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I. PRODUCT IDENTIFICATION

Product Name: Aluminum Nitride

Formula: AlN

CAS Number: 24304-00-5

II. HAZARDOUS INGREDIENTS

Hazardous Component: Aluminum Nitride

Percent (%): 0-100

OSHA/PEL: N/E

ACGIH/TLV: N/E

III. PHYSICAL DATA

Melting Point: approx 2200 °C

Boiling Point: 2517 °C

Specific Gravity: 3.26 g/cc

Solubility in H₂O: Decomposes

Appearance and Odor (for powder): White to grey powder, ammonia-like odor ; white solid for thin film

IV. FIRE AND EXPLOSION HAZARDS DATA

Flash Point: N/A

Autoignition Temperature: No Data

Flammable Limits: Upper: No Data **Lower:** No Data

Extinguishing Media: DO NOT USE WATER. Use carbon dioxide, dry powder extinguishing agents, dry sand, or dry ground dolomite.

Special Fire Fighting Procedures: No special firefighting procedures needed, use normal procedures which include wearing NIOSH/MSHA approved self-contained breathing apparatus, flame and chemical resistant clothing, hats boots and gloves. If without risk remove material from fire area.

Unusual Fire and Explosion Hazards: Reacts with water to form ammonia, a fire and explosion hazard.

V. HEALTH HAZARD INFORMATION

Effects of Exposure:

To the best of our knowledge the chemical, physical and toxicological properties of aluminum nitride have not been thoroughly investigated and reported.

Aluminum may be implicated in Alzheimer's disease. Inhalation of aluminum containing dusts may cause pulmonary disease. Aluminum compounds have many commercial uses and are commonly found in industry. Many of these materials are active chemically and thus exhibit dangerous toxic and reactive properties.

The details of the toxicity of nitrides as a group are unknown. (Sax, Dangerous Properties of Industrial Materials, eighth edition)

Acute and Chronic Effects: May be irritating to eyes, skin, and mucous membranes.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Remove to fresh air, keep warm and quiet; give oxygen if breathing is difficult and seek immediate medical attention.

INGESTION: Remove from exposure. Seek prompt, competent medical attention.

SKIN: Remove any contaminated clothing. Flood skin with large volumes of water for 15 minutes. Seek medical advice.

EYES: Flush with copious amounts of water for at least 15 minutes. Then consult a doctor.

VI. REACTIVITY DATA

Stability: Stable

Conditions to avoid: Moisture

Incompatibility (Materials to Avoid): Water/moisture, air, acids, oxidizing agents

Hazardous Decomposition Products: Contact with water releases flammable gases; ammonia, nitrogen oxides.

Hazardous Polymerization: Will not occur.

VII. SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: Wearing full protective clothing and respiratory protection, eliminate all sources of ignition. Cover spill with dry sand or dry vermiculite, mix well and carefully transfer to a well-marked container. Close container tightly. Submit or retain for disposal.

Waste Disposal Method: Consult state, Local, and federal regulations for proper disposal of aluminum nitride.

VIII. SPECIAL PROTECTION INFORMATION

Respiratory Protection: NIOSH/MSHA approved dust mask for ordinary use, self-contained breathing apparatus for emergency use.

Ventilation: Glove box or bag under dry inert atmosphere.

Eye Protection: OSHA approved safety goggles

Protective Gloves: Rubber

Other Protective Equipment: Lab coat and apron, flame and chemical resistant coveralls, eyewash capable of sustained flushing, safety drench shower and hygienic facilities for washing.

IX. SPECIAL PRECAUTIONS

Precautions to Be Taken in Handling and Storage: Wash thoroughly after handling. Handle in glove box or bag under dry inert atmosphere. Keep container tightly closed. Store in cool, dry, well-ventilated area

Precautionary Labeling: Warning, moisture sensitive, irritates skin, eyes, lungs.

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. ESPI shall not be held liable for any damage resulting from handling or from contact with the above product. Issued by: T. Yang; Revised/Verified: June 2009