

BUILD PERFORMANCE AND COST-EFFICIENCY INTO YOUR FORMULATION

Selector guide for formulators



chemical-concepts.com

800.220.1966

410 Pike Road • Huntingdon Valley, PA 19006

Our sustainably sourced building blocks and preformulated master-batches enhance product characteristics, while minimizing costs.



MADE POSSIBLE



DEVELOP NEXT GENERATION PRODUCTS FOR GENERATIONS TO COME

Across virtually every industry, product developers are looking for faster ways to bring innovations to market with greater commercial value. Traditionally, formulators have been driven to make products stronger, lighter, and cheaper. Now, there is increasing pressure to develop more sustainable solutions and contribute towards a better quality of life today and for future generations.

At Huntsman Advanced Materials, we make this possible.

BRING YOUR IDEAS TO LIFE

For over 60 years, Huntsman Advanced Materials has supported market-leading businesses with specialty components for industrial products. We offer a complete range of epoxy or high-performance thermoset resins and hardeners to manufacture composites, adhesives and many other application formulations.

While superior performance is paramount, our products also enable a more sustainable future.

200 We make ideas successful with more than 200 SKUs qualified.

65% Our 65% market share in some applications demonstrates complete supply security.

Our standard products and custom-made solutions are designed for formulators, chemists, and scientists who need to meet challenging customer demands and stringent regulatory requirements.

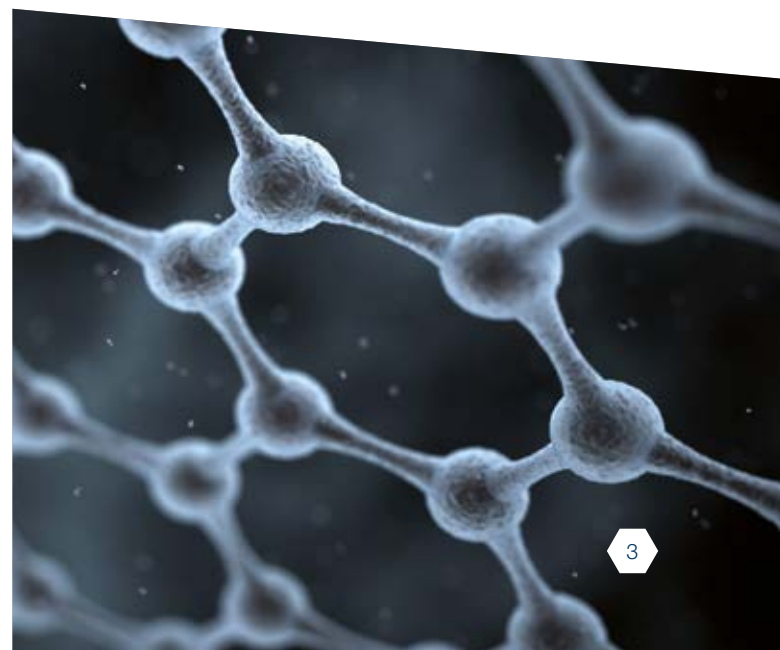
NEXT GENERATION PERFORMANCE

Working together, we can help you to accelerate your product development ambitions through a proven formulation process that opens exciting new possibilities in design and innovation.

By identifying the best building blocks, you can modify or develop high performance products with enhanced characteristics, such as lower weight, improved durability and greater resistance to fire, temperature, and chemicals, with consistent quality.

Our technical service teams offer unrivalled expertise in formulation, processing, and simulation technologies, backed by world-class manufacturing resources and globally dependable supply chains.

Not only does this help to streamline development cycles and safeguard your production process, but it also ensures that you remain fully compliant with EHS and Industrial Hygiene best practices.



THE BUILDING BLOCKS BEHIND YOUR INNOVATION

Ideas
MADE POSSIBLE

Our goal is to bring your ideas to life. No matter how complex or challenging, our formulation specialists are ready to help realize your development ambitions with sustainable building blocks and preformulated master-batches.

However, creating new formulations is not a simple process, which is why we first work closely with you to understand your specific strategic and commercial requirements. This way we can be sure you get maximum value from your investment with results that meet your needs today and long into the future.



A TRIED AND TESTED PROCESS

Right from the outset, it is important to be certain that the formulation can be produced from a technical and economic standpoint, and that it will deliver the right properties you require. Concepts need to be tested, with trials and qualifications, so it is also crucial to minimize costs through process efficiencies and with greater predictability.

It is what we do best – working in partnership and through a continuous exchange of ideas, we will help you take new products to market faster, with full compliance, less complexity, and lower costs.

GO TO MARKET FASTER AND MORE EFFICIENTLY

We can help you to significantly improve conversion times from ideas to marketable products. Our dedicated technical service teams of experts in chemistry, processing and testing will collaborate with you to deliver the right results, while managing and taking responsibility for a successful outcome.

This is achieved through a wide and regulatory-compliant range of over 200 building blocks, with many new building blocks being developed on a regular basis. We are also able to provide expert formulation and process guidance, as well as semi-formulated components.

Stay risk-free and compliant

We are a lead registrant and co-registrant under REACH of the major building blocks of Thermoset technology (BADGE / TGMMDA / DDS / etc.), which results in active dialogue with regulators. We are also an active member of environmental associations such as IAEG and AJIT, as well as Toxicological Network (ECETOC).

This means that your formulation will benefit from:

- Global regulatory risk assessment with a focus on globally compliant sourcing
- Guiding dialogue with suppliers and customers (e.g. 1500 raw materials screened)
- Onsite support of downstream users to ensure compliant use of exposure data and optimal risk management measures
- Life cycle analysis that generates environmental data, which in turn supports the industries

MARKET-LEADING PRODUCTS NEED AN INDUSTRY-LEADING PROCESS

Performance
MADE POSSIBLE

99%

Our quality control results in 99% customer satisfaction

100%

All our sites have at least two industry certifications

Industrial Hygiene and Industrial Risks expertise

Huntsman Advanced Materials supports on average 25 customers every year with a broad array of Industrial Hygiene and Industrial Risks services, including:

- PPE recommendations
- REACH clarifications including risk management
- Risk assessment and evaluation for practical manufacturing strategies
- Equipment advice
- Thermal risk management assessment



It is vital that your product development process integrates superior production efficiency with exceptional performance to deliver a stronger competitive advantage.

With Huntsman Advanced Materials, you can be sure your end-product will meet demanding and highly regulated specifications – and stay within budgets. We can also help you to drive quality and results across your entire production process in key areas such as rheology and reactivity, with proven methods and technologies to reduce costs and maintain a sustainable business platform.

STREAMLINE YOUR PROCESS

Shortening time-to-market is essential to reduce costs and to ensure your development process is as commercially viable as possible. To this end, we provide full-circle services for building blocks processing, as well as support for all your risk management needs. We can also help you to understand and clarify your packaging requirements to facilitate processing and scale-up, when necessary.

BEST-IN-CLASS SECURITY OF SUPPLY

It is also crucial for you to have absolute confidence in your production line stability. This is where our global production footprint and raw materials supply chain deliver outstanding results.

