



Revision Number: 001.0

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1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	BERGQUIST GAP PAD TGP12000ULM	IDH number:	Not available.
Product type/use:	Thermal Interface Material 1K Silicone	Item number:	Haidian 2
Restriction of Use:	None identified	Region:	United States
Company address:	Contact information:		
Henkel Electronic Materials LLC	Telephone: +1 (888) 943-6535		
14000 Jamboree Road	MEDICAL EMERGENCY Phone: Poison Control Center		
Irvine, CA 92606	1-877-671-4608 (toll free) or 1-303-592-1711		
	TRANSPORT EMERGENCY Phone: CHEMTREC		
	1-800-424-9300 (toll free) or 1-703-527-3887		
	Internet: www.henkel.com/electronics		

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER: CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.

HAZARD CLASS	HAZARD CATEGORY
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	1



Precautionary Statements

Prevention:	Do not breathe dust or fumes. Wash affected area thoroughly after handling. Do not eat, drink or smoke when using this product.
Response:	Get medical attention if you feel unwell.
Storage:	Not prescribed
Disposal:	Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

See Section 11 for additional toxicological information.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Component(s)	CAS Number	Percentage*
Aluminium nitride	24304-00-5	60 - 80
Aluminium oxide - non fibrous form	1344-28-1	30 - 60
Yttrium oxide	1314-36-9	1 - 5

* Exact percentages may vary or are trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. FIRST AID MEASURES

Inhalation:	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Skin contact:	Immediately flush skin with plenty of water (using soap, if available). Remove contaminated clothing and footwear. Get medical attention. Wash clothing before reuse.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Ingestion:	Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention.
Symptoms:	See Section 11.

5. FIRE FIGHTING MEASURES

Extinguishing media:	Water spray (fog), foam, dry chemical or carbon dioxide.
Special firefighting procedures:	Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear. In case of fire, keep containers cool with water spray.
Unusual fire or explosion hazards:	Closed containers may rupture (due to build up of pressure) when exposed to extreme heat.
Hazardous combustion products:	Oxides of carbon. Toxic and irritating vapors.

6. ACCIDENTAL RELEASE MEASURES

Use personal protection recommended in Section 8, isolate the hazard area and deny entry to unnecessary and unprotected personnel.

Environmental precautions:	Do not allow product to enter sewer or waterways.
Clean-up methods:	Remove all sources of ignition. Ensure adequate ventilation. Isolate area. Keep unnecessary personnel away. Sweep up spilled material. Avoid creating dust. Store in a closed metal container until ready for disposal. Refer to Section 8 "Exposure Controls / Personal Protection" prior to clean up.

7. HANDLING AND STORAGE

Handling:	Use only with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Wash thoroughly after handling. Refer to Section 8.
Storage:	Keep in a cool, well ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.

For information on product shelf life, please review labels on container or check the Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Employers should complete an assessment of all workplaces to determine the need for, and selection of, proper exposure controls and protective equipment for each task performed.

Hazardous Component(s)	ACGIH TLV	OSHA PEL	AIHA WEEL	OTHER
Aluminium nitride	1 mg/m ³ TWA Respirable fraction.	None	None	None
Aluminium oxide - non fibrous form	1 mg/m ³ TWA Respirable fraction.	5 mg/m ³ PEL Respirable fraction. 15 mg/m ³ PEL Total dust. 50 MPPCF TWA Total dust. 15 MPPCF TWA Respirable fraction. 15 mg/m ³ TWA Total dust. 5 mg/m ³ TWA Respirable fraction.	None	None
Yttrium oxide	1 mg/m ³ TWA (as Y)	None	None	None

