

## Safety Data Sheet

acc. to OSHA HCS

Printing date 03/31/2023

Reviewed on 03/31/2023

### 1 Identification

- **Product identifier**
- **Formule moléculaire** *Al*
- **Trade name:** Aluminium, powder
- **Article number:** *CH0095*
- **CAS Number:**  
*7429-90-5*
- **EC number:**  
*231-072-3*
- **Index number:**  
*013-001-00-6*
- **Application of the substance / the mixture** *Chemicals products for laboratory*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
*CARLO ERBA REAGENTS*  
*Chaussée du Vexin*  
*Parc d'Affaires des Portes - BP616*  
*27106 VAL DE REUIL Cedex*  
*Téléphone: +33 (0)2 32 09 20 00*  
*Télécopie: +33 (0)2 32 09 20 20*
- **Information department:**  
*Q.A / Normative*  
*email: MSDS\_CER-SDS@cer.dgroup.it*
- **Emergency telephone number:**  
*US 911*  
*CHEMTREC 1-800-424-9300 (Staffed 24/7)*  
*American Association of Poison Control Centers 1-800-222-1222 (Staffed 24/7)*

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

*Catches fire spontaneously if exposed to air.*  
*In contact with water releases flammable gas.*

- **Label elements**
- **GHS label elements**  
*The substance is classified and labeled according to the Globally Harmonized System (GHS).*
- **Hazard pictograms**



GHS02

- **Signal word** *Danger*
- **Hazard statements**  
*Catches fire spontaneously if exposed to air.*  
*In contact with water releases flammable gas.*
- **Precautionary statements**  
*Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*  
*Do not allow contact with air.*

(Contd. on page 2)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 03/31/2023

Reviewed on 03/31/2023

**Trade name: Aluminium, powder**

(Contd. of page 1)

Do not allow contact with water.  
 Handle under inert gas. Protect from moisture.  
 Wear protective gloves / eye protection / face protection.  
 Store contents under inert gas.

- **Classification system:**
- **NFPA ratings (scale 0-4)**



Health = 0  
 Fire = 4  
 Reactivity = 2

The substance demonstrates unusual reactivity with water.

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
 CAS: 7429-90-5 aluminium powder (pyrophoric)
- **Identification number(s)**
- **EC number:** 231-072-3
- **Index number:** 013-001-00-6

### 4 First-aid measures

- **Description of first aid measures**
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**  
 Generally the product does not irritate the skin.  
 If skin irritation continues, consult a doctor.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** If symptoms persist consult doctor.
- **Information for doctor:** Show the doctor this Material Safety Data Sheet.
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
 No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
 CO<sub>2</sub>, sand, extinguishing powder. Do not use water.  
 Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture** No further relevant information available.

(Contd. on page 3)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 03/31/2023

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**Trade name:** Aluminium, powder

(Contd. of page 2)

- **Advice for firefighters**
- **Protective equipment:** Do not inhale explosion gases or combustion gases.
- **Additional information** Cool endangered receptacles with water spray.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.  
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.  
Ensure adequate ventilation
- **Environmental precautions:** Do not allow to penetrate the ground/soil.
- **Methods and material for containment and cleaning up:**  
Pick up mechanically.  
Ensure adequate ventilation.  
Do not flush with water or aqueous cleansing agents
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**
- **PAC-1:** Substance is not listed.
- **PAC-2:** Substance is not listed.
- **PAC-3:** Substance is not listed.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Prevent formation of dust.  
Provide suction extractors if dust is formed.  
Open and handle receptacle with care.
- **Information about protection against explosions and fires:**



Keep ignition sources away - Do not smoke.

- Avoid any contact with water or wet air.  
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Store in a cool location.  
Use only receptacles specifically permitted for this substance/product.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**  
Store in cool, dry conditions in well sealed receptacles.  
Protect from humidity and water.
- **Specific end use(s)** No further relevant information available.