Over the years, we have developed a world-class manufacturing and supply network that delivers complete security against disruptions to your production process. As part of this, we also operate uncompromising quality control measures that always ensure consistent product quality, with specialist packaging services adapted to your specific processing requirements. You will also benefit from:

- OTIF deliveries > 95% on average
- Dangerous goods logistics expertise
- “Preferential Origin” status on most products, avoiding excessive custom taxes
- Duplication of manufacturing capabilities in different sites

Zero compromise on quality

Thanks to our Integrated Quality system from customer to supplier, less than 1% of delivery line items experience a complaint in any form, regarding both products and services.

	ISO 9001 Quality	ISO 14001 Environment	IATF 16949 Automotive	AS 9100 Aerospace
Number of certified sites	15	9	6	2



LET'S MAKE THE FUTURE A BETTER PLACE TO BE

**Tomorrow
MADE POSSIBLE**

At Huntsman Advanced Materials, the future matters to us. It is simply not viable to create high performance products if the planet pays the price. That is why we integrate sustainable practices into all our products and manufacturing processes, and why our solutions can be found in thousands of leading products across virtually every industry.

With ecological and social issues becoming ever more integral to customers' business strategies, our building blocks for adhesives, composites and encapsulating materials have been leading the way for formulators to create ground-breaking innovations that improve our quality of life – and that safeguard our environment.

SUPPORT FROM START TO SUCCESS

Customers depend upon our building blocks to improve the durability and performance of a broad variety of formulations. However, we provide even greater value through our proven ability to reduce the time needed to bring ideas to market and increase overall success rates.

With a unique product range and dedicated technical service teams, you can rely on us to support and improve your formulation process from initial concept development to final processing, and beyond.

CASE 1:

ADHESIVES FOR AUTOMOTIVE

Flexibilizer DY 965 helped one of our customers to develop a range of structural adhesives for the automotive sector. The unique behavior of the flexibilizer made it possible to achieve high-speed impact resistance (also known as “crash-test” resistance).

ARADUR® 9506 was selected by one of our customers due to its outstanding latency at room temperature and to its snap-cure behavior. This unique hardener allowed formulating one-component adhesives that are room-temperature storable and able to cure in 10 minutes at 110°C thereby reducing the storage costs for customers.



CASE 2:

COMPOSITES FOR AIRCRAFT

ARALDITE® MT 40050 is an epoxy resins that is intrinsically flame resistant. It shows the same mechanical performance and processability characteristics as standard epoxy resins and enabled one of our customers to develop a structural and FST prepreg solution for applications in place of phenolic-based prepreps.

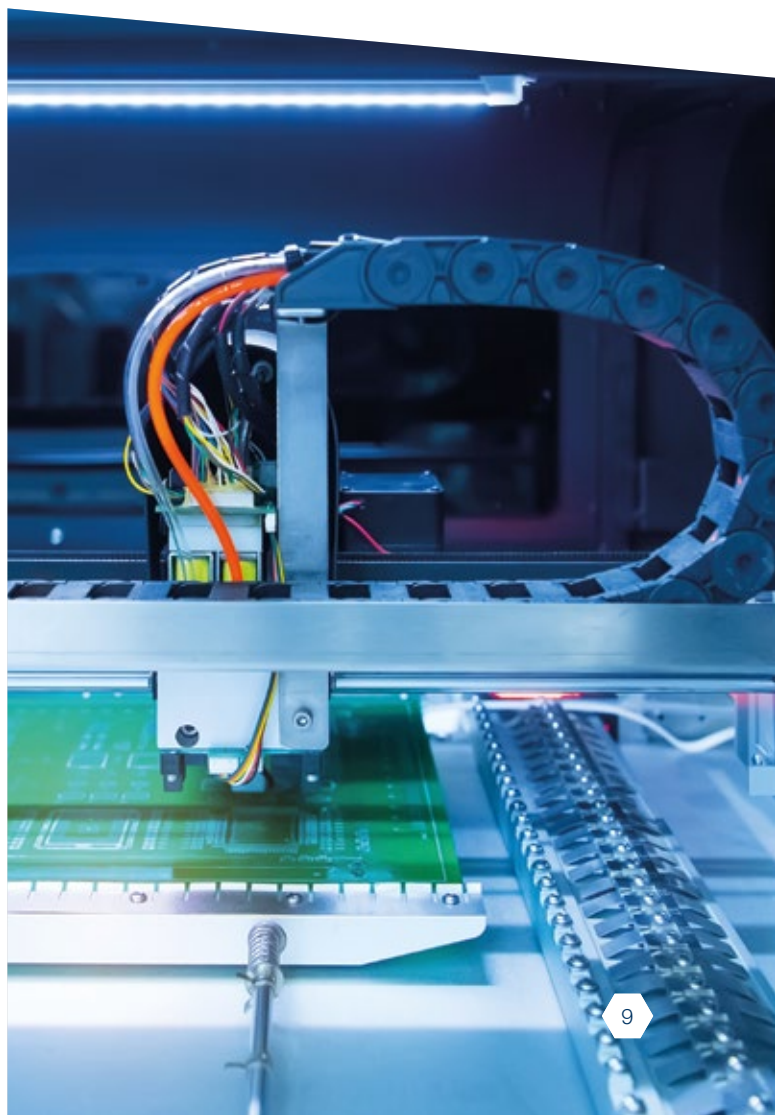
ARALDITE® MY 0600 and ARALDITE® MY 0610 were developed in the early 2000's to provide higher modulus compared with similar multifunctional epoxy resins for aerospace prepreps. This innovation enabled the use of composites for highly loaded parts, such as the fuselage of commercial aircraft.



CASE 3:

THERMOSET RESINS FOR TECHNOLOGY

During the 2000's, Huntsman made Benzoxazine chemistry commercially viable on an industrial scale. This resulted in thermoset resins with several benefits over epoxies, for example flame resistance, high modulus, high temperature resistance, near-zero shrinkage, and low dk/df characteristics. This helped one of our customers to develop break-through innovations for printed circuit boards.



PRODUCT LIST

EPOXY RESINS

BISPHENOL-A BASED EPOXY RESINS	12
Unmodified liquid resins	12
High purity liquid resins	12
Solid epoxy resins – low and medium molecular weight	13
Solid epoxy resins – high molecular weight	13
BISPHENOL-F BASED EPOXY RESINS	14
Unmodified liquid resins	14
Bisphenol-A / Bisphenol-F epoxy resins	14
EPOXY REACTIVE DILUENTS	14
Mono functional reactive diluents	14
Multifunctional reactive diluents	15
NOVOLAC RESINS	15
Epoxy Phenol Novolac (EPN)	15
Epoxy Cresol Novolac (ECN)	16
Epoxy DCPD Novolac (EDCPDN)	16
CYCLOALIPHATIC EPOXY RESINS	16
GLYCIDYL AMINE BASED EPOXY RESINS	17
OTHER SPECIALTY EPOXY RESINS	17
FORMULATED RESINS AND WATERBORNE	18
Formulated liquid resins	18
Formulated solid resins	19
Waterborne resins	19