Engineering controls:	Provide adequate local exhaust ventilation to maintain worker exposure below exposure limits.
Respiratory protection:	Use a NIOSH approved air-purifying respirator if the potential to exceed established exposure limits exists.
Eye/face protection:	Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for splashing or spraying of product exists. Safety showers and eye wash stations should be available.
Skin protection:	Use chemical resistant, impermeable clothing including gloves and either an apron or body suit to prevent skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Solid
Color:	Gray
Odor:	Odorless
Odor threshold:	Not available.
pH:	Not available.
Vapor pressure:	Not available.
Boiling point/range:	Not available.
Melting point/ range:	Not available.
Specific gravity:	3.08
Vapor density:	Not available.
Flash point:	Product is a solid.
Flammable/Explosive limits - lower:	Not available.
Flammable/Explosive limits - upper:	Not available.
Autoignition temperature:	Not available.
Flammability:	Not applicable
Evaporation rate:	Not available.
Solubility in water:	Not available.
Partition coefficient (n-octanol/water):	Not available.
VOC content:	Not available.
Viscosity:	Not available.
Decomposition temperature:	Not available.

10. STABILITY AND REACTIVITY

Stability:	Stable under normal conditions of storage and use.
Hazardous reactions:	None under normal processing.
Hazardous decomposition products:	Oxides of carbon. Hydrocarbons. Irritating organic vapours.
Incompatible materials:	Strong oxidizing agents.
Reactivity:	Not available.
Conditions to avoid:	High temperatures. Store away from incompatible materials. Heat, flames, sparks and other sources of ignition.

11. TOXICOLOGICAL INFORMATION

Relevant routes of exposure: Skin, Inhalation, Eyes, Ingestion

Potential Health Effects/Symptoms

Inhalation:	May cause respiratory tract irritation.
Skin contact:	May cause skin irritation.
Eye contact:	May cause eye irritation.
Ingestion:	May cause gastrointestinal tract irritation if swallowed.

Hazardous Component(s)	LD50s and LC50s	Immediate and Delayed Health Effects
Aluminium nitride	None	No Target Organs
Aluminium oxide - non fibrous form	None	Irritant, Nuisance dust, Corrosive
Yttrium oxide	None	Irritant, Lung

Hazardous Component(s)	NTP Carcinogen	IARC Carcinogen	OSHA Carcinogen (Specifically Regulated)
Aluminium nitride	No	No	No
Aluminium oxide - non fibrous form	No	No	No
Yttrium oxide	No	No	No

12. ECOLOGICAL INFORMATION

Ecological information: Not available.

13. DISPOSAL CONSIDERATIONS

Information provided is for unused product only.

Recommended method of disposal: Follow all local, state, federal and provincial regulations for disposal.

Hazardous waste number: Not a RCRA hazardous waste.

14. TRANSPORT INFORMATION

The transport information provided in this section only applies to the material/formulation itself, and is not specific to any package/configuration.

U.S. Department of Transportation Ground (49 CFR)

Proper shipping name:	Not regulated
Hazard class or division:	None
Identification number:	None
Packing group:	None

International Air Transportation (ICAO/IATA)

Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Aluminium nitride)
Hazard class or division: 9
Identification number: UN 3077
Packing group: III

Water Transportation (IMO/IMDG)

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Aluminium nitride)
Hazard class or division: 9
Identification number: UN 3077
Packing group: III
Marine pollutant: Aluminium nitride

15. REGULATORY INFORMATION**United States Regulatory Information**

TSCA 8 (b) Inventory Status: All components are listed as active or are exempt from listing on the Toxic Substances Control Act (TSCA) inventory.

TSCA 12 (b) Export Notification: None above reporting de minimis

CERCLA/SARA Section 302 EHS: None above reporting de minimis.
CERCLA/SARA Section 311/312: Immediate Health, Delayed Health
CERCLA/SARA Section 313: None above reporting de minimis.

California Proposition 65: No California Proposition 65 listed chemicals are known to be present.

Canada Regulatory Information

CEPA DSL/NDSL Status: All components are listed on or are exempt from listing on the Canadian Domestic Substances List.

16. OTHER INFORMATION

This safety data sheet contains changes from the previous version in sections: First issue.

Prepared by: Product Safety and Regulatory Affairs

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