BASF Battery Offering

We create chemistry
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Polymer dispersion

Binder for lithium-ion battery anode

BASF is the world largest binder supplier and recent years BASF offers binders for lithium-ion battery anode.

Key properties & Features

• Waterborne polymer dispersion, fully miscible with CMC aqueous solution and compatible with common anode active materials with good slurry stability
• Excellent discharge performance at low temperature which is ideal for applications in severe cold weather

Customer benefits

• Global production network (in EU: DE, ES and FI) with regional technical support
• Worldwide R&D network to meet customers’ demands, especially strong relationship with Asia
• Decades of collaboration with strategic partners, customers and academia
• Commitment to sustainable development and a responsible global supply chain

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Ethylene Carbonate

Ethylene carbonate for lithium-ion battery electrolytes

The BASF Group’s Intermediates division develops, produces and markets a comprehensive portfolio of about 700 intermediates around the world. Its most important product groups include amines, diols, polyalcohols, acids and specialties.

Benefiting from BASF’s global Verbund, innovative intermediates from BASF help to improve both the properties of final products and the efficiency of production processes. Close to the market and customers, we are strong in developing new molecules, finding new applications for products in our portfolio and developing improved, more efficient manufacturing processes and technologies.

Key properties & Features

- Ethylene Carbonate (EC) is a highly polar, aprotic solvent with a high dielectric constant. It provides good solubility for salts and efficiently enables charge transfer as electrolyte component in lithium ion batteries.
- BASF with own, state-of-the art, production process: low pressure technology fulfilling all safety standards.
- Fully registered product (such as REACH) and ISO 9001 certified quality management system to enhance customer satisfaction.

Customer benefits

- BASF is the only producer of Ethylene Carbonate (EC) in industrial scale in Europe. Its production is fully integrated into BASF’s Verbund concept, which enables an efficient use of energy and raw materials.
- We acknowledge that electromobility is one of the key industrial trends and batteries are a core technology underpinning the shift to energy decarbonization and transport systems. We expect a significant increase in demand for EC in Europe.
- The intermediates division is working closely with its customers in the field of electromobility to develop solutions and support sustainable growth.
- By supporting climate aspects through our products, solutions, and technologies, we live up to our purpose to create chemistry for a sustainable future.

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N-Methylpyrrolidone Battery Grade (NMP BG)

NMP and NMP recycling technology for lithium-ion battery production

N-Methylpyrrolidone (NMP), is a highly polar aprotic, general purpose organic solvent. Thanks to the very good solvating properties, NMP is used in the early steps of the lithium-ion battery production: the manufacture of the electrodes. After the application, NMP is recovered, recycled and re-introduced into the production loop. BASF is the global market leader in NMP with more than four decades of operational experience in the production, purification and handling of NMP. BASF provides for its customers NMP BG, a grade that fulfils the requirements of LiB producers, and stand-alone NMP recycling modules.

Key properties & Features

NMP BG
- NMP BG is a dedicated grade that fulfils the high-quality requirements of lithium-ion battery production
- Available in different packaging: drums, IBCs and ISO containers

NMP Recycling
- Purification of used NMP to battery grade quality
- Operation above 8000 hours per annum
- Low effluent disposal

Customer benefits

NMP BG
- Two production plants with total capacity of 70 kto – ready to support our customers’ growth
- Local producer, short lead time and established logistic structure
- Upside to sustainable LiB production through NMP Biomass Balance

NMP Recycling
- Customer aligned package considering individual requirements with respect to process, safety, local regulations and weather conditions
- High NMP recycling rate
- High NMP purity

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Thinfilm Technology for metal pre-treatment: OXSILAN®

Phosphate and heavy metal free pre-treatment for metals

Chemetall is supplying already a wide rage of customers with several new Phosphate and heavy metal free pre-treatment systems. These, so called thin film pretreatment systems, combine excellent paint adhesion and corrosion property’s with energy and water saving benefits. These systems are suitable for multi metal application like car bodies and unique metal parts as well.

Key properties & Features

- Multi metal application
- Adapted to different paints like electro coat or powder paint
- Meets OEM customer specifications
- World wide availability secured.

Customer benefits

- Easy to use
- Water and energy savings
- Shorter lines less invest in green field lines
- Global production network with local technical support
- Worldwide R&D network to meet customers’ demands
- Meets new environmental restrictions
- Commitment to sustainable development and a responsible global supply chain
- Easy waste water treatment

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CathoGuard® Technologies

Cathodic electrodeposition coating for battery pack boxes

Cathodic electrodeposition coating (e-coat) extends the lifetime of car bodies and added parts like battery pack boxes by corrosion protection. BASF’s Coatings division is a globally active leading e-coat supplier to automotive OEM and tier suppliers and especially trusted by automotive EV producers. Our CathoGuard® technology provides outstanding corrosion protection paired with an eco-efficient process.