EPOXY CURING AGENTS AND ACCELERATORS

POLYAMIDOAMINE BASED	20
AROMATIC AMINE BASED	20
FORMULATED HARDENERS AND ACCELERATORS	21
Formulated hardeners	21
Paste hardeners and accelerators	22
Waterborne hardeners	22
Liquid accelerators	23
Solid accelerators	23
ANHYDRIDE BASED	23

Note

EHC: Easily Hydrolysable Chlorine

TC: Total Chlorine

n.m.: Not Measured

n.a.: Not Applicable

TOUGHENERS AND FLEXIBILIZERS

PHENOL FUNCTIONALIZED	24
EPOXY FUNCTIONALIZED	24
AMINE FUNCTIONALIZED	25
ADHESION PROMOTERS	25

IMIDES AND BENZOXAZINES

IMIDES BASED RESINS	26
Bismaleimides	26
Polyimides	26
Polyamide-imides	26
BENZOXAZINES	27
Benzoxazine resins	27
Benzoxazine accelerators	27

EPOXY RESINS

BISPHENOL-A BASED EPOXY RESINS

Unmodified liquid resins

Product designation	Viscosity	Epoxy equivalent weight	EHC	Characteristics / comments
Conditions	25°C			
Units	mPa.s	g/Eq	ppm	
ARALDITE® GY 240	7 000 - 9 000	178 - 183	0 - 400	Aero grade available.
ARALDITE® GY 266	9 500 - 12 000	189 - 196	n.m.	
ARALDITE® LY 1556	9 500 - 12 000	189 - 196	0 - 1 000	Controlled chlorine content.
ARALDITE® GY 250	10 000 - 12 000	183 - 189	0 - 400	
ARALDITE® LY 556	10 000 - 12 000	183 - 189	400 - 1 000	Aero grade.
ARALDITE® GY 2600	12 000 - 14 000	184 - 189	0 - 170	Low chlorine content. Aero grade available.
ARALDITE® GY 260	12 000 - 16 000	182 - 192	n.m.	
ARALDITE® GY 261	12 500 - 17 500	192 - 204	8 000 - 12 000	High chlorine content.
ARALDITE® GY 280	100 - 300 at 100°C	225 - 280	n.m.	Semi-solid (uncured Tg (°C) : - 4 to 0). Available at 80% in xylene.

High purity liquid resins

Product designation	Viscosity	Epoxy equivalent weight	EHC	Characteristics / comments
Conditions	25°C			
Units	mPa.s	g/Eq	ppm	
TACTIX® 123	4 400 - 5 600	172 - 176	n.m.	Distilled grade, lowest viscosity within the Bis-phenol A epoxy range. Aero grade.
TACTIX® 124	60 - 80 at 70°C	169 - 178	n.m.	Distilled grade.

Solid epoxy resins – low and medium molecular weight

Product designation	Viscosity	Epoxy equivalent weight	Softening point	Characteristics / comments
Conditions	25°C / 40% in butylcarbitol			
Units	mPa.s	g/Eq	°C	
ARALDITE® GT 7071	200 - 250	500 - 525	77 - 82	Type 1. Available at 75% in xylene.
ARALDITE® GT 7072	280 - 340	570 - 595	82 - 90	Type 2.
ARALDITE® GT 7004	500 - 600	714 - 752	95 - 101	Type 3.5.
ARALDITE® GT 6084-2	550 - 700	833 - 895	99 - 105	Type 4.

Solid epoxy resins – high molecular weight

Product designation	Viscosity	Epoxy equivalent weight	Softening point	Characteristics / comments
Conditions	25°C / 40% in butylcarbitol			
Units	mPa.s	g/Eq	°C	
ARALDITE® GT 7077	1 300 - 1 900	1 490 - 1 640	125 - 135	Type 7.
ARALDITE® GT 6097	1 800 - 2 600	1 695 - 1 885	121 - 132	Type 7.
ARALDITE® GT 6609	2 700 - 4 800	2 380 - 2 941	~ 150	Type 9, low viscosity. Available in powder form.
ARALDITE® GT 6099	5 000 - 10 000	2 380 - 2 941	143 - 158	Type 9.
ARALDITE® GZ 7488 N50	2 000 - 5 000 (as produced)	≥ 12 500	n.a.	High molecular weight. Solution: 50% in MEK/cyclohexanone/1-methoxy-2-propylacetate (81:11:8).
ARALDITE® GZ 7488 V40	3 000 - 6 000 (as produced)	≥ 17 000	n.a.	High molecular weight. Solution: 40% in 1-methoxy-2-propylacetate/cyclohexanone (93:7).

EPOXY RESINS

BISPHENOL-F BASED EPOXY RESINS

Unmodified liquid resins

Product designation	Viscosity	Epoxy equivalent weight	Characteristics / comments
Conditions	25°C		
Units	mPa.s	g/Eq	
ARALDITE® PY 306	1 200 - 1 800	156 - 167	Distilled, very low viscosity. Aero grade.
ARALDITE® GY 285	2 000 - 3 000	164 - 172	Aero grade available.
ARALDITE® GY 282	3 300 - 4 100	164 - 172	Aero grade available.
ARALDITE® GY 281	5 000 - 7 000	158 - 172	

Bisphenol-A / Bisphenol-F based liquid resins

Product designation	Viscosity	Epoxy equivalent weight	Characteristics / comments
Conditions	25°C		
Units	mPa.s	g/Eq	
ARALDITE® PY 304	6 500 - 8 000	172 - 182	
ARALDITE® PY 302-2	6 500 - 8 000	169 - 177	Non-crystallizing.
ARALDITE® PY 720	7 000 - 9 400	179 - 189	

EPOXY REACTIVE DILUENTS

Mono functional reactive diluents

Product designation	Viscosity	Epoxy equivalent weight	Characteristics / comments
Conditions	25°C		
Units	mPa.s	g/Eq	
ARALDITE® DY-E	4 - 12	275 - 315	Monoglycidylether of C12-C14 alcohol.
ARALDITE® DY-K	6 - 12	175 - 189	Monoglycidylether of cresol.
ARALDITE® DY-P	20 - 28	222 - 244	Monoglycidylether of p-tert. Butylphenol.

Multifunctional reactive diluents

Product designation	Viscosity	Epoxy equivalent weight	Characteristics / comments
Conditions	25°C		
Units	mPa.s	g/Eq	
ARALDITE® DY-026	11 - 15	110 - 115	Diglycidylether of butanediol. Aero grade.
ARALDITE® DY-D	15 - 25	118 - 125	Diglycidylether of butanediol.
ARALDITE® DY-H	21 - 31	143 - 155	Diglycidylether of 1.6-hexanediol.
ARALDITE® DY 3601	42 - 52	385 - 405	Diglycidylether of polyoxypropylene.
ARALDITE® DY 3602	15 - 60	159 - 192	Diglycidylether of polyoxyethylene.
ARALDITE® DY-C	50 - 100	154 - 167	Diglycidylether of cyclohexane dimethanol.
ARALDITE® DY-F	60 - 90	425 - 513	Diglycidylether of polyoxypropylene.
ARALDITE® DY-L	160 - 240	606 - 800	Glycerol propoxylated triglycidylether.
ARALDITE® DY-T	100 - 300	122 - 128	Triglycidylether of trimethylolpropane.
ARALDITE® DY-S	1 000 - 1 400	160 - 180	Multiglycidylether of poly-glycerol (high content of biosourced materials).

