plenty of water.
- In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

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

- Symptoms : No information available.
- Risks : No information available.

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

- Treatment : No information available.
- 

**SECTION 5: Firefighting measures****5.1 Extinguishing media**

- Suitable extinguishing media : Dry sand, Special powder against metal fire
- Unsuitable extinguishing media : ABC powder, Carbon dioxide (CO<sub>2</sub>), Water, Foam

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### 5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Contact with water liberates extremely flammable gas (hydrogen).

### 5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self contained breathing apparatus for fire fighting if necessary.

Further information : Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Avoid dust formation.  
Remove all sources of ignition.  
Use personal protective equipment.  
Evacuate personnel to safe areas.

### 6.2 Environmental precautions

Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.

### 6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Do not flush with water.  
Keep in suitable, closed containers for disposal.  
  
Use mechanical handling equipment.  
Do not use a vacuum cleaner.

### 6.4 Reference to other sections

For personal protection see section 8.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

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Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.

Avoid creating dust. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Store away from heat.

Advice on protection against fire and explosion : Keep away from open flames, hot surfaces and sources of ignition.

Use explosion-proof equipment. During processing, dust may form explosive mixture in air. Take measures to prevent the build up of electrostatic charge. When transferring from one container to another apply earthing measures and use conductive hose material.

Hygiene measures : Wash hands before breaks and at the end of workday.

### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : No smoking. Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Earthing of containers and apparatuses is essential. Reaction with water liberates extremely flammable gas (hydrogen) Use explosion-proof equipment. Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Keep away from sources of ignition - No smoking. Keep container closed when not in use.

Further information on storage conditions : Protect from humidity and water.

Advice on common storage : Do not store near acids. Do not store together with oxidizing and self-igniting products. Never allow product to get in contact with water during storage. Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

German storage class : 4.1B, Flammable solid hazardous materials

Other data : Keep in a dry place. No decomposition if stored and applied as directed.

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### 7.3 Specific end use(s)

This information is not available.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

| Components          | CAS-No.   | Value type<br>(Form of exposure)  | Control parameters   | Update     | Basis   |
|---------------------|-----------|---|----------------------|------------|---------|
| aluminium           | 7429-90-5 | TWA (Inhalable)   | 10 mg/m <sup>3</sup> | 2011-12-01 | GB EH40 |
| Further information |           | The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m <sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m <sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used   |                      |            |         |
| aluminium           | 7429-90-5 | TWA (Respirable)  | 4 mg/m <sup>3</sup>  | 2011-12-01 | GB EH40 |
| Further information |           | The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m <sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m <sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used   |                      |            |         |
| aluminium           | 7429-90-5 | TWA (Inhalable)   | 10 mg/m <sup>3</sup> | 2005-04-06 | GB EH40 |
| Further information |           | For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust. The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m <sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m <sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts |                      |            |         |

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|                     |           |   |                     |            |         |
|---------------------|-----------|---|---------------------|------------|---------|
|                     |           | <p>have been assigned specific WELs and exposure to these must comply with the appropriate limit. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3. Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used</p>   |                     |            |         |
| aluminium           | 7429-90-5 | TWA<br>(Respirable)   | 4 mg/m <sup>3</sup> | 2005-04-06 | GB EH40 |
| Further information |           | <p>For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust. The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m<sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m<sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3. Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used</p> |                     |            |         |
| Components          | CAS-No.   | Value type<br>(Form of exposure)  | Control parameters  | Update     | Basis   |

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| silicon dioxide     | 7631-86-9 | TWA (Inhalable)  | 6 mg/m <sup>3</sup>   | 2007-08-01 | GB EH40 |
| Further information |           | <p>For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust. The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m<sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m<sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3. Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.</p> |                       |            |         |
| silicon dioxide     | 7631-86-9 | TWA (Respirable)   | 2.4 mg/m <sup>3</sup> | 2007-08-01 | GB EH40 |
| Further information |           | <p>For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust. The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m<sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m<sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit. Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable</p>   |                       |            |         |



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|  | dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3. Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with. Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used |
|--|--|

