

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING
Product Identifier

Perihal Produk: **Aluminium powder**
 Product Description: **Aluminium powder**
 Cat No. : A/1605/53, A/1605/50
 CAS No 7429-90-5
 Molecular Formula Al

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

Recommended Use Laboratory chemicals.
 Uses advised against No Information available

Company Thermo Fisher Scientific Fisher Scientific (M) Sdn Bhd
 Hap Seng Business Park, Lot 01-03, 01-04 Aras 1 Unity Square,
 No 12, Persiaran Perusahaan, Seksyen 23, 40300 Shah Alam,
 Selangor Darul Ehsan, Malaysia.
 Main line: +60 3-5525 7888

Supplier

E-mail address Enquiry.my@thermofisher.com

Emergency Telephone Number Tel: +03-5525 7888
 CHEMTREC Malaysia **1-800-815-308** (Malay)
 CHEMTREC Malaysia (Kuala Lumpur) **+(60)-327884561** (Malay)

SECTION 2: HAZARDS IDENTIFICATION
Classification of the substance or mixture

Flammable solids	Category 1 (H228)
Substances/mixtures which, in contact with water, emit flammable gases	Category 2 (H261)

Label Elements

Signal Word
Danger
Hazard Statements

H228 - Flammable solid

SAFETY DATA SHEET

Aluminium powder

Revision Date 23-Mar-2025

H261 - In contact with water releases flammable gases

Precautionary Statements

Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P231 + P232 - Handle and store contents under inert gas. Protect from moisture

P240 - Ground and bond container and receiving equipment

P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

P302 + P335 + P334 - IF ON SKIN: Brush off loose particles from skin. Immerse in cool water

Storage

P402 + P404 - Store in a dry place. Store in a closed container

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards

May form combustible dust concentrations in air

May form explosible dust-air mixture if dispersed

This product does not contain any known or suspected endocrine disruptors

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Aluminium powder (stabilized)	7429-90-5	>95

SECTION 4: FIRST AID MEASURES

Description of first aid measures

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

Skin Contact

Wash off immediately with soap and plenty of water. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Get medical attention if irritation develops and persists.

Ingestion

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.

Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.

Self-Protection of the First Aider

Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Notes to Physician

Treat symptomatically.

SAFETY DATA SHEET

Aluminium powder

Revision Date 23-Mar-2025

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Dry sand. Limestone powder. dry clay. metal fire extinguishing powder.

Extinguishing media which must not be used for safety reasons

Water. Decomposition by contact with water may generate vapors which can be ignited by heat or open flame. Remove all sources of ignition.

Special hazards arising from the substance or mixture

Contact with water liberates extremely flammable gases. Dust can form an explosive mixture with air. May be ignited by heat, sparks or flames. May ignite on contact with moist air or moisture. Flammable. Fine dust dispersed in air may ignite.

Hazardous Combustion Products

Hydrogen, Burning produces obnoxious and toxic fumes, Fumes of aluminum or aluminum oxide.

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation. Use personal protective equipment as required. For further specification, refer to section 8 of the SDS.

Do not get water inside containers. Protect from moisture.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information.

Methods and Material for Containment and Cleaning Up

Avoid dust formation. Sweep up and remove immediately. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Do not expose spill to water.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Use only in well-ventilated areas. Avoid contact with skin and eyes. Avoid ingestion and inhalation. Do not allow contact with water. Minimize dust generation and accumulation. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Take precautionary measures against static discharges. Do not get water inside containers.

Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area. Keep away from heat, sparks and flame. Keep away from oxidizing agents. Keep away from combustible material. Keep away from acids.

Specific End Uses

SAFETY DATA SHEET

Aluminium powder

Revision Date 23-Mar-2025

Use in laboratories.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	Malaysia	ACGIH TLV	OSHA PEL
Aluminium powder (stabilized)		TWA: 1 mg/m ³	(Vacated) TWA: 15 mg/m ³ (Vacated) TWA: 5 mg/m ³ TWA: 15 mg/m ³ TWA: 5 mg/m ³

Component	European Union	The United Kingdom	Germany
Aluminium powder (stabilized)		STEL: 30 mg/m ³ 15 min STEL: 12 mg/m ³ 15 min TWA: 10 mg/m ³ 8 hr TWA: 4 mg/m ³ 8 hr	TWA: 1.25 mg/m ³ (8 Stunden). AGW - exposure factor 2 TWA: 10 mg/m ³ (8 Stunden). AGW - exposure factor 2 TWA: 4 mg/m ³ (8 Stunden). MAK TWA: 1.5 mg/m ³ (8 Stunden). MAK