NOVOLAC RESINS

Epoxy Phenol Novolac (EPN)

Mainly used for improvement of Tg levels, modulus, strength and chemical resistance. Typical applications in filament winding, RTM, prepregs and high Tg adhesives.

Product designation	Viscosity	Epoxy equivalent weight	EHC	Characteristics / comments
Conditions	52°C			
Units	mPa.s	g/Eq	ppm	
ARALDITE® GY 289	7 000 - 11 000 at 25°C	167 - 175	n.m.	Low viscosity, functionality 2.2.
ARALDITE® PY 307-1	30 000 - 50 000 at 25°C	169 - 179	n.m.	Medium viscosity, functionality 2.2.
ARALDITE® EPN 1179	1 100 - 1 700	172 - 179	0 - 1 500	Semi-solid, functionality 2.5.
ARALDITE® EPN 1139	1 100 - 1 700	172 - 179	n.m.	Semi-solid, functionality 2.5. Aero grade.
ARALDITE® EPN 1180	20 000 - 50 000	175 - 182	n.m.	Semi-solid, functionality 3.6. Available at 80% in xylene.
ARALDITE® EPN 1138	20 000 - 50 000	175 - 182	0 - 1 000	Semi-solid, functionality 3.6. Controlled chlorine content. Aero grade.

EPOXY RESINS

Epoxy Cresol Novolac (ECN)

Use to upgrade epoxy formulations to improve thermal, mechanical and chemical resistance. Typical applications in high temperature adhesives, composites, electrical and laminating products.

Product designation	Viscosity	Epoxy equivalent weight	Softening point	EHC	Characteristics / comments
Conditions	130°C				
Units	mPa.s	g/Eq	°C	ppm	
ARALDITE® ECN 9511	n.m.	200 - 227	32 - 42	0 - 1 500	Functionality 2.7.
ARALDITE® ECN 1273	1 000 - 2 700	217 - 233	68 - 78	0 - 1 500	Functionality 4.8.
ARALDITE® ECN 1280	3 000 - 4 000	206 - 224	75 - 85	0 - 1 500	Functionality 5.1. Aero grade available.
ARALDITE® ECN 1299	7 000 - 15 000	206 - 230	85 - 100	0 - 2 000	Functionality 5.4. Aero grade available.

Epoxy Dicyclopentadiene Novolac (EDCPDN)

Lower moisture absorption than other novolac epoxies commonly used in advanced composites. Equivalent glass transition temperatures in dry conditions as standard epoxy novolac resins. Ideal for use when retention of properties under hot and wet conditions is critical.

Product designation	Viscosity	Epoxy equivalent weight	Softening point	EHC	Characteristics / comments
Conditions	85°C				
Units	mPa.s	g/Eq	°C	ppm	
TACTIX® 556	1 000 - 1 500	225 - 240	50 - 55	0 - 300	Multifunctional hydrocarbon epoxy novolac with high moisture resistance. Aero grade.
TACTIX® 756	n.m.	250 - 274	78 - 90	0 - 100	Multifunctional hydrocarbon epoxy novolac with high moisture resistance. Aero grade.

CYCLOALIPHATIC EPOXY RESINS

Non aromatic, UV resistant, medium to high Tg.

Product designation	Viscosity	Epoxy equivalent weight	Characteristics / comments
Conditions	25°C		
Units	mPa.s	g/Eq	
ARALDITE® CY 179	250 - 450	130 - 143	Bis-(epoxycyclohexyl)methylcarboxylate. Low viscosity, high deflection temperature, excellent dielectric properties, good UV resistance. Typical applications in insulators, transformers, generators and motors.
ARALDITE® CY 192-1	430 - 660	150 - 164	Tetrahydrophthalic acid diglycidylester. Low viscosity, solventless impregnating resins. Typical applications in insulators, transformers, generators and motors.
ARALDITE® CY 184	700 - 900	164 - 172	Hexahydrophthalic acid diglycidylester. Low viscosity, high deflection temperature, excellent dielectric properties, good UV resistance. Typical applications in insulators, transformers, generators and motors.

GLYCIDYL AMINE BASED EPOXY RESINS

Unique combination of high epoxy functionality, aromatic backbone and relatively low viscosity. Main features: strong improvement of Tg levels and modulus in epoxy formulations. Typical applications: prepregs, RTM, filament winding and high Tg adhesives.

Product designation	Viscosity	Epoxy equivalent weight	EHC	Characteristics / comments
Conditions				
Units	mPa.s	g/Eq	ppm	
ARALDITE® MY 0500	2 000 - 5 000 at 25°C	100 - 115	300 - 3 000	TGPAP based trifunctional epoxy resins, liquid. Aero grade.
ARALDITE® MY 0510	550 - 850 at 25°C	96 - 106	0 - 2 000	Distilled TGPAP based trifunctional epoxy resins, lower viscosity and higher stability than MY 0500. Aero grade.
ARALDITE® MY 0600	7 000 - 13 000 at 25°C	101 - 111	0 - 3 000	TGMAP based trifunctional epoxy resins, liquid. Aero grade.
ARALDITE® MY 0610	1 500 - 4 800 at 25°C	94 - 102	0 - 2 000	Distilled TGMAP based trifunctional epoxy resins, lower viscosity and higher stability than MY 0600. Aero grade.
ARALDITE® MY 721	3 000 - 6 000 at 50°C	111 - 117	0 - 2 000	TGMDA based tetrafunctional epoxy resins, liquid. Aero grade. Industrial version available.
ARALDITE® MY 9655	6 900 - 11 400 at 50°C	113 - 125	0 - 1 000	TGMDA based tetrafunctional epoxy resins, liquid. Aero grade.
ARALDITE® MY 9612	10 000 - 12 000 at 50°C	117 - 134	700 - 1 000	TGMDA based tetrafunctional epoxy resins, liquid. Aero grade.
ARALDITE® MY 9512	11 000 - 13 000 at 50°C	117 - 134	0 - 1 000	TGMDA based tetrafunctional epoxy resins, liquid. Aero grade.
ARALDITE® MY 9634	13 000 - 15 000 at 50°C	118 - 133	0 - 1 000	TGMDA based tetrafunctional epoxy resins, liquid. Aero grade.
ARALDITE® MY 9663	17 000 - 19 000 at 50°C	117 - 133	0 - 1 000	TGMDA based tetrafunctional epoxy resins, liquid. Aero grade.
ARALDITE® MY 720	7 000 - 19 000 at 50°C	117 - 134	0 - 1 000	TGMDA based tetrafunctional epoxy resins, liquid.
ARALDITE® MY 722	8 000 - 11 000 at 25°C	118 - 133	0 - 1 000	E-TGMDA based tetrafunctional epoxy resins, liquid, lower viscosity. Aero grade.

