

Aerospace

Improving strength, safety and fuel efficiency with high-quality systems for all processes.

EPIKOTE™ / EPONOL™ Resin Systems and EPIKURE™ Curing Agents and Catalysts



For over 40 years, Hexion Inc.

(Hexion) has been serving the aerospace industry with epoxy resin systems and phenolic resins that enable lightweight composites, which deliver comparable or better performance than metal components. Our resins are used in primary and secondary structures and interior composite applications such as nacelles, flaps, flooring, storage bins, door and window interiors.

As a leading worldwide producer of epoxy systems, Hexion can assure customers of superior product quality and consistent processes around the globe.

Available from Hexion are:

- LBA-approved systems
- Outstanding FST performance in epoxy and phenolic systems
- Excellent weight-to-strength ratios
- Various Preform binders
- Systems for the full range of processes: RTM/Infusion, Prepreg, Hand Lay-up, and Out-of-Autoclave
- Complete range of multifunctional building blocks such as epoxydized glycidylamines and novolacs

| Prepreg | | | | |
|--|--------------------------|-------------------------------|-----------------------|---|
| EPIKOTE™ / EPIKURE™ / EPONOL™ Systems | Curing conditions | | Use-temp. [°C] | Remarks |
| | Time [min] | Temp. [°C] | | |
| Solvent Containing Epoxy Resin Systems | | | | |
| EPIKOTE Resin 809 EPIKURE Curing Agent 709 EPIKURE Catalyst 100 | 75 | 135 | 90 | Secondary structural components in commercial Aircraft, e.g. flap track shell. Good adhesion to aluminum cell structures. |
| EPIKOTE Resin 03859/5 EPIKURE Curing Agent 03859/5 EPIKURE Catalyst 03859/5 | 90 | 135 | 90 | Interior application such as flooring, in combination with phenolic EPONOL Resin system 3501 for co-curing. |
| EPIKOTE Resin 05430 EPIKOTE Resin 05429 EPIKURE Curing Agent 05428 EPIKURE Catalyst 05431 | 60 | 140 | 100 | Epoxy Prepreg System with outstanding FST properties. Qualified acc. Airbus spec. and to use only for Airbus. |
| Epoxy Resin Systems for Hot-Melt Prepreg | | | | |
| EPIKOTE Resin 475 EPIKURE Curing Agent 375 HELOXY Additive 575 | 45 +30 +80 +60 | 90 100 100 – 180 180 | 180 | Primary structural parts, 350 °F cure, excellent hot / wet performance. |
| EPIKOTE Resin 04332 EPIKURE Curing Agent 04332 EPIKURE Catalyst 04332 | 75 | 135 | 90 | Interior parts and panels for aeronautical usage. B-stage required. |
| Phenolic Resin Systems | | | | |
| EPONOL Resin 2489 | 30 | 150 | 80 | Aircraft interior: crushed-core construction, e.g. curved wall panels, closed mold process. |
| EPONOL Resin 2493 | 30 | 135 | 80 | Aircraft interior panels, air duct, lining. |
| EPONOL Resin 3501/A EPONOL Resin 3501/B | 60 – 75 | 130 – 135 | 90 | Aircraft interior flooring, co-curing with epoxy resin in combination with Epikote Resin System 03859/5. |
| EPONOL Resin 2485 | 75 | 135 | 80 | Aircraft interior, various panels / baggage racks. |

| RTM | | | | |
|--|--------------------------|-------------------|-----------------------|--|
| EPIKOTE™ / EPONOL™ Systems | Curing conditions | | Use-temp. [°C] | Remarks |
| | Time [min] | Temp. [°C] | | |
| High Performance Epoxy Systems | | | | |
| EPIKOTE System 601 | 120 | 200 | 180 | High performance, outstanding fracture toughness, requires post cure. |
| EPIKOTE System 600 | 120 | 200 | 180 | High performance, requires post-cure, standard RTM system in aeronautical. Requires post cure. |
| Interior Phenolic Systems | | | | |
| EPONOL Resin 2509 EPONOL Resin 2501/B | 120 | 60 | 80 | Low viscosity, flame retardant, excellent surface. |