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(Contd. on page 4)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 03/31/2023

Reviewed on 03/31/2023

**Trade name: Aluminium, powder**

(Contd. of page 3)

### 8 Exposure controls/personal protection

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

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

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

PEL	Long-term value: 15* <sup>*</sup> ; 5** <sup>**</sup> mg/m <sup>3</sup> *Total dust; ** Respirable fraction
REL	Long-term value: 10* 5** <sup>**</sup> mg/m <sup>3</sup> as Al*Total dust**Respirable/pyro powd./welding f.
TLV	Long-term value: 1* mg/m <sup>3</sup> as Al; *as respirable fraction, A4

- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
*The usual precautionary measures for handling chemicals should be followed.*
- **Breathing equipment:** Filter P2
- **Protection of hands:** Rubber gloves
- **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.*  
Rubber gloves  
PVC or PE gloves
- **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:**



Safety glasses

- **Limitation and supervision of exposure into the environment**  
*In case of unintended release of the product: See section 6 of the Safety Data Sheet.*

### 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information** 26.98 g
- **Appearance:**
- **Form:** Dust
- **Color:** Silver grey
- **Odor:** Odorless
- **Odor threshold:** Not determined.
- **pH-value:** Not applicable.
- **Change in condition**
- **Melting point/Melting range:** 660 °C (1,220 °F)
- **Boiling point/Boiling range:** 2,500 °C (36,500 °F)

(Contd. on page 5)

## Safety Data Sheet

acc. to OSHA HCS

Printing date 03/31/2023

Reviewed on 03/31/2023

**Trade name:** Aluminium, powder

(Contd. of page 4)

· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Contact with water liberates extremely flammable gases.
· <b>Auto igniting:</b>	400 °C (752 °F)
· <b>Decomposition temperature:</b>	Not determined.
· <b>Ignition temperature:</b>	Spontaneously flammable in air.
· <b>Danger of explosion:</b>	Not determined.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure:</b>	Not applicable.
· <b>Density at 20 °C (68 °F):</b>	2.7 g/cm <sup>3</sup> (22.5315 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not applicable.
· <b>Evaporation rate</b>	Not applicable.
· <b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Not determined.
· <b>organic solvents:</b>	Insoluble
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not applicable.
<b>Kinematic:</b>	Not applicable.
· <b>Other information</b>	No further relevant information available.

### 10 Stability and reactivity

- **Reactivity** See 10.3
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions**  
As thin powder.  
Contact with water releases flammable gases.  
Reacts violently with water.
- **Conditions to avoid** Keep away from water.
- **Incompatible materials:** Water
- **Hazardous decomposition products:** Aluminum Oxide

### 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Other information (about experimental toxicology):** No further relevant information available.
- **Additional toxicological information:**
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)** Substance is not listed.
- **NTP (National Toxicology Program)** Substance is not listed.

(Contd. on page 6)

## Safety Data Sheet

acc. to OSHA HCS

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Reviewed on 03/31/2023

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· **OSHA-Ca (Occupational Safety & Health Administration)** Substance is not listed.

(Contd. of page 5)


### 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Other information:** The product is not easily biodegradable.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** No available data.
- **Additional ecological information:**
- **General notes:** Not hazardous for water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

### 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Contact waste processors for recycling information.
- **Uncleaned packagings:**
- **Recommendation:**  
Disposal must be made according to official regulations.  
Packagings that cannot be cleansed are to be disposed of in the same manner as the product.  
Decompose with care and wash with alcohol.