OTHER SPECIALTY EPOXY RESINS

Product designation	Viscosity	Epoxy equivalent weight	Softening point	EHC	Characteristics / comments
Conditions					
Units	mPa.s	g/Eq	°C	ppm	
ARALDITE® MY 0816	25 000 - 80 000 at 25°C 1 500 - 2 500 at 50 °C	133 - 154	n.a.	0 - 2 000	Naphthalene-based epoxy, high performance bifunctional epoxy. Provides higher glass transition temperatures than bisphenol-A epoxy resins, close to glycidylamines epoxy resins. Contributes to toughness improvement via reduction of cross-linking density. Low contribution to water uptake.
TACTIX® 742	700 - 800 at 100°C	150 - 170	45 - 55	0 - 500	Tris(hydroxyphenyl)methane based epoxy resins. Provides very high glass transition temperatures. Most commonly used in adhesive and composite formulation, especially for parts and components near high-heat zones. Aero grade.
ARALDITE® MT 40050 FST	2 500 - 4 000 at 50°C	200 - 210	n.a.	0 - 3 000	Bisphenol-C based epoxy resins with inherent FST and Heat Release properties. Thermo-mechanical properties similar to liquid Bis-phenol A based epoxy resins. Suggested for the manufacturing of prepregs, laminates and adhesives when flame retardant properties are required and when low smoke density and toxicity are key.

EPOXY RESINS

FORMULATED RESINS AND WATERBORNE

Formulated liquid resins

Product designation	Viscosity	Epoxy equivalent weight	Characteristics / comments
Conditions	25°C		
Units	mPa.s	g/Eq	
ARALDITE® BY 158	280 - 360	154 - 161	BPA resins with difunctional reactive diluent.
ARALDITE® GY 764	350 - 550	179 - 189	BPA resins with difunctional reactive diluent.
ARALDITE® GY 257	500 - 650	182 - 192	BPA resins with monofunctional reactive diluent.
ARALDITE® GY 253	700 - 1 400	172 - 185	BPA resins with difunctional reactive diluent.
ARALDITE® GY 279	800 - 1 500	194 - 208	BPA resins with monofunctional reactive diluent.
ARALDITE® GY 784	1 200 - 1 600	192 - 204	BPA resins with monofunctional reactive diluent.
ARALDITE® GY 298	2 000 - 4 000	400 - 455	BPA resins with reactive flexibilizer.
ARALDITE® GY 776	2 700 - 3 800	185 - 196	BPA resins with monofunctional reactive diluent.
ARALDITE® BY 157	4 200 - 5 700	182 - 187	BPA resins with difunctional reactive diluent.
ARALDITE® GY 793	650 - 750	185 - 200	BPA/F resins with monofunctional reactive diluent.
ARALDITE® GY 783	800 - 1 100	185 - 196	BPA/F resins with monofunctional reactive diluent.
ARALDITE® PY 3483	1 000 - 1 600	196 - 208	BPA/F resins with monofunctional reactive diluent.
ARALDITE® EPN 1183	7 000 - 13 000	145 - 159	Medium viscosity, modified EPN, functionality 3.3.



Formulated solid resins

Product designation	Viscosity	Epoxy equivalent weight	Softening point	Characteristics / comments
Conditions	25°C / 40% in butylcarbitol			
Units	mPa.s	g/Eq	°C	
ARALDITE® GT 7220	460 - 670	520 - 545	90 - 100	BPA resins with EPN.
ARALDITE® GT 7255	1 000 - 1 600	775 - 855	106 - 113	BPA resins with EPN.

Waterborne resins

Product designation	Viscosity	Epoxy equivalent weight	Solid content	Characteristics / comments
Conditions	25°C			
Units	mPa.s	g/Eq	wt. %	
ARALDITE® PZ 33757/67	50 - 400, sl. thixotropic	256 - 274	65 - 69	Emulsified, crystallization-resistant liquid epoxy resins.
ARALDITE® PZ 756-1/67	50 - 400	270 - 295	66 - 68	Emulsified, crystallization-resistant liquid epoxy resins.
ARALDITE® PZ 3961-1	450 - 820	925 - 1 048	51 - 55	Aqueous dispersion of BPA type 1 resins.
ARALDITE® ECN 1400	900 - 1 500	217 - 244 ¹	38 - 42	Water-based epoxy cresol novolac resins.
ARALDITE® PY 33757	5 000 - 8 000	172 - 182	100	Emulsifiable, crystallization-resistant liquid epoxy resins.
ARALDITE® PZ 3903-2	8 000 - 20 000	715 - 800 ¹	53 - 58	Aqueous dispersion of Type 3 epoxy resins.
ARALDITE® PZ 3907-1	8 000 - 20 000	1 800 - 2 200 ¹	52 - 55	Aqueous dispersion of Type 7 epoxy resins.

¹ Measured on the solid products



EPOXY CURING AGENTS AND ACCELERATORS

POLYAMIDOAMINE BASED

Hardeners for low to medium Tg two-components system, typical applications in adhesives.

Product designation	Viscosity	H+ active equivalent weight	Gel time	Characteristics / comments
Conditions	25°C		with ARALDITE® GY 250, 250 g	
Units	mPa.s	g/Eq	min	
ARADUR® 350	100 - 400	95	180	Polyaminoimidazoline.
ARADUR® 33225	100 - 400	75 - 115	900	Polyamidoimidazoline. Good latency at room temperature.
ARADUR® 370	150 - 350	95	70	Polyaminoimidazoline.
ARADUR® 250	400 - 700	95	60	Polyamidoamine.
ARADUR® 3282-1	900 - 1900	115	100	Formulated polyamidoamine adduct for enhanced adhesion properties. Good adhesion on unprepared surface.
ARADUR® 145	2 400 - 4 000	95	180	Polyaminoimidazoline.
ARADUR® 224	4 000 - 7 000	180	> 480	Polyaminoimidazoline.
ARADUR® 140	300 - 600 at 75°C	95	120	Polyaminoimidazoline.
ARADUR® 125	700 - 900 at 75°C	130	120	Polyamidoamine. Available in solvent.
ARADUR® 115	3 100 - 3 700 at 75°C	240	> 1 000 (50% in methoxypropylacetate)	Semi-solid polyamidoamine. Available in solvent.

AROMATIC AMINE BASED

High performance curing agents for epoxy resins when thermal stability, high temperature performance and chemical resistance are key.

Product designation	H+ active equivalent weight	Softening point	Characteristics / comments
Conditions			
Units	g/Eq	°C	
ARADUR® 976-1	63	176 - 180	4,4'-DiaminoDiphenylSulfone. Aero grade. Industrial grade available.
ARADUR® 9664-1	63	176 - 185	Micropulverised 4,4'-DiaminoDiphenylSulfone. Aero grade.
ARADUR® 9719-1	63	170 - 180	Micropulverised 3,3'-DiaminoDiphenylSulfone. Aero grade.

