1. Identification

Product identifier

Aluminum chips and powder

CAS No: 7429-90-5

Details of the supplier of the safety data sheet

Company name:	Powder Technology Inc.
Street:	1300 Grey Fox Road
Place:	USA-55112 Arden Hills, MN
Telephone:	+1 952 894 -8737
e-mail:	sales@powdertechnologyinc.com
Internet:	http://www.powdertechnologyinc.com

Emergency phone number: +1 952 894 -8737

Further Information

2. Hazard(s) identification

Classification of the chemical

Hazard categories:
Flammable solid: Flam. Sol. 1
Hazard Statements:
Flammable solid

Label elements

Signal word: Warning

Pictograms: flame

Hazard statements

Flammable solid

Precautionary statements

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Wear protective gloves/protective clothing/eye protection/face protection.
In case of fire: Use D -powder to extinguish.

Special labelling of certain mixtures

May form combustible dust concentrations in air.

Hazards not otherwise classified

No information available.

3. Composition/information on ingredients

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

Hazardous components

Component	Classification	Concentration
Aluminum powder or chips	Flam. Sol. 1; H228	<= 100 %

4. First-aid measures

Description of first aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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.

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

Indication of any immediate medical attention and special treatment needed
No data available

5. Fire-fighting measures

Extinguishing media Suitable

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

Unsuitable extinguishing media
Water Carbon dioxide (CO2) ABC powder

Special hazards arising from the substance or mixture
No data available

Advice for firefighters
Wear self-contained breathing apparatus for firefighting if necessary.

Further information
Use water spray to cool unopened containers.

6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures

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.

Environmental precautions

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

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).

7. Handling and storage

Precautions for safe handling

Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

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. Keep container tightly closed in a dry and well-ventilated place.

8. Exposure controls/personal protection

Control parameters

Exposure controls

Protective and hygiene measures

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.

Eye/face protection

Wear eye/face protection. Suitable eye protection: Tightly sealed safety glasses. Required properties: dust proof.

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Required properties: dust proof.

Skin protection

Flame-retardant protective clothing. Wear anti-static footwear and clothing

Respiratory protection

Respiratory protection necessary at: dust formation, Suitable respiratory protective equipment: particulates filter device (DIN EN 143). Filtering device (full mask or mouthpiece) with filter: P 2 / P 3 , white

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Form: powder Color: silver
Odor	odorless
Odor Threshold	No data available
pH	No data available
Melting point/freezing point	Melting point/range: 660 °C (1,220 °F)
Initial boiling point and boiling range	2,467 °C (4,473 °F)
Flash point	Not applicable
Evaporation rate	No data available
Flammability (solid, gas)	May form combustible dust concentrations in air.
Upper/lower flammability/explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	2.7 g/mL at 25 °C (77 °F)
Water solubility	insoluble
Partition coefficient: n- octanol/water	No data available
Auto-ignition temperature	not auto-flammable
Decomposition temperature	Not applicable
Viscosity	No data available
Explosive properties	Risk of dust explosion.
Oxidizing properties	No data available
Other safety information	No data available

10. Stability and reactivity

Reactivity
No data available

Chemical stability
Stable under recommended storage conditions.

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

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

Incompatible materials
Acids, Bases, Halogens, Oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Aluminum Oxide
Other decomposition products - No data available
In the event of fire: see section 5

11. Toxicological information

Information on toxicological effects

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
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.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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

12. Ecological information

Ecotoxicity

The product is not: Ecotoxic.

Persistence and degradability

The product has not been tested.

Bioaccumulative potential

The product has not been tested.

Mobility in soil

The product has not been tested.

Other adverse effects

No information available.

13. Disposal considerations

Waste treatment methods

Advice on disposal

Dispose of waste according to applicable legislation.

Contaminated packaging

Wash with plenty of water. Completely emptied packages can be recycled.

14. Transport information

DOT (US)

UN number: 1309 Class: 4.1 Packing group: II
Proper shipping name: Aluminum powder, coated

IMDG

UN number: 1309 Class: 4.1 Packing group: II EMS-No: F-G, S-G
Proper shipping name: ALUMINIUM POWDER, COATED

IATA

UN number: 1309 Class: 4.1 Packing group: II
Proper shipping name: Aluminium powder, coated

Environmental hazards

ENVIRONMENTALLY HAZARDOUS: no

Special precautions for user

No information available.

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

not applicable

15. Regulatory information

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:

Aluminium powder (non pyrophoric)	CAS-No. 7429-90-5	Revision Date 1994-04-01

SARA 311/312 Hazards
Fire Hazard

Massachusetts Right To Know Components

Aluminium powder (non pyrophoric)	CAS-No. 7429-90-5	Revision Date 1994-04-01

Pennsylvania Right To Know Components

Aluminium powder (non pyrophoric)	CAS-No. 7429-90-5	Revision Date 1994-04-01

New Jersey Right To Know Components

Aluminium powder (non pyrophoric)	CAS-No. 7429-90-5	Revision Date 1994-04-01

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. Other information

Hazardous Materials Information Label (HMIS)

Health:	0
Flammability:	3
Physical Hazard:	3

NFPA Hazard Ratings

Health:	0
Flammability:	3
Reactivity:	3

Other data

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 made-up material.