Key properties & Features

- CathoGuard® technologies available for automotive OEM as well as tier suppliers
- Globally available technologies and global production footprint
- Toxic metal-free technologies, low in VOC and HAPs-free, high coating efficiency (low material usage)

Customer benefits

- Well established technologies used in more than 175 automotive OEM lines and more than 200 tier suppliers
- We produce where our customers are
- Excellent technology and service know-how globally
- Outstanding process know-how
- Worldwide R&D network to meet customers’ demands
- Decades of collaboration with strategic partners, customers and academia

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Automotive Fluids

Coolants for automotive applications

BASF’s coolant solutions under the GLYSANTIN® brand address thermal management in automotive applications including combustion engines, batteries and fuel cells. BASF is the leading supplier of highly effective coolants for traditional powertrains and is working on advanced solutions for new powertrain technologies. Proper thermal management is a key requirement to enable driving range, lifetime, and fast charging capability with increased degree of electrification.

Key properties & features

- GLYSANTIN® products protect against overheating and frost while offering superb corrosion protection and compatibility with polymers, elastomers and rubber
- GLYSANTIN® products are already used in electric vehicles
- Comprehensive product approvals from major e-vehicle manufacturers

Customer benefits

- Strong technology and intellectual property position in coolants formulation
- Focus on product development for new power train technologies such as e-motors, batteries fuel cells
- We continuously work in close cooperation with OEM partners for new coolant concepts for efficient battery and fuel cell thermal management
- We have a strong commitment to sustainable development and a reliable supply chain management for on-time delivery
- Global quality standards and product availability
High-performance plastics for electric powertrain and battery applications

Many e-mobility solutions can only be implemented reliably and efficiently by using highly versatile plastics. For the dynamic market of electric and hybrid vehicles, BASF is expanding its range of engineering plastics and polyurethane systems.

**Key properties & features**

- Tailor-made Ultramid®, Ultradur®, Elastollan® and Ultrason®, grades meeting highest requirements of flame retardance, color stability, mechanics, and electrical isolation
- Comprehensive simulation support with in-house CAE tool Ultrasim®
- Engineering support through Ultratest™, Ultrajoin™ and processing facilities
- Proven track of jointly developed applications in partnership with customers

**Customer benefits**

- Solutions with high freedom of design and function integration
- Established lightweight concepts enabling economically viable mass production
- Global production network with local technical support
- Worldwide R&D network to meet customers’ demands
- Commitment to sustainable development and a responsible global supply chain

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Cathode active materials for lithium-ion batteries

Advanced battery materials are needed for automotive batteries used in full electric, plug-in, and hybrid vehicles. BASF is a leading cathode active material supplier to battery producers around the world. We are developing and producing application-specific cathode active materials with high energy, density, safety and efficiency to support lithium-ion battery technologies for electrified vehicles.

Key properties & Features

- HED™ product family with high energy cathode active material for lithium-ion batteries well-suited to the evolving requirements of automotive batteries
- Worldwide license for production and distribution of cathode active materials (NCMs and NCAs)
- Proven ability to jointly develop products in partnership with customers

Customer benefits

- Strong technology and intellectual property position in cathode active materials
- One of the broadest cathode active material portfolios in the industry, and a market leader in nickel-rich cathode active materials
- Global production network with local technical support
- Worldwide R&D network to meet customers’ demands
- Decades of collaboration with strategic partners, customers and academia
- Commitment to sustainable development and a responsible global supply chain

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Metals management and hedging

Metals management and hedging for cathode active materials

The metals market has experienced challenging conditions with recurring periods of heightened volatility due to a variety of external geopolitical and market factors. This uncertainty exposes users to metal availability and price risk and means that managing metals can potentially be difficult to navigate. BASF can assist you to manage and handle metals for your lithium-ion battery requirements.

Key properties & Features

- Sustainable supply chain through BASF’s supply agreement with Nornickel for nickel and cobalt which enables locally sourced and secure supply of metals for battery production in Europe.
- BASF facilitates security of supply and helps reduce customer risk exposure to volatile metal markets by drawing on BASF’s wide proficiency in the industry.
- Further, BASF prides itself on transparency and close collaboration to structure a complete solution for our customers’ metal needs.

Customer benefits

- Secure source of metals for cathode active materials
- Reduce risk exposure to volatile metal markets
- Complete solution based on transparent and close collaboration
- Worldwide trading network to meet customers’ demands
- Decades of experience in metals management
- Commitment to sustainable development and a responsible global supply chain

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