FORMULATED HARDENERS AND ACCELERATORS

Formulated hardeners

Product designation	Viscosity	H+ active equivalent weight	Gel time	Tg range	Characteristics / comments
Conditions	25°C		with ARALDITE® GY 250 (100g, 23°C)	cured with ARALDITE® GY 250	
Units	mPa·s	g/Eq	min	°C	
ARADUR® 70	16 000 - 27 000	~ 900	300 - 500	< -10	Polyetherurethane amine. Hardener giving very high flexibility. Max elongation at 23°C 350% and at -10°C > 250%.
ARADUR® 3275	200 - 300	250	~ 85	< -10	Formulated polyetherpolyamine giving high level of flexibility. Elongation 110% at 23°C and up to 50% down to -10°C.
ARADUR® 15-1	100 - 300	140	~ 18	< 30	Polyamine. Suitable for flexibilizing and hydrophobizing mastics.
ARADUR® 2992	10 - 20	55	~ 5	75 - 95	Polyamine. Can be used as reactive fast accelerator in combination with other hardener or for anchor bonding adhesive.
ARADUR® 3486	10 - 20	57	~ 550	95 - 110	Polyamine. Can be used in 2K systems for wet lay-up, infusion, adhesives. Exhibits very high ultimate elongation in combination with a long pot life.
ARADUR® 20317	2 500 - 6 000	~ 65	65	85 - 110	Formulated aliphatic polyamine adduct. UV resistant (low yellowing).
ARADUR® 33641	4 000 - 8 000	58	~ 15	90 - 110	Formulated aliphatic amine for fast cure. Recommended to enhance chemical resistance. Suitable for food contact (EU).
ARA® COOL 3077	400 - 540	70 - 75	15	90 - 100	Formulated aliphatic amine for fast cure. Good surface aspect even at low curing temperature.
ARADUR® 20250	130 - 210	30	21	110 - 130	Formulated polyamine for fast cure and processes requiring low viscosity. Good adhesion to most substrates.
ARADUR® 20315	5 500 - 8 000	59	112	135 - 150	Formulated polyamine adduct. Recommended for two-components industrial composites and adhesives applications. Suitable for food contact (EU).
ARADUR® 3741	5 - 25	39	~ 84	115 - 140	Polyamine. Can be used in 2K systems for wet lay-up, infusion, adhesives. Exhibits excellent mechanical properties and good thermal resistance.
XB 3473	80 - 125	~ 43	21 - 29 at 140°C	165 - 195	Latent polyamine for high temperature applications.
ARADUR® 835	Solid	200	-	< 80	Purified solid aliphatic polyamine adduct. Flexibilizing hardener with good chemical resistance. Available in solvent.
ARADUR® 9506	Solid	~ 75	0 - 10 at 100°C	85 - 105	Solid cyclic polyaminoamide in powder form. Outstanding latency at room temperature. Very high reactivity when temperature rises 95 - 100°C.

EPOXY CURING AGENTS AND ACCELERATORS

Paste hardeners and accelerators

Product designation	Viscosity	Gel time	Characteristics / comments
Conditions	25°C	with ARALDITE® GY 250 (ratio 100/20, 130°C)	
Units	mPa.s	min	
ARADUR® 1571	28 000 - 40 000	n.a.	DICY paste (28% DICY in epoxy resins). Particle size: 98% < 10 µm. Eliminates manipulation of dicyandiamide in powder form and the need for heavy dispersion equipments. Homogeneous, agglomerate-free dispersion. Easy to manipulate and introduce in epoxy resins formulations.
Accelerator 1573	60 000 - 90 000	15 - 19	Urea based accelerator paste, suggested for use in combination with ARADUR® 1571. Particle size: 98% < 10 µm.

Waterbone hardeners

Product designation	Viscosity	H+ active equivalent weight	Pot life	Characteristics / comments
Conditions	25°C		with ARALDITE® GY 776	
Units	mPa.s	g/Eq	min	
ARADUR® 3985	1 000 - 6 000	~ 265	~ 60	Polyamine adduct 54 - 56% in water.
ARADUR® 36	4 000 - 7 000	~ 165	~ 150	Polyamine adduct 79 - 81% in water.
ARADUR® 38-1	12 000 - 20 000	~ 150	~ 75	Polyamine adduct 79 - 81% in water.
ARADUR® 39	12 000 - 20 000	~ 335	120 - 240	Polyamine adduct 49 - 51% in water.
ARADUR® 435	13 000 - 23 000	~ 250	90 - 120	Polyamidoamine adduct 49 - 51% in water.
ARADUR® 340	18 000 - 23 000	~ 210	120 - 180	Polyamidoamine adduct 49 - 51% in water.
ARADUR® 3987	15 000 - 30 000	~ 147	~ 60	Polyamine adduct 80% in water.
ARADUR® 3986	15 000 - 35 000	~ 415	~ 180	Polyamine adduct 39 - 41% in water.
ARADUR® 35-1	19 000 - 35 000	~ 380	~ 90	Polyamine adduct 50 - 55% in water.

Liquid accelerators

Product designation	Viscosity	Characteristics / comments
Conditions	25°C	
Units	mPa.s	
Accelerator DY 062	0 - 10	Tertiary amine based accelerator. Extremely low viscosity. For ambient and high temperature cure epoxy systems.
Accelerator 3130	10 - 100	Non amine accelerator for epoxy system. Extremely high reactivity at ambient temperature. Ideal as drop-in accelerator to cope with cold weather.
Accelerator 960-1	150 - 300	Tertiary amine based accelerator. For ambient cure epoxy systems and alternatively as hardener/catalyst for high temperature cure epoxy system.
Accelerator 2950	2 000 - 6 000	Reactive, tertiaryamine based accelerator, for ambient cure epoxy systems. Low plasticising effect.

Solid accelerators

Product designation	Softening point	Characteristics / comments
Conditions		
Units	°C	
Accelerator DY 9577	25 - 31	Latent accelerator based on boron trichloride amine complex. Good latency up to 80°C. High reactivity above 120°C. Fosters homopolymerization of epoxy. Also used as accelerator for anhydride hardener.
ARADUR® HT 973	80 - 95	Boron trifluoride amine complex. Commonly used to cure epoxy at 80 - 100°C.
ARADUR® 3123	180 - 250	Low toxicity imidazole based accelerator. Low solubility in epoxy resins at room temperature. Outstanding latency vs. standard imidazole.
ARADUR® 1167	89 - 102	Latent modified phenolic accelerator. Outstanding latency up to 80°C. Similar reactivity than urea accelerator at 120°C and above.

ANHYDRIDE BASED

Hardeners of choice when process requires very long latency, low viscosity and also when high temperature resistance is targeted.

Product designation	Viscosity	Softening point	Molecular weight	Characteristics / comments
Conditions	25°C			
Units	mPa.s	°C	g/Eq	
ARADUR® 917-1	50 - 100		166	Methyl tetrahydrophthalic anhydride for high temperature industrial composite applications by filament winding, RTM and pultrusion.
ARADUR® HY 906	175 - 350		178	Nadic methyl anhydride for high Tg composites and potting applications.
ARADUR® 3380-1	n.a.	92 - 110	285	Low molecular weight modified anhydride (anhydride content ~ 3.5 eq/kg), hardener for epoxy based can coatings and powder coating.

TOUGHENERS AND FLEXIBILIZERS

PHENOL FUNCTIONALIZED

Phenol functionalized adducts to increase toughness and flexibility in hot curing (> 100°C) thermoset formulations. Typical usage in adhesive and composite applications.