Exposure Controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection

Goggles

Hand Protection

Protective gloves

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators

Recommended Filter type:

Particulates filter conforming to EN 143

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

When RPE is used a face piece Fit Test should be conducted

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

No information available

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

SAFETY DATA SHEET

Aluminium powder

Revision Date 23-Mar-2025

Appearance	Silver - Grey	
Physical State	Solid	
Odor	Odorless	
Odor Threshold	No data available	
pH	Not applicable	
Melting Point/Range	660 °C / 1220 °F	
Softening Point	No data available	
Boiling Point/Range	2467 °C / 4472.6 °F	
Flash Point	Not applicable	Method - No information available
Evaporation Rate	Not applicable	Solid
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Vapor Pressure	No data available	
Vapor Density	Not applicable	Solid
Specific Gravity / Density	No data available	
Bulk Density	No data available	
Water Solubility	Insoluble. Water reactive	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Autoignition Temperature	760 °C / 1400 °F	
Decomposition Temperature	No data available	
Viscosity	Not applicable	Solid
Explosive Properties	No information available	
Oxidizing Properties	No information available	
Molecular Formula	Al	
Molecular Weight	26.98	

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Yes.

Chemical Stability

Moisture sensitive. Air sensitive. Stable under normal conditions.

Possibility of Hazardous Reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	No information available.

Conditions to Avoid

Exposure to air. Incompatible products. Exposure to moist air or water. Ignitions sources -

SAFETY DATA SHEET

Aluminium powder

Revision Date 23-Mar-2025

heat, sparks and open flames.

Incompatible Materials

Bases. Water. Strong acids. Halogenated compounds. Chlorine. Fluorine. Bromine. oxygen. lead oxides. Carbon dioxide (CO₂).

Hazardous Decomposition Products

Hydrogen. Burning produces obnoxious and toxic fumes. Fumes of aluminum or aluminum oxide.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Product Information No acute toxicity information is available for this product

(a) acute toxicity;

Oral

No data available

Dermal

No data available

Inhalation

No data available

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Aluminium powder (stabilized)	-	-	LC50 > 0.888 mg/L (Rat) 4 h

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory

No data available

Skin

No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

(i) STOT-repeated exposure; No data available

Target Organs

No information available.

(j) aspiration hazard; Not applicable
Solid

SAFETY DATA SHEET

Aluminium powder

Revision Date 23-Mar-2025

Other Adverse Effects See actual entry in RTECS for complete information

Symptoms / effects, both acute and delayed No information available.

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity effects Reacts with water so no ecotoxicity data for the substance is available.

Persistence and degradability

Persistence Persistence is unlikely, based on information available, Insoluble in water.
Degradability Not relevant for inorganic substances, No information available, Reacts with water.
Degradation in sewage treatment plant No information available. Water reactive.

Bioaccumulative potential Product does not bioaccumulate due to reaction with water; May have some potential to bioaccumulate

Mobility in soil Reacts with water. Spillage unlikely to penetrate soil. Is not likely mobile in the environment. Is not likely mobile in the environment due its low water solubility.

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

Other adverse effects No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues/Unused Products Waste is classified as hazardous Dispose of in accordance with the European Directives on waste and hazardous waste Dispose of in accordance with local regulations

Contaminated Packaging Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous Keep product and empty container away from heat and sources of ignition

Other Information Waste codes should be assigned by the user based on the application for which the product was used Do not flush to sewer Can be landfilled or incinerated, when in compliance with local regulations

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

UN-No UN1396
Hazard Class 4.3
Packing Group II

SAFETY DATA SHEET

Aluminium powder

Revision Date 23-Mar-2025

Proper Shipping Name Aluminum powder, uncoated

Road and Rail Transport

UN-No UN1396
Hazard Class 4.3
Packing Group II
Proper Shipping Name Aluminum powder, uncoated

IATA

UN-No UN1396
Hazard Class 4.3
Packing Group II
Proper Shipping Name Aluminium powder, uncoated

Special Precautions for User No special precautions required

SECTION 15: REGULATORY INFORMATION

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

International Inventories X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
Aluminium powder (stabilized)	231-072-3	X	X	X	X		X	X	KE-00881

National Regulations

Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 16: OTHER INFORMATION

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

POW - Partition coefficient Octanol:Water

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

SAFETY DATA SHEET

Aluminium powder

Revision Date 23-Mar-2025

Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Revision Date

23-Mar-2025

Revision Summary

Not applicable.

In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

Disclaimer

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

End of Safety Data Sheet