### 8.2 Exposure controls

#### Personal protective equipment

- |                          |   |
|--------------------------|---|
| Eye protection           | : Eye wash bottle with pure water   |
|                          | : Face-shield   |
| Hand protection          |   |
| Material                 | : Leather   |
| Glove length             | : Long sleeve gloves  |
| Remarks                  | : The suitability for a specific workplace should be discussed with the producers of the protective gloves.   |
|                          | : Leather gloves<br>The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. |
| Skin and body protection | : Dust impervious protective suit<br>Choose body protection according to the amount and concentration of the dangerous substance at the work place.                             |
|                          | : Anti-static and fire resistant protective clothing. EN 531; EN 533; EN 1149-1. Anti-static safety shoes.  |
| Respiratory protection   | : Use suitable breathing protection if workplace concentration requires.<br>Breathing apparatus with filter.<br>P1 filter   |

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**Environmental exposure controls**

- General advice : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform  
respective authorities.
- Water :  
: The product should not be allowed to enter drains, water  
courses or the soil.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

- Appearance : powder
- Colour : silver
- Odour : odourless
- pH : no data available
- Melting point/freezing point : 660 °C
- Boiling point/boiling range : 2,467 °C
- Flash point : no data available
- Bulk density : no data available
- Flammability (solid, gas) : no data available
- Smoldering temperature : > 230 °C
- Auto-flammability : no data available
- Upper explosion limit : no data available
- Lower explosion limit : 30 mg/m<sup>3</sup>
- Vapour pressure : no data available
- Density : no data available
- Water solubility : no data available

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|  |                     |
|--|---------------------|
| Solubility in other solvents           | : no data available |
| Partition coefficient: n-octanol/water | : no data available |
| Auto-ignition temperature              | : 340 °C            |
| Thermal decomposition                  | : no data available |
| Viscosity, dynamic                     | : no data available |
| Viscosity, kinematic                   | : no data available |
| Flow time                              | : no data available |

### 9.2 Other information

no data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

Hazardous reactions : Stable under recommended storage conditions.  
Contact with acids and alkalis may release hydrogen.  
Dust may form explosive mixture in air.

### 10.4 Conditions to avoid

Conditions to avoid : Heat, flames and sparks.

### 10.5 Incompatible materials

Materials to avoid : Acids  
Bases  
Oxidizing agents

### 10.6 Hazardous decomposition products

Hazardous decomposition products : no data available

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Other information : no data available

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

##### Acute toxicity

###### Components:

###### **7429-90-5 :**

Acute inhalation toxicity : LC50 rat: > 5 mg/l

Exposure time: 4 h

Test atmosphere: dust/mist

##### Skin corrosion/irritation

no data available

##### Serious eye damage/eye irritation

no data available

##### Respiratory or skin sensitisation

no data available

##### Carcinogenicity

no data available

##### Toxicity to reproduction/fertility

no data available

##### Reprod.Tox./Development/Teratogenicity

no data available

##### STOT - single exposure

no data available

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### STOT - repeated exposure

no data available

### Aspiration toxicity

no data available

### Further information

#### Product

no data available

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## SECTION 12: Ecological information

### 12.1 Toxicity

no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

no data available

### 12.6 Other adverse effects

#### Product:

Additional ecological information : no data available

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### SECTION 13: Disposal considerations

European Waste Catalogue : 12 01 04 - non-ferrous metal dust and particles

#### 13.1 Waste treatment methods

Product : Do not dispose of waste into sewer.  
Do not contaminate ponds, waterways or ditches with chemical or used container.  
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.  
Do not burn, or use a cutting torch on, the empty drum.

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### SECTION 14: Transport information

#### 14.1 UN number

ADR : 1309  
IMDG : 1309  
IATA : 1309

#### 14.2 Proper shipping name

ADR : ALUMINIUM POWDER, COATED  
IMDG : ALUMINIUM POWDER, COATED  
IATA : ALUMINIUM POWDER, COATED

#### 14.3 Transport hazard class

ADR : 4.1  
IMDG : 4.1  
IATA : 4.1

#### 14.4 Packing group

ADR  
Packaging group : II

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Classification Code : F3  
Hazard identification No : 40  
Labels : 4.1  
Tunnel restriction code : (E)

### IMDG

Packaging group : II  
Labels : 4.1  
EmS Number : F-G, S-G

### IATA

Packing instruction (cargo aircraft) : 448  
Packing instruction (passenger aircraft) : 445  
Packing instruction (LQ) : Y441  
Packaging group : II  
Labels : 4.1

### 14.5 Environmental hazards

### 14.6 Special precautions for user

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

no data available

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## SECTION 15: Regulatory information

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

no data available

### 15.2 Chemical Safety Assessment

no data available

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### SECTION 16: Other information

#### Full text of R-Phrases

R11                                      Highly flammable.

#### Full text of H-Statements

H228                                      Flammable solid.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.