Product designation	Viscosity	Hydroxy equivalent weight	Characteristics / comments
Conditions	25°C		
Units	Pa.s	g/Eq	
ARALDITE® DY 1186	5.6 - 8.4	500 - 700	Low viscosity, phenol terminated polyether adduct.
Flexibilizer DY 965	440 - 1 280 at 40°C	869 - 1 000	Phenol terminated polyurethane adduct. Viscous liquid. Outstanding improvement of impact resistance, especially during high speed sollicitation and when combined with CTBN based tougheners (synergistic effect). Improves adhesion on metals, especially at sub-zero temperatures, down to -40°C.

EPOXY FUNCTIONALIZED

Product designation	Viscosity	Epoxy equivalent weight	Characteristics / comments
Conditions	25°C		
Units	mPa.s	g/Eq	
ARALDITE® DY 3601	42 - 52	385 - 405	Low viscosity, di-functional polypropylene glycol-based epoxy resins. Enhances flexibility of epoxy systems.
ARALDITE® DY-L	160 - 240	608 - 800	Low viscosity, tri-functional polypropylene glycol-based epoxy resins. Enhances flexibility of epoxy systems.
ARALDITE® LY 3508	11 000 - 20 000	191 - 206	Liquid toughened epoxy resins. Similar viscosity as standard liquid Bisphenol-A based epoxy resins. Unique multi-phase toughening technology. Provides high toughness with minor effect on glass transition temperature. Suggested use in adhesives and composite formulations.
TACTIX® 695-1	1 500 - 5 500 at 70°C	335 - 410	Single phase in-situ toughened epoxy resins. Contains proprietary blocked catalyst irreversibly deblocked at 80°C or above. Can be used alone or as an additive to other resins systems to increase toughness. Outstanding fracture toughness along with thermal and mechanical properties of standard epoxy resins. Suggested for highly damage-tolerant composites or high peel strength adhesive applications. Aero grade.
ARALDITE® PY 4122-1	7 500 - 22 500	450 - 480	Internally flexibilized Bisphenol-A type epoxy resins. Generally used in adhesives and sealants requiring flexibility and toughness. Also used as a modifier in solventless and high solids coatings requiring toughness, adhesion, corrosion and abrasion resistance.

AMINE FUNCTIONALIZED

Amine functionalized, used in epoxy formulations to provide high elongation to adhesive and composite materials.

Product designation	Viscosity	H+ active equivalent weight	Gel time	Characteristics / comments
Conditions	25°C		ARALDITE® GY 250 (100g, 23°C)	
Units	mPa.s	g/Eq	min	
ARADUR® 15-1	100 - 300	140	~ 18	Polyamine. Suitable for flexibilizing and hydrophobizing adhesives and mastics.
ARADUR® 3275	200 - 300	250	~ 85	Formulated polyetherpolyamine giving high level of flexibility. Elongation 110% at 23°C and up to 50% down to -10°C.
ARADUR® 70	16 000 - 27 000	~ 900	300 - 500	Polyether urethane amine. Hardener giving very high flexibility. ~ 350% elongation at break at 23°C; > 250% at -10°C.

ADHESION PROMOTERS

Product designation	Viscosity	Epoxy equivalent weight	Characteristics / comments
Conditions	25°C		
Units	mPa.s	g/Eq	
ARALDITE® DY 1158	< 20	450 - 550	Low viscosity epoxy silane with unique substituents. Suitable as adhesion promoter and flexibilizer in epoxy formulations. Typical usage in high temperature epoxy adhesives.
ARALDITE® DY 91158	50 - 150	260 - 290	Modified version of ARALDITE® DY 1158 with Bisphenol-A based epoxy resins.



IMIDES AND BENZOXAZINES

IMIDES BASED RESINS

Bismaleimides

Thermosetting resins suitable for long-term thermal resistance above 200°C.

Product designation	Viscosity	Double bond content	Melting point	Characteristics / comments
Conditions	25°C			
Units	mPa.s	% of theoretical	°C	
MATRIMID® 5292 A	Solid	> 85	153 - 170	4,4 Bismaleimidodiphenylmethane. Outstanding heat performance (Tg range 250 - 300°C) and excellent mechanical properties at high temperature. Can be used in advanced composite structures and high performance structural adhesives. Can be used with Matrimid® 5292 B to optimize processing, toughness and performance.
MATRIMID® 5292 B	12 000 - 20 000	> 90	n.a.	O,O'- Diallyl bisphenol A. For use with Matrimid® 5292 A to optimize toughness, processing and performance.

Polyimides

Thermosetting and thermoplastic resins for long-term thermal resistance above 200°C.

Product designation	Viscosity	Gel time	Solid content	Characteristics / comments
Conditions	25°C	170°C		
Units	mPa.s	sec	wt. %	
KERIMID® 701 A N-70	1 300 - 3 600	250 - 450	69 - 71	Non-MDA based polyimide prepolymer in solution in MEK. Suitable for use in the manufacture of high performance composites. Provides glass transition temperatures above 250°C with excellent thermostability. Low coefficient of thermal expansion (CTE).
KERIMID® 701-1 B	20 - 80	n.a.	44 - 46	Halogenated flame retardant additive for use in conjunction with Kerimid® 701 A to achieve UL 94 V-O flammability performance.
KERIMID® 701 C	0 - 60	n.a.	35 - 37	Halogenated flame retardant additive for use in conjunction with Kerimid® 701 A to achieve superior thermal performance as well as UL 94 V-1 flammability performance. Lower halogene content than Kerimid® 701-1 B.
KERIMID® 8292 NPM 60-1	100 - 600	275 - 400	59 - 64	Non-MDA polyimide pre-polymer in solution. Suggested for high temperature composites application such as laminates for printed circuit boards. Supplied at 60% non-volatiles in methyl ethyl ketone and propylene glycol monomethyl ether.
KERIMID® 8292 N-75	2 000 - 6 000	400 - 550	74 - 76	Non-MDA polyimide pre-polymer in solution. Suggested for high temperature composites application such as laminates for printed circuit boards. Supplied at 75% non-volatiles in methyl ethyl ketone.
MATRIMID® 5218	n.a.	n.a.	100	Soluble and fully imidized thermoplastic polyimide powder. Very high glass transition temperature (> 300°C). Excellent high temperature properties for use in structural composites and adhesives. Excellent adhesion on various substrates, excellent thermal performance, soluble in a variety of common solvents (i.e. CH ₂ Cl ₂ , CHCl ₃ , THF, DMAC, DMF, NMP).
MATRIMID® 9725	n.a.	n.a.	100	Micropulverized version of Matrimid® 5218.

Polyamide-imides

Thermosetting resins suitable for long-term thermal resistance above 200°C.

Product designation	Viscosity	Solid content	Characteristics / comments
Conditions	25°C		
Units	mPa.s	wt. %	
RHODEFTAL® 210	2 500 - 4 000	27 - 29	Solution in N-Ethylpyrrolidone (NEP). Binder for thermostable paints, lubricants, adhesives, impregnation, varnish. Heat class 220-250°C, good dielectric rigidity and flexibility, good chemical properties, outstanding adhesion at elevated temperature on many substrates. Compatible with epoxy resins to reach very good flexibility.

BENZOXAZINES

Benzoxazine resins

Resins providing phenolic-like matrices through addition reaction. No gas release and near-zero shrinkage on curing.