### 14 Transport information

- |   |   |
|---|---|
| · <b>UN-Number</b>  | UN1396  |
| · <b>DOT, IMDG, IATA</b>  | UN1396  |
| · <b>UN proper shipping name</b>  | Aluminum powder, uncoated   |
| · <b>DOT</b>  | ALUMINIUM POWDER, UNCOATED  |
| · <b>IMDG</b>   | ALUMINIUM POWDER, UNCOATED  |
| · <b>IATA</b>   | Aluminium powder, uncoated  |
| · <b>Transport hazard class(es)</b>   |   |
| · <b>DOT</b>  |   |
|  |   |
| · <b>Class</b>  | 4.3 Substances which, in contact with water, emit flammable gases |

(Contd. on page 7)

## Safety Data Sheet


acc. to OSHA HCS

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**Trade name: Aluminium, powder**

(Contd. of page 6)

· <b>Label</b>	4.3
· <b>IMDG, IATA</b>	
	
· <b>Class</b>	4.3 Substances which, in contact with water, emit flammable gases
· <b>Label</b>	4.3
· <b>Packing group</b>	
· <b>DOT, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	
· <b>Marine pollutant:</b>	No
· <b>Special precautions for user</b>	Warning: Substances which, in contact with water, emit flammable gases
· <b>Hazard identification number (Kemler code):</b>	423
· <b>EMS Number:</b>	F-G,S-O
· <b>Segregation groups</b>	(SGG15) Powdered metals
· <b>Stowage Category</b>	A
· <b>Handling Code</b>	H1 Keep as dry as reasonably practicable
· <b>Segregation Code</b>	SG26 In addition: from goods of classes 2.1 and 3 when stowed on deck of a containership a minimum distance of two container spaces athwartship shall be maintained, when stowed on ro-ro ships a distance of 6 m athwartship shall be maintained. SG32 Stow "away from" SGG10-liquid halogenated hydrocarbons SG35 Stow "separated from" SGG1-acids SG36 Stow "separated from" SGG18-alkalis.
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	
	Not applicable.
· <b>Transport/Additional information:</b>	
· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b>	500 g
· <b>Excepted quantities (EQ)</b>	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· <b>UN "Model Regulation":</b>	UN 1396 ALUMINIUM POWDER, UNCOATED, 4.3, II

### 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **SARA Section 355 (extremely hazardous substances)** Substance is not listed.
- **SARA Section 313 (specific toxic chemical listings)** Substance is listed.
- **TSCA (Toxic Substances Control Act)** ACTIVE
- **Hazardous Air Pollutants** Substance is not listed.
- **Prop 65 - Chemicals known to cause cancer** Substance is not listed.

(Contd. on page 8)

## Safety Data Sheet

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(Contd. of page 7)

- **Carcinogenicity categories**
- **EPA (Environmental Protection Agency)** Substance is not listed.
- **TLV (Threshold Limit Value) A4**
- **MAK (German Maximum Workplace Concentration)** Substance is not listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health)** Substance is not listed.
- **National regulations:**
- **Water hazard class:** Generally not hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 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 SDS:** Q.A / Normative
- **Date of preparation / last revision** 03/31/2023
- **Abbreviations and acronyms:**
  - RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)*
  - ICAO: International Civil Aviation Organisation*
  - ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)*
  - IMDG: International Maritime Code for Dangerous Goods*
  - DOT: US Department of Transportation*
  - IATA: International Air Transport Association*
  - EINECS: European Inventory of Existing Commercial Chemical Substances*
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)*
  - NFPA: National Fire Protection Association (USA)*
  - PBT: Persistent, Bioaccumulative and Toxic*
  - vPvB: very Persistent and very Bioaccumulative*
  - NIOSH: National Institute for Occupational Safety*
  - OSHA: Occupational Safety & Health*
  - TLV: Threshold Limit Value*
  - PEL: Permissible Exposure Limit*
  - REL: Recommended Exposure Limit*
  - IMO: International Maritime Organization*
  - Pyrophoric Solids 1: Pyrophoric solids – Category 1*
  - Substances and mixtures which, in contact with water, emit flammable gases 2: Substances and mixtures which in contact with water emit flammable gases – Category 2*
- **Sources**
  - Globally Harmonized System, GHS*
  - ADR/RID, IMDG, IATA*
  - PubChem: an open chemistry database at the National Institutes of Health (NIH)*
  - ECHA: European Chemicals Agency*
- **\* Data compared to the previous version altered. .**