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SAFETY DATA SHEET

Section 1- IDENTIFICATION

COMPOSITION Al		PRODUCT NAME Aluminum
SUPPLIER: Plasmaterials, Inc. 2268 Research Drive Livermore, CA 94550 Ph: 925-447-4030	RECOMMENDED USE: Laboratory Chemicals Scientific Research	EMERGENCY TELEPHONE NUMBERS US: 001-800-424-9300 Europe: 001-703-527-3887

Section 2- HAZARD(S) IDENTIFICATION

Classification: This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)	
Acute Aquatic Toxicity: Category 1 (H400)	Chronic Aquatic Toxicity: Category 1 (H410)
LABEL ELEMENTS: Signal Word: Warning	
	
HAZARD STATEMENTS	
-H400: Very toxic to aquatic life	
-H410: Very toxic to aquatic life with long lasting effects	
PRECAUTIONARY STATEMENTS	
Prevention:	
-P273: Avoid release to the environment	
-P391: Collect spillage	
-P501: Dispose of contents/container to an approved waste disposal plant	
Hazards not otherwise classified (HNOC):	
-Combustible dust	

Section 3- COMPOSITION/INFORMATION ON INGREDIENTS

COMPONENT	CAS-No	Molecular Weight
Aluminum	7429-90-5	26.98 g/mol

Section 4- FIRST AID MEASURES

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

Inhalation: Remove victim from exposure to fresh air. Give oxygen if breathing is difficult. If not breathing, give artificial respiration. Consult a physician.

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

Eye Contact: As a precaution, flush eyes with lukewarm water, lifting upper and lower lids, for at least 15 minutes.

Ingestion: Rinse mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.

Most Important Symptoms/Effects: The most important known symptoms and effects are described in the labeling (see section 2) and/or in section 11.

Indication of any Immediate Medical Attention and Special Treatment Needed: No data available

Section 5- FIREFIGHTING MEASURES

Suitable Extinguishing Media:

Carbon Dioxide (CO₂); Dry Chemical, Water Spray, alcohol-resistant foam

Unsuitable Extinguishing Media:

No Information Available

Specific Hazards Arising from the Chemical:

No data available.

Protective Equipment & Precautions for Firefighters:

As in any fire, Firefighters must wear full face, self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective clothing to prevent contact with skin and eyes.

Section 6- ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ensure adequate ventilation. Avoid dust formation. Avoid breathing dust, vapors, mist or gas. Evacuate personnel to safe areas.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. See Section 12 for additional ecological information.

Methods for Containment & Clean Up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7- HANDLING AND STORAGE

Handling: 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.

Storage:

Keep in a dry and well-ventilated place. Keep container tightly closed. Store under inert gas. Air and moisture sensitive.

Section 8- EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:

Components with Workplace Control Parameters:

Component	CAS-No.	Value	Control Parameters	Basis
Aluminum	7429-90-5	TWA	5.000000 mg/m ³	USA.NIOSH recommended exposure limits
		TWA	10.000000 mg/m ³	USA.NIOSH recommended exposure limits
		TWA	15.000000 mg/m ³	USA.Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants
		TWA	5.000000 mg/m ³	USA.Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants
		TWA	1.000000 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
Remarks		Lower Respiratory Tract Irritation Pneumoconiosis Neurotoxicity Not classifiable as a human carcinogen		
		TWA	15 mg/m ³	USA.Occupational Exposure Limits (OSHA) Table Z-1 Limits for Air Contaminants
		TWA	5 mg/m ³	USA.Occupational Exposure Limits (OSHA)

Table Z-1 Limits for Air Contaminants				
		TWA	5 mg/m ³	USA.NIOSH recommended exposure limits
		TWA	5 mg/m ³	USA.NIOSH recommended exposure limits
		TWA	1 mg/m ³	USA.ACGIH Threshold Limit Values (TLV)
		Remarks	Lower Respiratory Tract Irritation Pneumoconiosis Neurotoxicity Not classifiable as a human carcinogen Varies	
		PEL	5 mg/m ³	California permissible exposure limits for chemical contaminants Title 8, Article 107
		PEL	5 mg/m ³	California permissible exposure limits for chemical contaminants Title 8, Article 107

Engineering Measures: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Personal Protective Equipment:

Eye/Face Protection: Use equipment for eye protection tested and approved under appropriate standards such as NIOSH (US) or EN 166 (EU).