Product designation	Viscosity	Melting point	Gel time ¹	Characteristics / comments
Conditions	25°C		220°C	
Units	mPa.s	°C	sec	
ARALDITE® MT 35600	50 - 500 at 125°C	60 - 80	250 - 550	Bisphenol A based benzoxazine. Di-functional thermoset resins. Can be homopolymerized or co-reacted with epoxy or phenolic resins to produce polymers with extremely good thermal and mechanical properties. Proposed for advanced composites, structural adhesives, laminates for printed wiring boards, high performance coatings, encapsulating and molding compounds. Available in solvent.
ARALDITE® MT 35700	1 000 - 7 000 at 100°C	60 - 80	200 - 450	Bisphenol F based benzoxazine. Di-functional thermoset resins. Can be homopolymerized or co-reacted with epoxy or phenolic resins to produce polymers with extremely good thermal and mechanical properties. Available in solvent (75% in MEK).
ARALDITE® MT 35710 FST	20 - 500 at 100°C	n.a.	150 - 600	Benzoxazine resins designed for transportation interior or other composite applications where low flammability is needed. This product has lower toxicity, improved mechanical performance and storage stability compared to traditional phenolic resins. It has good solubility in ketone or other solvents. Compatible processes are pre-impregnation, film infusion and RTM.
ARALDITE® MT 35910	100 - 1 000 at 100°C	n.a.	120 - 600 at 200°C	Thiodiphenol based benzoxazine resins that is partially modified by epoxy. Ready to use or can be further formulated. The resins has good processability, and shows very good thermal and mechanical performances after cured.
XU 8282-1	100 - 3 000	n.a.	230 - 290 at 171°C	Ready to use, single component based on patented phenolphthalein benzoxazine resins. Supplied as a solution in methyl ethyl ketone and n-butanol (70% solid). For manufacturing halogen free high temperature resistant electrical laminates and prepregs. Very good flame retardant properties.
ARALDITE® LZ 8278 N 70 / ARALDITE® HZ 8279 Z 40	50 - 900 / 5 - 500	n.a.	150 - 500	Two-components formulated benzoxazine system for manufacturing of flame resistant, halogen free and high temperature resistant electrical laminates and dry prepregs. ARALDITE® LZ 8278 N 70 (component A) is supplied as a solution in methyl ethyl ketone (70% solid) and ARALDITE® HZ 8279 Z 40 (component B) is supplied as a solution in methyl ethyl ketone and cyclohexanone (40% solid).

¹ Measured on solid film with hot plate

Benzoxazine accelerators

Catalyst to improve reactivity for both benzoxazine homopolymerization and benzoxazine/epoxy combination.

Product designation	Melting point	Acid value	Characteristics / comments
Conditions			
Units	°C	mgKOH/g	
Accelerator DT 300	154 - 156	n.a.	Diphenol based.
Accelerator DT 310	127 - 134	600 - 650	Diacid based.
Accelerator DY 9577	25 - 31	n.a.	Boron trichloride amine complex based.
ARADUR® 3123	180 - 250	n.a.	Imidazole based.

Huntsman Advanced Materials

At Huntsman Advanced Materials, we make things possible. Serving many of the world's leading businesses across virtually every industry, we enable greater innovation, performance and sustainability to address global engineering challenges and contribute towards a better quality of life.

Our capabilities in high-performance adhesives and composites, delivered by more than 1600 associates, support over 2000 global customers with innovative, tailor-made solutions and more than 1500 pioneering epoxy, acrylic, phenolic and polyurethane-based polymer products.

We operate synthesis, formulating and production facilities around the world



Distributed by



For more information, please contact us at:
advanced_materials@huntsman.com

For more information

www.huntsman.com/advanced_materials
advanced_materials@huntsman.com

Europe, Middle East & Africa

Huntsman Advanced Materials (Switzerland) GmbH
Klybeckstrasse 200
P.O. Box
4002 Basel
Switzerland
Tel: +41 61 299 1111
Fax: +41 61 299 1112

Asia Pacific & India

Huntsman Advanced Materials
(Guangdong) Co., Ltd.
Shanghai Branch Office
455 Wenjing Road, Minhang District
Shanghai 200245, P.R. China
Tel: +86 21 3357 6588
Fax: +86 21 3357 6547

Americas

Huntsman Advanced Materials Americas Inc.
10003 Woodloch Forest Drive
The Woodlands
Texas 77380
USA
Tel: +1 888 564 9318
Fax: +1 281 719 4047

Legal information

All trademarks mentioned are either property of or licensed to Huntsman Corporation or an affiliate thereof in one or more, but not all, countries.

Sales of the product described herein ("Product") are subject to the general terms and conditions of sale of either Huntsman Advanced Materials LLC, or its appropriate affiliate including without limitation Huntsman Advanced Materials (Europe) BVBA, Huntsman Advanced Materials Americas Inc., or Huntsman Advanced Materials (Hong Kong) Ltd. or Huntsman Advanced Materials (Guangdong) Ltd. ("Huntsman"). The following supercedes Buyer's documents. While the information and recommendations included in this publication are, to the best of Huntsman's knowledge, accurate as of the date of publication, NOTHING CONTAINED HEREIN IS TO BE CONSTRUED AS A REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, NON-INFRINGEMENT OF ANY INTELLECTUAL PROPERTY RIGHTS, OR WARRANTIES AS TO QUALITY OR CORRESPONDENCE WITH PRIOR DESCRIPTION OR SAMPLE, AND THE BUYER ASSUMES ALL RISK AND LIABILITY WHATSOEVER RESULTING FROM THE USE OF SUCH PRODUCT, WHETHER USED SINGLY OR IN COMBINATION WITH OTHER SUBSTANCES. No statements or recommendations made herein are to be construed as a representation about the suitability of any Product for the particular application of Buyer or user or as an inducement to infringe any patent or other intellectual property right. Data and results are based on controlled conditions and/or lab work. Buyer is responsible to determine the applicability of such information and recommendations and the suitability of any Product for its own particular purpose, and to ensure that its intended use of the Product does not infringe any intellectual property rights.

The Product may be or become hazardous. Buyer should (i) obtain Material Safety Data Sheets and Technical Data Sheets from Huntsman containing detailed information on Product hazards and toxicity, together with proper shipping, handling and storage procedures for the Product, (ii) take all steps necessary to adequately inform, warn and familiarize its employees, agents, direct and in direct customers and contractors who may handle or be exposed to the Product of all hazards pertaining to and proper procedures for safe handling, use, storage, transportation and disposal of and exposure to the Product and (iii) comply with and ensure that its employees, agents, direct and indirect customers and contractors who may handle or be exposed to the Product comply with all safety information contained in the applicable Material Safety Data Sheets, Technical Data Sheets or other instructions provided by Huntsman and all applicable laws, regulations and standards relating to the handling, use, storage, distribution and disposal of and exposure to the Product. Please note that products may differ from country to country. If you have any queries, kindly contact your local Huntsman representative.

© 2020 Huntsman Corporation. All rights reserved.
Ref. No. AdMat Composites selector guide 02.20_EN_EU



Registered for
REACH