

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 Version 2 Revision Date 04.12.2018

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

1.1 Product identifiers

Product name : Aluminum Powder

Product Number : PRD5489

Brand : Better Equipped

Index-No. : 013-002-00-1

REACH No. : 01-2119529243-45-XXXX

CAS-No. : 7429-90-5

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

Identified uses : Laboratory chemicals, Manufacture of substances

Uses advised against : Not for sale to the general public

1.3 Details of the supplier of the safety data sheet

Company : Better Equipped,
Wrenbury Business Park,
Wrenbury Road,
Wrenbury,
Nantwich, Cheshire,
CW5 8EB, UK

Telephone +44 (0) 800 9707142

Fax +44 (0) 800 066 4443

E-mail address sales@betterequipped.co.uk

1.4 Emergency telephone number

Emergency Phone # +44 (0)1270 781238

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable solids (Category 1), H228

Water-react. (Category 2), H261

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

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

F Highly flammable R11

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

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word Danger

Hazard statement(s)

H228

Flammable solid.

H261

In contact with water releases flammable gases

Precautionary statement(s)

P210	Keep away from heat/sparks/open flames/hot surfaces. - 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 sand for extinction.
P302+P335+P334	Brush off loose particles from skin. Immerse in cool water [or wrap in wet bandages].

Supplemental Hazard Statements none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula	:	Al
Molecular weight	:	26.98 g/mol
CAS-No.	:	7429-90-5
EC-No.	:	231-072-3
Index-No.	:	013-002-00-1
Registration number	:	01-2119529243-45-XXXX

No components need to be disclosed according to the applicable regulations.

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

3.2 Mixture (composition/information on ingredients)

- Concentration % (ranges)

Classification according to Regulation 1272/2008

- Flammable solids (Category 1), H228

- Water-react. (Category 2), H261

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.



Remove contaminated clothing

Careful removal and handling of clothing and shoes from the individual is recommended.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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 Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media

Water Carbon dioxide (CO₂) ABC powder

5.2 Special hazards arising from the substance or mixture

Aluminum oxide

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- 6.1.1 For non-emergency personnel

Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

For personal protection see section 8.

- 6.1.2 For emergency responders

Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Do not flush with water. Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13). Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

For precautions see section 2.2.

7.1.2 Advice on general occupational hygiene

Do not to eat, drink, or smoke. Wash hands after use. Remove all contaminated clothing.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Store in original container. Do not store near combustible materials. Keep in a cool place away from acids. Keep in a cool place away from bases. Keep in a cool place away from oxidizing agents. Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Handle and store under inert gas.

Storage class (TRGS 510): Flammable solid hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
	7429-90-5	TWA	4 mg/m ³	UK. EH40 WEL - Workplace Exposure Limits

8.1.2 Information on currently recommended monitoring procedures

For currently recommended monitoring procedures, see HSE series 'Methods for the Determination of Hazardous Substances' (MDHS)

8.1.1 Predicted No-Effect Concentration (PNEC) Values

Hazard for Aquatic Organisms

Freshwater	No data: aquatic toxicity unlikely
Intermittent releases (freshwater)	No data: aquatic toxicity unlikely
Marine water	No data: aquatic toxicity unlikely
Intermittent releases (marine water)	No data: aquatic toxicity unlikely
Sewage treatment plant (STP)	20 mg/L
Sediment (freshwater)	Insufficient data available (further information necessary)
Sediment (marine water)	Insufficient data available (further information necessary)

Hazard for Air

Air	No hazard identified
Hazard for Terrestrial Organism Soil	Insufficient data available (further information necessary)
Hazard for Predators Secondary poisoning	No or insufficient data available at present

8.1.2 Derived no- or minimum effect level (DN(M)EL)

Data for WORKERS

INHALATION Exposure	Threshold	Most sensitive study
Systemic Effects		
Long-term:	(DNEL) 3.72 mg/m ³	repeated dose toxicity
Acute /short term:	No hazard identified	
Local Effects		
Long-term:	(DNEL) 3.72 mg/m ³	repeated dose toxicity
Acute /short term:	No hazard identified	
DERMAL Exposure	Threshold	Most sensitive study
Systemic Effects		
Long-term:	No hazard identified	
Acute /short term:	No hazard identified	
Local Effects		

Long-term:	No hazard identified	
Acute /short term:	No hazard identified	
EYE Exposure		
No hazard identified		

Data for the GENERAL POPULATION

INHALATION Exposure	Threshold	Most sensitive study
Systemic Effects		
Long-term:	No hazard identified	
Acute /short term:	No hazard identified	
Local Effects		
Long-term:	No hazard identified	
Acute /short term:	No hazard identified	
DERMAL Exposure	Threshold	Most sensitive study
Systemic Effects		
Long-term:	No hazard identified	
Acute /short term:	No hazard identified	
Local Effects		
Long-term:	No hazard identified	
Acute /short term:	No hazard identified	
ORAL Exposure	Threshold	Most sensitive study
Systemic Effects		
Long-term:	(DNEL) 3.95 mg/kg bw/day	repeated dose toxicity
Acute /short term:	No hazard identified	
EYE Exposure		
No hazard identified		

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Use Local exhaust ventilation (LEV).

