



# MATERIAL SAFETY DATA SHEET

## Thermal Interface Paste

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### SECTION 1: Identification of the substance / mixyure and of the company / undertaking

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#### 1.1 Product Identifiers

Product name : Thermal Interface Paste  
 Brand : DML DM-TIM  
 Product codes : DM-TIM-15035,  
 REACH No. : Not available. Annual tonnage does not require a registration.

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Scientific research and development, professional use only. Screen Printing Paste

#### 1.3 Details of the supplier of the safety data sheet

Company : Dycotec Materials Ltd  
 Unit 6 Stanier Road,  
 Porte Marsh Industrial Estate,  
 Calne, Wiltshire SN11 9PX UK  
 Telephone : +44 (0) 1788 814025  
 E-mail address : info@dycotecmaterials.com

#### 1.4 Emergency telephone number

Emergency Phone No. : +44 (0) 7495 248908 Only available during office hours

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### SECTION 2: Hazards Identification

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#### 2.1 Classification of the substance or mixture Classification (EC 1272/2008)

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

#### 2.2 Label elements

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

#### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

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#### 3.2 Mixtures

Blended Glycerol-Esters		Bal.
CAS #:	EC #:	
Classification		

Alumina		< 95%
CAS #: 1344-28-1	EC #:215-691-6	
Classification		

Aluminium		< 50%
CAS #: 7429-90-5	EC #: 231-072-3	
Classification		

Aluminium Nitride		< 80%
CAS #: 24304-00-5	EC #: 246-140-8	
Classification		

Blended Paste Flow Additive		< 20%
CAS #: 10043-11-5	EC #: 233-136-6	
Classification		

The full text for all Hazard Statements are displayed in Section 16.

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## SECTION 4: FIRST AID MEASURES

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### 4.1 Description of first aid measures

#### General information

Remove affected person from source of contamination. Remove contaminated clothing. First aid personnel must be aware of own risk during rescue. Consult a physician. Show this safety data sheet to the doctor in attendance.

#### Inhalation

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### Ingestion

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

#### Skin contact

Wash off with soap and plenty of water. Consult a physician

#### Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and or in section 11.

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: FIRE-FIGHTING MEASURES

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### 5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol foam, carbon dioxide or dry chemical to extinguish fires.

### 5.2 Special hazards arising from the substance or mixture

Rapid depolymerization can occur in a fire and produce flammable vapors. May depolymerize at temperatures above 200°C with the production of extremely flammable butene monomers. Vapor may cause fire. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. Keep containers cool by spraying with water if exposed to fire.

### 5.3 Advice for firefighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

### 5.4 Further information

The product itself does not burn under normal storage condition.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

### 6.2 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.

### 6.3 Methods and materials for containment and cleaning up

Wipe up with inert absorbent material (e.g. cloth, fleece) and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: HANDLING AND STORAGE

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**7.1 Precautions for safe handling**

Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

**7.2 Conditions for safe storage, including any incompatibilities**

Areas containing this material should have fire safe practices and electrical equipment in accordance with applicable regulations and/or guidelines. Standards are primarily based on the material's flashpoint, but may also take into account properties such as miscibility with water or toxicity. All local and national regulations should be followed. Store in a cool, dry, well ventilated place and keep container tightly closed. Avoid flammable gas mixtures. Take precautionary measures against electrostatic loading - earthing necessary during loading operations.

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters – Components with workplace control parameters**

No occupational exposure limits known.

**8.2 Exposure Controls****Protective equipment****Appropriate engineering controls**

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

**Eye/face protection**

Use approved safety glasses with side shields. Eyewear complying with an approved standard should be worn if a risk assessment indicate eye contact is possible. The following protection should be worn: Chemical splash goggles or face shield.

**Hand protection**

Handle with gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. Wear protective gloves made of the following material: Nitrile rubber. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. 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.

**Other skin and body protection**

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapour contact

**Hygiene measures**

Do not smoke in work area. Wash hands thoroughly after handling. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke. Contaminated clothing should be placed in a closed container for disposal of decontamination. Warn cleaning personnel of any hazardous properties of the product.

**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face particlerespirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. 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.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic physical and chemical properties**

Appearance	Paste
Colour	Grey
Odour	No data available
Odour Threshold	No data available
pH	No data available
Melting / freezing point	No data available
Initial boiling point and boiling range	No data available
Flash point	No data available

Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Water solubility	No data available
Partition coefficient	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	See TDS
Explosive properties	No data available
Oxidizing properties	No data available

**9.1 Other information**

No data available

**SECTION 10: STABILITY AND REACTIVITY****10.1 Reactivity**

No data available

**10.2 Chemical stability**

Stable under recommended storage conditions. Stable at normal ambient temperatures.

