ALFAA42052

Aluminum rod, alloy 6061

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

产品说明: 铝棒, 合金 6061, 6.35mm (0.25in) 直径
Product Description: **Aluminum rod, alloy 6061**

Cat No. : **42052**

Supplier

Avocado Research Chemicals Ltd.
(Part of Thermo Fisher Scientific)
Shore Road, Heysham
Lancashire, LA3 2XY,
United Kingdom
Office Tel: +44 (0) 1524 850506
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Emergency Telephone Number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
CHEMTREC Tel. No. **US:**001-800-424-9300 / **Europe:**001-703-527-3887

E-mail address begel.sdsdesk@thermofisher.com

Recommended Use Laboratory chemicals.
Uses advised against No Information available

SECTION 2. HAZARD IDENTIFICATION

Physical State	**Appearance**	**Odor**
Solid	Silver / Grey	Odorless

Emergency Overview

The product contains no substances which at their given concentration are considered to be hazardous to health.

Classification of the substance or mixture

Based on available data, the classification criteria are not met

Label Elements

None required

Storage
P403 - Store in a well-ventilated place
Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

Health Hazards
The product contains no substances which at their given concentration are considered to be hazardous to health.
Environmental hazards
Contains no substances known to be hazardous to the environment or not degradable in waste water treatment plants.

This product does not contain any known or suspected endocrine disruptors.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Aluminum	7429-90-5	97.9
Magnesium	7439-95-4	1.0
Silicon	7440-21-3	0.6
Copper	7440-50-8	0.27
Chromium	7440-47-3	0.2

SECTION 4. FIRST AID MEASURES

Eye Contact
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.

Inhalation
Remove to fresh air.

Ingestion
Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects
No information available.

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.

Notes to Physician
Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media
approved class D extinguishers.

Extinguishing media which must not be used for safety reasons
Water may be ineffective.

Specific Hazards Arising from the Chemical
Thermal decomposition can lead to release of irritating gases and vapors.

Protective Equipment and Precautions for Firefighters
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
No special precautions required.

Environmental Precautions
Do not flush into surface water or sanitary sewer system.

Methods for Containment and Clean Up
Pick up and transfer to properly labelled containers.

Refer to protective measures listed in Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

Handling
Ensure adequate ventilation.

Storage
Keep in a dry place. Keep away from acids.

Specific Use(s)
Use in laboratories

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	China	Taiwan	Thailand	Hong Kong
Aluminum	TWA: 3 mg/m³	-	TWA: 15 mg/m³ TWA: 5 mg/m³	TWA: 10 mg/m³
Copper	TWA: 1 mg/m³ TWA: 0.2 mg/m³	TWA: 0.2 mg/m³ TWA: 1 mg/m³		TWA: 0.2 mg/m³ TWA: 1 mg/m³
Chromium	TWA: 0.05 mg/m³	TWA: 1 mg/m³		TWA: 0.5 mg/m³

Component	ACGIH TLV	OSHA PEL	NIOSH	The United Kingdom	European Union
Aluminum	TWA: 1 mg/m³	(Vacated) TWA: 15 mg/m³ (Vacated) TWA: 5 mg/m³ TWA: 15 mg/m³ TWA: 5 mg/m³	TWA: 10 mg/m³ TWA: 5 mg/m³	STEL: 30 mg/m³ 15 min STEL: 12 mg/m³ 15 min TWA: 10 mg/m³ 8 hr TWA: 4 mg/m³ 8 hr	
Silicon		(Vacated) TWA: 10 mg/m³ (Vacated) TWA: 5 mg/m³ TWA: 15 mg/m³ TWA: 5 mg/m³	TWA: 10 mg/m³ TWA: 5 mg/m³	STEL: 30 ppm 15 min STEL: 12 mg/m³ 15 min TWA: 10 mg/m³ 8 hr TWA: 4 mg/m³ 8 hr	
Copper	TWA: 0.2 mg/m³	(Vacated) TWA: 0.1 mg/m³ TWA: 0.1 mg/m³ TWA: 1 mg/m³	IDLH: 100 mg/m³ TWA: 1 mg/m³ TWA: 0.1 mg/m³	STEL: 0.6 mg/m³ 15 min STEL: 2 mg/m³ 15 min TWA: 1 mg/m³ 8 hr TWA: 0.2 mg/m³ 8 hr	
Chromium	TWA: 0.5 mg/m³	(Vacated) TWA: 1 mg/m³ TWA: 1 mg/m³	IDLH: 250 mg/m³ TWA: 0.5 mg/m³	STEL: 1.5 mg/m³ 15 min TWA: 0.5 mg/m³ 8 hr	TWA: 2 mg/m³ (8hr)

Legend

ACGIH - American Conference of Governmental Industrial Hygienists
OSHA - Occupational Safety and Health Administration
NIOSH: NIOSH - National Institute for Occupational Safety and Health

Exposure Controls

Engineering Measures
None under normal use conditions. .