Personal protective equipment

Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Protective gloves against thermal risks

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | |
|--------------------|--------------------------------|
| a) Appearance | Form: powder
Colour: silver |
| b) Odour | odourless |
| c) Odour Threshold | No data available |

d) pH	No data available
e) Melting point/freezing point	Melting point/range: 660 °C
f) Initial boiling point and boiling range	2,467 °C
g) Flash point	Not applicable
h) Evaporation rate	No data available
i) Flammability (solid, gas)	May form combustible dust concentrations in air
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	2.7 g/mL at 25 °C
n) Water solubility	insoluble
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	not auto-flammable
q) Decomposition temperature	Not applicable
r) Viscosity	No data available
s) Explosive properties	Risk of dust explosion.
t) Oxidizing properties	No data available

9.2 Other safety information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

In contact with water releases flammable gases which may ignite.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Risk of dust explosion. Reacts with water to generate Hydrogen gas. Reacts with the following substances: Acids, Bases, Oxidizing agents, Halogens

10.4 Conditions to avoid

Humid air water
Heat, flames and sparks. Extremes of temperature and direct sunlight.

10.5 Incompatible materials

Acids, Bases, Halogens, Oxidizing agents. Combustible materials.

10.6 Hazardous decomposition products

Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - > 2,000 mg/kg

LC50 Inhalation - Rat - 4 h - > 888 mg/l

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: BD0330000

Cough, weight loss, anemia, Weakness, Incoordination.

SECTION 12: Ecological information

12.1 Toxicity

Short-term toxicity to fish

LC50 (16 days) 430 - 3 910 µg/L

LC50 (8 days) 22.4 mg/L

LC50 (4 days) 78 - 218 644.1 µg/L

LC50 (4 days) 2.9 µmol/L

LC50 (72 h) 10 - 19.3 mg/L

Long-term toxicity to fish

NOEC (60 days) 88 - 350 µg/L

NOEC (33 days) 71.5 - 558.1 µg/L

NOEC (30 days) 57 - 88 µg/L

NOEC (28 days) 4.7 - 23.1 mg/L

NOEC (7 days) 25.1 - 56 480 µg/L

Short-term toxicity to aquatic invertebrates

EC50 (48 h) 1.5 - 2.56 mg/L

LC50 (4 days) 22 - 30.6 mg/L

LC50 (48 h) 5.7 - 99 600 µg/L

NOEC (4 days) 22.6 mg/L

NOEC (48 h) 5 - 672 µg/L

Long-term toxicity to aquatic invertebrates

NOEC (42 days) 232.6 - 453.8 µg/L

NOEC (30 days) 1.092 - 2.099 mg/L

NOEC (28 days) 53.1 - 4 281.8 µg/L

NOEC (21 days) 76 - 600 µg/L

NOEC (17 days) 962.5 µg/L

Toxicity to aquatic algae and cyanobacteria

EC50 (4 days) 5.4 - 570 µg/L

EC50 (72 h) 16.9 - 4 980 µg/L

NOEC (72 h) 4 - 600 µg/L

LOEC (72 h) 400 - 1 000 µg/L

EC10 (72 h) 203 - 3 155 000 ng/L

Toxicity to aquatic plants other than algae

EC50 (7 days) 8.643 - 15.966 mg/L

NOEC (7 days) 2.76 mg/L

NOEC (4 days) 45.7 mg/L

LOEC (7 days) 5.314 mg/L

EC10 (7 days) 2.175 - 4.545 mg/L

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

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Product can be recovered or recycled. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1309

IMDG: 1309

IATA: 1309

14.2 UN proper shipping name

ADR/RID: ALUMINIUM POWDER, COATED

IMDG: ALUMINIUM POWDER, COATED

IATA: Aluminium powder, coated

Special Provisions: "Keep away from heat" label required.

14.3 Transport hazard class(es)

ADR/RID: 4.1

IMDG: 4.1

IATA: 4.1

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

No data available

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

N/A

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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

Control of Poisons and Explosive Precursors Regulations 2015

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H228

Flammable solid.

Revisions made since previous version of data sheet:

The following sections of this data sheet have been updated:

2.1, 2.2, 5.1, 8.1, 12.1, 13.1, 14.7 & 15.1, 16

We strongly recommend reading the entire data sheet for this chemical in preparation ahead of use.

Further information



The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Better Equipped and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.