Skin and Body 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.

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection: Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. 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. Discharge into the environment must be avoided.

Section 9- PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Odor: No information available

Odor Threshold: No information available

pH: No information available

Melting Point/Range: 660.37°C / 1,220.67°F – lit.

Boiling Point/Range: 2,460°C / 4,460°F – lit.

Flash Point: Not applicable

Evaporation Rate: No information available

Flammability (solid, gas): May form combustible dust concentrations in air.

Flammability or Exposure Limits:

Upper: No data available

Lower: No data available

Vapor Pressure: No information available

Vapor Density: No information available

Relative Density: 2.7 g/cm³ at 25°C / 77°F

Solubility: No information available

Partition coefficient; n-octanol/water: No information available

Auto Ignition Temperature: No information available

Decomposition Temperature: No information available

Viscosity: No information available

Explosive Properties: No information available

Oxidizing Properties: No information available

Section 10- STABILITY AND REACTIVITY

Reactive Hazard: No data available.

Stability: Stable under recommended storage conditions.

Conditions to Avoid: No data available

Incompatible Materials: Oxidizing agents

Hazardous Decomposition Products:

Hazardous decomposition products formed under fire conditions-Aluminum Oxide

Other decomposition products-No information available

Hazardous Reactions: No information available

Section 11- TOXICOLOGICAL INFORMATION

Acute Toxicity:

Inhalation: No information available

Dermal: No information available

Skin Corrosion/Irritation: No information available

Serious eye damage/irritation: No information available

Respiratory or Skin Sensitization: No information 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.

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

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

Mutagenic Effects: No information available

Reproductive Effects: No information available

Development Effects: No information available

STOT – single exposure: No information available

STOT – repeated exposure: No information available

Aspiration Hazard: No information available

Additional Information: (RTECS: BD0330000): To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

Section 12- ECOLOGICAL INFORMATION

Toxicity:

Toxicity to fish: LC50-Oncorhynchus mykiss (rainbow trout) – 0.12 mg/l – 96.0 h

Mortality of LOEC – Ctenopharyngodon idella – 0.1 mg/l – 96 h

Persistence and Degradability:

Biodegradability – Result: Readily biodegradable

Bioaccumulation Potential:

-Salvelinus fontinalis – 56 d – 268 µg/l

- Bioconcentration factor (BCF): 36

Mobility in Soil: No information available

Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other Adverse Effects: Very toxic to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13- DISPOSAL CONSIDERATIONS

Waste Disposal Methods: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dispose of contaminated packaging as unused product.

Section 14- TRANSPORT INFORMATION

DOT: Not dangerous goods

IATA:

UN-No: 3077
Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Aluminum)
Hazard Class: 9
Packing Group: III

IMDG/IMO:

UN-No: 3077
Proper Shipping Name: Environmentally Hazardous Substance, Solid, N.O.S. (Aluminum)
Hazard Class: 9
Packing Group: III
EMS-No: F-A, S-F
Marine Pollutant: Yes

Further Information: EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or 5kg for solids.

Section 15- REGULATORY INFORMATION

US Federal Regulations:

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

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

Component	CAS No.	Revision Date
Aluminum	7429-90-5	1994-04-01

SARA 311/312 Hazards: No SARA Hazards

HMIS (USA):

Health Hazard: 0
Chronic Health Hazard:
Flammability: 0
Physical Hazard: 0

National Fire Protection Association (USA):

Health Hazard: 0
Fire Hazard: 0
Reactivity Hazard: 0

US California Proposition 65: This product does not contain any chemicals known to the State of California to cause cancer, birth defects or any other reproductive harm.

US Massachusetts RTK – Substance List:

Component	CAS No.	Revision Date
Aluminum	7429-90-5	1994-04-01

US New Jersey Right-to-Know Act:

Component	CAS No.	Revision Date
Aluminum	7429-90-5	1994-04-01

US Pennsylvania RTK – Hazardous Substances:

Component	CAS No.	Revision Date
Aluminum	7429-90-5	1994-04-01

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Section 16- OTHER INFORMATION

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulations are subject to change, the conditions of handling and use, or misuse are beyond our control, Plasmaterials, Inc. makes no warranty, either expressed or implied, with respect to the completeness or continuing accuracy of the information contained herein and disclaims all liability for reliance thereon. Users should satisfy themselves that they have all current data relevant to their particular use.

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