



2225 W. Chandler Blvd. / Chandler, AZ 85224-6155 / 480-917-6000

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME: Metal Matrix Composites – Aluminum Silicon Carbide (AlSiC)

CHEMICAL FAMILY: Metallic Alloy

HMIS RATING: H 1 F 0 R 0

DATE PREPARED: 9/4/2007

EMERGENCY PHONE: 860-774-9605

CHEMTREC: 800-424-9300 (U.S. & Canada)
703-527-3887 (International – Call Collect)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	%	OSHA PEL	ACGIH TLV
Aluminum	7429-90-5	<37	15 mg/ m ³ (Total) 5 mg/m3 (Resp.)	10 mg/m ³
Silicon Carbide	409-21-2	>60	15 mg/ m ³ (Total) 5 mg/m3 (Resp.)	10 mg/m ³ * (Inhalable) 3 mg/m ³ * (Resp.)
Silicon	7440-21-3	<3	15 mg/ m ³ (Total) 5 mg/m3 (Resp.)	10 mg/m ³

* - The value is for dust containing no asbestos and <1% crystalline silica.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

This product does not release hazardous materials in normal use. However, machining will create dust that may form a flammable or explosive mixture with air and cause the following health effects:

ACUTE:

EYE: Dust that may cause mechanical injury.

SKIN: May cause minor irritation.

INHALATION: High dust concentrations may cause coughing and mild, transitory respiratory irritation.

INGESTION: Relatively non-toxic.

CHRONIC: Long-term inhalation overexposure to aluminum dust can cause pulmonary fibrosis, numbness in fingers and possible brain effects.

4. FIRST-AID MEASURES for dust

INHALATION:	If symptoms appear, remove to fresh air and seek medical attention.
EYE CONTACT:	Flush eyes and eyelids thoroughly with water; seek medical attention if irritation persists.
SKIN CONTACT:	Wash with soap and water; seek medical attention if symptoms persist.
INGESTION:	Give several glasses of water to drink to dilute. If large amounts were swallowed, seek medical attention.

5. FIRE-FIGHTING MEASURES for Al dust

FLASH POINT:	NA	Flammable Limits:	LEL	<u>NE</u>	UEL	<u>NE</u>
AUTOIGNITION TEMPERATURE:	1400F (760C)					
EXTINGUISHING MEDIA:	<u> </u> Water Spray <u> </u> Dry Chemical	<u> </u> Foam <u> X </u> Other – Class D Dry Powder	<u> </u> CO ₂			
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Aluminum dust is flammable and can burn violently in the presence of oxidizing substances and certain metal oxides. Bulk dust, when moistened with water, spontaneously heats. Reactions with strong acids and alkalis release flammable hydrogen gas. Fine aluminum dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential explosion hazard. Minimum explosive concentration: 0.04 oz/ft ³					
SPECIAL FIRE FIGHTING PROCEDURES:	Do not use water or halogenated extinguishing media. Pressure from the extinguishing media may cause severe dusting.					

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:	Avoid breathing dust.
ENVIRONMENTAL PRECAUTIONS:	NA
CLEANING METHODS:	Avoid dispersing dust into the air. Use non-sparking tools.

7. HANDLING AND STORAGE

HANDLING:	Wear suitable protective equipment. Refer to Section 8.
STORAGE:	Store at room temperature. Do not freeze.

8. ENGINEERING CONTROLS/PERSONAL PROTECTION

RESPIRATORY PROTECTION:	None anticipated. If dust exposure exceed limits cited in Section 2, use a NIOSH-approved N95 or N100 respirator.
<u>VENTILATION</u>	
LOCAL:	Recommended for operations involving machining of material.
GENERAL:	Recommended as with all industrial operations.

PERSONAL PROTECTION

HAND: As needed for processing.
EYE: As needed for processing.
SKIN: As needed for processing

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Grey or black
ODOR: None
PHYSICAL STATE: Solid
MELTING POINT: 1035 - 1135°F (557 - 613°C)
WATER SOLUBILITY: Insoluble
VAPOR PRESSURE: NA
SPECIFIC GRAVITY: 3 g/cc

10. STABILITY AND REACTIVITY

STABLE UNSTABLE

CONDITIONS TO AVOID: None
MATERIALS TO AVOID: Strong acid and bases.
HAZARDOUS POLYMERIZATION: May Occur Does Not Occur
HAZARDOUS DECOMPOSITION PRODUCTS: Aluminum reacts with some acids and caustic solutions to produce hydrogen. Toxic metal fumes may form when heated to melting.

11. TOXICOLOGICAL INFORMATION

CARCINOGENIC STATUS: NC
REPRODUCTIVE HAZARD: NC

12. ECOLOGICAL INFORMATION

NE

13. DISPOSAL CONSIDERATION

ENVIRONMENTAL TOXICITY DATA: NE
WASTE DISPOSAL METHOD: Dispose of in accordance with applicable federal, state, provincial and local laws and regulations.
CONTAINER DISPOSAL: Dispose of in accordance with applicable federal, state, provincial and local laws and regulations.

14. TRANSPORT INFORMATION

DOT CLASSIFICATION: Not Regulated
IMDG CLASSIFICATION: Not Regulated
ICAO/IATA CLASSIFICATION: Not Regulated

15. REGULATORY INFORMATION

TSCA
(Toxic Substances Control Act): All ingredients listed on TSCA or exempt.

311/312 HAZARD CATEGORIES: None

This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372:

<u>CAS #</u>	<u>CHEMICAL NAME</u>	<u>PERCENT BY WEIGHT</u>
NA	NA	

16. OTHER INFORMATION

NA = Not Applicable
NE = Not Established
NC = Not Classified

FILE: MMCAISiC.doc
99206

DATE PREPARED: 8/23/2007

PREPARED BY: Greg Sullivan, CIH
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