**10.3 Possibility of hazardous reactions**

No data available

**10.4 Conditions to avoid**

See section 7 – Handling and storage

**10.5 Incompatible materials**

Strong oxidizing agents, Strong acids. Strong alkalis.

**10.6 Hazardous decomposition products**

Carbon monoxide, carbon dioxide.

In the event of fire - see section 5

**SECTION 11: TOXICOLOGICAL INFORMATION****Acute toxicity:**

Component / CAS #	LD/LC50	
Blended Glycerol-Esters	Dermal	>10250 mg/kg (Rabbit)
	Oral	>34600 mg/kg (Rat)
Alumina 1344-28-1	Oral	> 10,000 mg/kg (Rat)
	Inhalation	4 h - > 2.6 mg/l (Rat)
Aluminium Nitride 24304-00-5	Oral	>2000mg/kg (Rat)
Boron Nitride 10043-11-5	Dermal	>2000mg/kg (Rat)
	Oral	>2000mg/kg (Rat)
	Inhalation	4 h - > 5.19 mg/l (Rat)

**Skin corrosion/irritation:****Skin corrosion/irritation:**

No data available

**Serious eye damage/eye irritation:**

No data available

**Respiratory or skin sensitization:**

No data available

**Germ cell mutagenicity:**

No data available

**Carcinogenicity**

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

**Reproductive toxicity:**

No data available

**Specific target organ toxicity – single exposure:**

No data available

**Specific target organ toxicity – repeated exposure:**

No data available

**Aspiration hazard:**

No data available

**Additional Information:**

RTECS - No data available.

**SECTION 12: ECOLOGICAL INFORMATION****TOXICITY, PERSISTENCE AND DEGRADABILITY, BIOACCUMULATIVE POTENTIAL, MOBILITY IN SOIL, OTHER ADVERSE EFFECTS****HAZARDOUS INGREDIENT TOXICITY DATA**

Component / CAS #	Toxicity to Algae	Toxicity to Fish	Toxicity to Water Flea
Blended Glycerol-Esters	No data available	LC50 >1000 mg/l (96 hours)	EC50 >1000 mg/l (48 hours)
Boron Nitride 10043-11-5	No data available	LC50 >100 mg/l (96 hours)	No data available

**Toxicity**

No data available

**Persistence and degradability**

No data available

**Bioaccumulative potential**

No data available

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

No data available

**Other adverse effects**

No data available.

**SECTION 13: DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

The company encourages the recycle and reuse of products and packaging, where possible and permitted.

**General Information**

When handling waste, the safety precautions applying to handling of the product should be considered. Do not dump into any sewers, on the ground, or into any body of water. Not to be disposed of together with household waste. Any disposal practice must be in compliance with all local and national laws and regulations. Handle and dispose contaminated packages in the same way as the product itself.

**Disposal methods**

When recycle or reuse is not possible, the company recommends that our products, especially when classified as hazardous, be disposed of by thermal treatment or incineration at approved facilities. All local and national regulations should be followed. For disposal within the European Community, waste codes according to Directive 2008/98/EC should be assigned by the user based on the application for which the product was used.

**Disposal-relevant information**

Do not release directly or indirectly to surface water, ground water, soil or public sewage system.

**Contaminated packaging**

Dispose of as unused product.

**SECTION 14: TRANSPORT INFORMATION****14.1 UN number**

ADR/RID	IMDG	IATA
-	-	-

**14.2 UN proper shipping name**

ADR/RID	IMDG	IATA
-		

**14.3 Transport hazard class(es)**

ADR/RID	IMDG	IATA
-		

**14.4 Packaging group**

ADR/RID	IMDG	IATA
-		

**14.5 Environmental hazards**

ADR/RID	IMDG Marine pollutant	IATA
no	no	no

**14.6 Special precautions for user**

Read safety instructions, SDS and emergency procedures before handling

**SECTION 15: REGULATORY INFORMATION**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

This safety datasheet complies with the requirements of Regulation (EC) No. 453/2010.

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

**15.2 Chemical Safety Assessment**

For this product a chemical safety assessment was not carried out.

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**SECTION 16: OTHER INFORMATION**

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**General Information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is finished without warranty and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

This is an experimental product. This safety data sheet is for product trials only!

**Hazard statements in full**

No hazardous ingredients.