

*Please note that manufactured articles are generally outside of the requirements of the REACH and CLP regulations. IPS Ceramics believes that the provision of a safety data sheet is not a legal requirement for aluminium nitride shapes and components.*

## 1) IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

**Products covered by this document:** Aluminium nitride discs, tiles, and shaped components.

**Relevant Uses** Mainly substrates and heat-sinks for electronic sub-assemblies.

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## 2) HAZARDS IDENTIFICATION

Because of the nature of the finished product (i.e. that it is in dense, solid form) and given that material is not released during normal use, the potential exposure to chemicals is minimal during normal use of the product. The main hazard associated with aluminium nitride articles is therefore personal injury due to impact or abrasion with the article.

## 3) COMPOSITION / INFORMATION ON INGREDIENTS

Aluminium nitride articles are made from fine powders fired (cured) to over 1600°C.

Component	CAS number	Weight (%)	Danger symbol	Risk phrase	WEL (8hr TWA)
Aluminium nitride	24304-00-5	≥ 95	None	None	Inhalable 10 mg / m <sup>3</sup> Respirable 4 mg / m <sup>3</sup>

NB: Levels of lead, cadmium, mercury and chromium VI are typically well below 0.01% (100ppm).

## 4) FIRST AID MEASURES

ROUTE	SYMPTOM	FIRST AID
Ingestion	Coughing	Give clean water to drink.
Inhalation	Coughing	Move away from source.
Contact with skin	Soreness in damaged skin	Wash with soap and water.
Contact with eyes	Soreness	Flush with clean water.
		Seek medical assistance if soreness persists.

## 5) FIREFIGHTING MEASURES

The product is heat resistant, non-flammable and does not decompose on heating. Packaging material fires may be extinguished using carbon dioxide or dry powder. The use of water is NOT recommended due to the risk of small amounts of ammonia being released.

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## 6) ACCIDENTAL RELEASE MEASURES

Loose articles should be packed in boxes / crates or restacked on pallets. Broken items should be gathered up by any method that avoids the creation of airborne dust.

## 7) HANDLING AND STORAGE

Unlimited shelf life. Store in a dry place.

Although not essential, gloves may be beneficial in preventing abrasion of the skin while handling the product for long periods.

## 8) EXPOSURE CONTROLS / PERSONAL PROTECTION

No exposure limits have been set for aluminium nitride, however long-term exposure to any respirable dust created by careless handling or machining of the articles can be hazardous to health. If WELs are exceeded in the working area (see section 3), respirators should be worn.

## 9) PHYSICAL AND CHEMICAL PROPERTIES

Appearance	-	Grey / white solid
Melting point	-	Decomposes above 2500°C
Bulk Density	-	3.2 – 3.3 g/cm <sup>3</sup>
Solubility	-	Very slowly etched by hot water, releasing small amounts of ammonia.
Flammability	-	Non-flammable

## 10) SAFETY AND REACTIVITY

Inert in air to 1000°C; above this surface oxidation occurs. Will react with strong acid or alkali solutions to produce ammonia. Very slowly etched by hot water, releasing small amounts of ammonia.

## 11) TOXICOLOGY INFORMATION

Long term exposure to excessive concentrations of airborne dust created by careless handling or machining of articles may be harmful to the lungs.

## 12) ECOLOGICAL INFORMATION

Inert with respect to the environment. Non-biodegradable.

## 13) DISPOSAL CONSIDERATIONS

Dispose of as non-toxic material in accordance with local regulations for dry and inert waste.

## 14) TRANSPORT INFORMATION

The products are not classified as hazardous for transport. No special precautions required.

## 15) REGULATORY INFORMATION

CLP Classification, Labelling and Packaging of substances and mixtures (EC) No 1272/2008. Not classified - Hazard Warning Label not required.

Control of Substances Hazardous to Health (COSHH) regulations apply in the UK.

## 16) OTHER INFORMATION

**Bibliography:** Workplace Exposure Limits EH40 (UK Health & Safety Executive).

The information provided in this document is correct to the best of our knowledge at the date of issue. It is intended as a guide to safe handling, storage and use of our products. It is not a specification or guarantee of specific properties and no liability can be accepted for loss, injury or damage resulting from its use.

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