

**Advanced Materials****Aradur<sup>®</sup> 9719-1****SOLID AROMATIC AMINE HARDENER**

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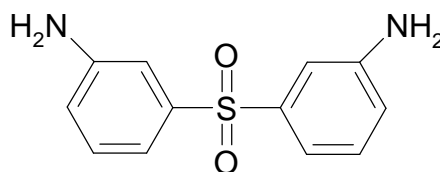
**GENERAL** Aradur<sup>®</sup> 9719-1 is a micropulverized 3,3'-Diaminodiphenyl sulfone (3,3'-DDS). It is a high performance hardener for the Araldite<sup>®</sup> epoxy resins.

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**CHEMICAL DESCRIPTION** 3,3'-Diaminodiphenyl sulfone

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**CHEMICAL STRUCTURE**



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**APPLICATION** Adhesives  
Prepregs  
High temperature laminates  
Printed circuit board laminates  
Castings  
Composites/Advance composites  
Coatings/High performance

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**ADVANTAGES** Excellent thermal stability  
Outstanding chemical resistance  
Excellent high temperature properties  
Longer prepreg self life

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<b>TYPICAL PROPERTIES*</b>	Visual Appearance	White to off white powder
	Assay, %	>98
	H <sup>+</sup> Active Equivalent (theory), g/eq.	63
	Melting Point, °C (°F)	160 – 180 (320 – 356)
	Water Content, %	<1
	Particle Size, μ	<60

\* Typical properties are based on Huntsman's test methods. Copies are available upon request.

**FORMULATION**

When Aradur<sup>®</sup> 9719-1 is been used with Araldite<sup>®</sup> MY 720 to prepare an unfilled casting the following procedure should be used.

**Parts by weight**

Araldite <sup>®</sup> MY 720	100
Aradur <sup>®</sup> 9719-1	44

**Procedure**

Carefully heat the Araldite<sup>®</sup> MY 720 to 135°C (275°F) and slowly stir in the Aradur<sup>®</sup> 9719-1 until a clear mixture is obtained. (The total mass is 500g.) Maintain a temperature of 135°C, and degas the mixture 20 minutes at 30 inches of mercury. Then pour the material into molds and cure at the cure schedule below.

For larger quantities up to 5kg, the temperature should not be allowed to go above 125°C(256°F) because a violent exotherm may result.

Unfilled batches scaled-up to >5kg should be carefully investigated by the user for possible exotherms. In all cases, hot spots should be avoided while heating. Accelerators are not recommended in formulation where no solvents or fillers are used. If accelerators are evaluated, extreme caution should be exercised.

**Cured Neat Resin Properties**

Curing Schedule, time/°C      1hr/80+1hr/100+4hr/150+2hr/177

**Glass Transition Temperature**

DMA (Dry), °C (°F)	245 (473)
DMA (Wet),* °C (°F)	230 (446)

\* Test specimens were aged for 48 hours in water at 77°C

<b>Tested @</b>	<b>25°C</b>	<b>150°C</b>
<b>Tensile Test</b>		
Tensile strength, psi (Mpa)	9500 (65.5)	9700 (67)
Tensile modulus, ksi (GPa)	591 (4.1)	421 (2.9)
Elongation, %	1.8	3.0
<b>Flexural Test</b>		
Flexural strength, psi (Mpa)	23000 (158)	15600 (108)
Flexural modulus, ksi (Gpa)	567 (3.9)	374 (3.7)

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**PACKAGING & STORAGE** Aradur<sup>®</sup> 9719-1 is supplied in 100 pound fiber drums. This product has a minimum shelf life of 5 years when stored away from excessive heat and humidity.

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**HANDLING/SAFETY PRECAUTIONS** **Caution ! May cause irritation and sensitization.**

Avoid contact with eyes and skin. Avoid breathing dust. Use with adequate ventilation. Wash after handling.

**Read Material Safety Data Sheet before using.**  
**For industrial use only.**

**FIRST AID** **In case of contact :**

**Eyes :** Promptly flush with water for several minutes. Get medical attention if irritation occurs.

**Skin :** Wash with mild soap and water. Get medical attention if irritation occurs.

**Inhalation :** Remove to fresh air. Get medical attention if respiratory irritation develops, or if breathing becomes difficult.

**Ingestion :** Give 3 to 4 glasses of water, but do not induce vomiting. Get medical attention.

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Main Offices :

**Huntsman Corporation**

10003 Woodloch Forest Dr.  
The Woodlands  
Texas 77380  
(281) 719-6000

**Huntsman Advanced Technology  
Center**

8600 Gosling Rd.  
The Woodlands  
Texas 77381  
(281) 719-7400