| Vacuum Infusion | | | | |
|---|--------------------------|-------------------|-----------------------|--|
| EPIKOTE™ / EPIKURE™ Systems | Curing conditions | | Use-temp. [°C] | Remarks |
| | Time [h] | Temp. [°C] | | |
| Modified Epoxy Systems | | | | |
| EPIKOTE Resin L 20 L EPIKURE Curing Agent 161 | 4 + 6 | 60 + 100 | 100 | Manufacturing of motor gliders and motor planes. Low mixing viscosity. Short pot life. LBA approved. |
| EPIKOTE Resin MGS RIMR 160 EPIKURE Curing Agent MGS RIMH 160-163 | 4 + 6 | 60 + 100 | 80 | Manufacturing of gliders, motor gliders and motor planes. Low mixing viscosity. |
| EPIKOTE Resin MGS RIMR 935 EPIKURE Curing Agent RIMH 936 or EPIKURE Curing Agent RIMH 937 | 5 + 7 | 50 + 100 | up to 120 | |

| Preform Binder | | | |
|---------------------|----------------------|----------------|--|
| EPIKOTE™ Systems | Softening point [°C] | EEW [g/equiv.] | Remarks |
| Epoxy Resins | | | |
| EPIKOTE Resin 05390 | 90 | 906 | Lower softening point with good flow ability. |
| EPIKOTE Resin 05311 | 102 | 1,820 | Higher softening point with good flow ability. |

| Hand Lay Up | | | | |
|---|-------------------|------------|----------------|---|
| EPIKOTE™ / EPIKURE™ Systems | Curing conditions | | Use-temp. [°C] | Remarks |
| | Time [h] | Temp. [°C] | | |
| Solvent Free Epoxy Systems | | | | |
| EPIKOTE Resin MGS L 285 EPIKURE Curing Agent MGS H 285-287 | 12 + 15 | 25 + 80 | 80 | Manufacturing of gliders, motor gliders and motor planes. Good mechanical / thermal properties. |
| EPIKOTE Resin MGS L 385 EPIKURE Curing Agent MGS H 385-386 | 12 + 15 | 25 + 80 | 80 | Manufacturing of gliders, motor gliders and motor planes. LBA approval. Excellent processability. Good mechanical / thermal properties. |
| EPIKOTE Resin 485 EPIKURE Curing Agent MGS H 486-487 | 12 + 15 | 15 + 80 | 80 | Manufacturing of gliders, motor gliders and motor planes. LBA approval. Good mechanical properties. |
| EPIKOTE Resin MGS L 940 EPIKURE Curing Agent MGS H 286 | 8 | 75 | 70 | Manufacturing of heat loaded components. Flame retardant. Good initial curing at room temperature. |
| EPIKOTE Resin L 20 EPIKURE Curing Agent 161 | 12 + 15 | 25 + 80 | 80 | Manufacturing motor gliders and motor planes. Good fiber wetting. Short pot life. LBA approved. |

| Building Blocks | | | |
|--------------------------------------|-------------------|----------------|--|
| EPIKOTE™ Systems | Viscosity [mPa-s] | EEW [g/equiv.] | Remarks |
| High Performance Epoxy Resins | | | |
| EPIKOTE Resin 400 | 3,000 at 25 °C | 95 | Trifunctional epoxy resin based on m -Aiminophenol. Used as modifier / toughener. |
| EPIKOTE Resin 491 | 6,000 at 50 °C | 120 | Industrial grade of EP Resin 496. |
| EPIKOTE Resin 496 | 4,500 at 51.7 °C | 115 | Tetrafunctional epoxy resin. Recommended curing agents are DiCy, DDS, amines. |
| EPIKOTE Resin 498 | 700 at 25 °C | 93 | Trifunctional Epoxy Resin based on p -Aiminophenol. |
| EPIKOTE Resin 486 | 3,250 at 80 °C | 180 | Nano modified Epikote™ Resin 496. Recommended curing agents are DiCy, DDS, amines. |

Hexion: Helping you make it in today's world.

Our global team produces the best in specialty chemicals and performance materials and provides the technical expertise to customize them to your exact needs. The result? Specific solutions, not generic products, leading to thousands of breakthroughs that improve bottom lines and enhance lives.

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