Personal protective equipment

Eye Protection Wear safety glasses with side shields (or goggles) (European standard - EN 166)

Hand Protection No special protective equipment required

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Disposable gloves	See manufacturers recommendations	-	EN 374	(minimum requirement)

Skin and body protection Long sleeved clothing

Respiratory Protection No special protective equipment required.

Large scale/emergency use In case of insufficient ventilation, wear suitable respiratory equipment

Small scale/Laboratory use No personal respiratory protective equipment normally required
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 Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Silver / Grey	
Physical State	Solid	
Odor	Odorless	
Odor Threshold	No data available	
pH	No data available	
Melting Point/Range	660.4 °C	
Softening Point	No data available	
Boiling Point/Range	No data available	
Flash Point	No data available	**Method -** No information available
Evaporation Rate	No data available	
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Vapor Pressure	No data available	
Vapor Density	No data available	(Air = 1.0)
Specific Gravity / Density	No data available	
Bulk Density	2.7 g/cm3	
Water Solubility	Insoluble	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	No data available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

SECTION 10. STABILITY AND REACTIVITY

Stability Stable under normal conditions.

Hazardous Reactions No information available.
Hazardous Polymerization No information available.

Conditions to Avoid None known.

Materials to avoid No information available.

Hazardous Decomposition Products None under normal use conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Product Information

(a) acute toxicity;
Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Aluminum			LC50 > 0.888 mg/L (Rat) 4 h
Magnesium	LD50 = 230 mg/kg (Rat)		
Silicon	LD50 = 3160 mg/kg (Rat)		
Copper			LC50 > 5.11 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; No data available

Symptoms / effects,both acute and delayed No information available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity effects Contains a substance which is:. Very toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Copper	LC50: = 1.25 mg/L, 96h static (Lepomis macrochirus) LC50: = 0.3 mg/L, 96h semi-static (Cyprinus carpio) LC50: = 0.8 mg/L, 96h static (Cyprinus carpio) LC50: = 0.112 mg/L, 96h flow-through (Poecilia reticulata) LC50: = 0.052 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: 0.0068 - 0.0156 mg/L, 96h (Pimephales promelas) LC50: < 0.3 mg/L, 96h static (Pimephales promelas) LC50: = 0.2 mg/L, 96h flow-through (Pimephales promelas)	EC50: = 0.03 mg/L, 48h Static (Daphnia magna)	EC50: 0.031 - 0.054 mg/L, 96h static (Pseudokirchneriella subcapitata) EC50: 0.0426 - 0.0535 mg/L, 72h static (Pseudokirchneriella subcapitata)	

Persistence and Degradability No information available
Degradability Not relevant for inorganic substances.
Degradation in sewage treatment plant Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

Bioaccumulative Potential No information available

Component	log Pow	Bioconcentration factor (BCF)
Chromium		1.03 - 1.22

Mobility in soil No information available

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors
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 13. DISPOSAL CONSIDERATIONS

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. Can be landfilled or incinerated, when in compliance with local regulations. Do not flush to sewer.

SECTION 14. TRANSPORT INFORMATION

Road and Rail Transport Not Regulated

IMDG/IMO Not regulated

IATA Not regulated

Special Precautions for User No special precautions required

SECTION 15. REGULATORY INFORMATION

International Inventories
X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

Component	The Inventory of Hazardous Chemicals (2015 Edition)	List of dangerous goods GB 12268 - 2012	TCSI	IECSC	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	AICS	KECL
Aluminum	X	X	X	X	231-072-3	X	X	X	X		X	KE-00881
Magnesium	X	X	X	X	231-104-6	X	X	X	X		X	KE-22673
Silicon	X	X	X	X	231-130-8	X	X	X	X		X	KE-31029
Copper	-	X	X	X	231-159-6	X	X	X	X		X	KE-08896
Chromium	-	-	X	X	231-157-5	X	X	X	X		X	KE-05970

National Regulations

SECTION 16. OTHER INFORMATION

Prepared By Health, Safety and Environmental Department
Revision Date 12-May-2024
Revision Summary New emergency telephone response service provider.

Training Advice
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

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/NDSL - 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
DNEL - Derived No Effect Level
RPE - Respiratory Protective Equipment
LC50 - Lethal Concentration 50%

TWA - Time Weighted Average
IARC - International Agency for Research on Cancer
PNEC - Predicted No Effect Concentration
LD50 - Lethal Dose 50%
EC50 - Effective Concentration 50%

NOEC - No Observed Effect Concentration
PBT - Persistent, Bioaccumulative, Toxic
POW - Partition coefficient Octanol:Water
vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
OECD - Organisation for Economic Co-operation and Development
BCF - Bioconcentration factor
IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code
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

Physical hazards	On basis of test data
Health Hazards	Calculation method
Environmental hazards	Calculation method

Disclaimer

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End of Safety Data Sheet