



Since 2005

Paper Sizing Agent Data Sheets

8 CHEMSUM grades. Enhance paper performance with our high-quality paper sizing agents, including AKD, ASA, and surface sizing chemicals—improving water resistance and printability.

CHEMSUM supplies the wet-end and surface chemistry a paper mill runs on - AKD and rosin sizing, basic and direct dyes, dry and wet strength resins, retention and drainage aids, oil-proof barriers and water treatment polymers.

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Figures that the company has not published — cumulative export tonnage, number of export countries, satisfaction rate and certificate numbers — are deliberately omitted from this document. Ask the technical desk for current documentation.

Paper Sizing Agent

The problem. Sizing decides whether a sheet repels water or drinks it. Get the AKD emulsion, its emulsifier and its curing conditions wrong and you pay for it twice - once in Cobb values that miss spec, once in reel edges that size unevenly.

The range. CHEMSUM supplies the whole AKD chain rather than one link of it: wax, high polymer emulsifier, ready-to-use liquid emulsion, curing agent, plus cationic rosin size for acidic and weakly neutral systems and an anionic surface size for the size press.

AKD Curing agent

AKD Curing agent - Papermaking Additive

Our AKD Curing Agent is a specialized additive designed to accelerate the curing (esterification) reaction of alkyl ketene dimer throughout the drying and pressing stages. By promoting faster and more complete bonding of AKD to cellulose fibers, it ensures superior water resistance, roll stability, and long-term durability.



Key features and advantages

- Enhanced Curing Efficiency — speeds up the esterification between AKD molecules and fiber hydroxyl groups, especially under moderate drying conditions
- Improved Barrier Performance — helps form a denser and more uniform hydrophobic layer, boosting water repellency and reducing Cobb values
- Better Roll and Slitting Stability — ensures uniform sizing towards roll edges and reduces “slug” or leveling issues
- Reduced AKD Dosage — by improving reaction efficiency, lower AKD additions can achieve equivalent performance, offering cost savings
- Compatibility — works well with common AKD emulsions, internal sizing systems, and other wet-end additives
- Optimized for Alkaline Papermaking — stable under neutral to slightly alkaline pH, suitable for modern base paper systems

Applications

- Neutral to slightly alkaline base paper systems
- AKD internal sizing lines running under moderate drying conditions
- Mills reducing AKD dosage at constant sizing performance

Packing. Liquid grades ship in IBC totes carrying net weight, gross weight, lot number, production date and expiry date on the label. Exact pack sizes and drum options are confirmed on quotation.

AKD Emulsifier

AKD Emulsifier – Stable Emulsion for Efficient Internal Sizing

AKD Emulsifier is a key auxiliary agent specially designed for the preparation of Alkyl Ketene Dimer (AKD) emulsions used in neutral and alkaline papermaking. It ensures fine particle dispersion, excellent storage stability, and uniform distribution of AKD on fibers, greatly enhancing paper sizing efficiency.

With strong emulsification and stabilization performance, this product helps form a stable and smooth emulsion with consistent particle size, preventing coagulation or separation during storage. It enables higher AKD utilization, improved hydrophobicity, and better paper surface strength.



Key features and advantages

- Excellent emulsification and dispersion properties
- Produces fine, stable AKD emulsions with long shelf life
- Enhances sizing efficiency and hydrophobic performance
- Suitable for various AKD waxes and papermaking conditions
- Easy to use and compatible with continuous emulsification systems

Applications

- Widely used in the production of AKD sizing emulsions for printing paper, writing paper, packaging board, and specialty papers.

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AKD Emulsion

AKD Emulsion – Effective Internal Sizing for High-Quality Paper

AKD Emulsion (Alkyl Ketene Dimer Emulsion) is a highly efficient internal sizing agent widely used in neutral and alkaline papermaking. It forms a hydrophobic layer on the fiber surface, effectively improving paper's water resistance, surface strength, and printability. Compared with traditional acid sizing agents, AKD offers better durability, environmental friendliness, and process stability.

Our AKD Emulsion is prepared using advanced emulsification technology and high-quality emulsifiers to ensure fine particle size, excellent storage stability, and high sizing efficiency. It provides consistent performance across various grades of paper, from writing and printing paper to packaging board and specialty paper.



Key features and advantages

- Excellent sizing efficiency and water repellency
- Fine and stable emulsion with uniform particle size
- Enhances paper surface strength and print quality
- Compatible with a wide pH range (neutral to alkaline)
- Environmentally friendly, free from rosin and aluminum sulfate
- Reduces sizing reversion and improves long-term stability

Applications

- Printing and writing paper
- Packaging board and carton paper
- Coated and specialty papers
- Food-grade and liquid packaging paper

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Anionic Surface Sizing Agent

Anionic Surface Sizing Agent – Improve Paper Strength and Surface Performance

Anionic Surface Sizing Agent is a water-based polymer emulsion specially designed for surface sizing applications in papermaking. It forms a uniform and dense film on the paper surface, significantly enhancing surface strength, water resistance, printability, and coating holdout. With excellent compatibility and easy application, it is ideal for improving the performance of various paper grades.

This product features strong film-forming ability and stable anionic dispersion, providing superior runnability and smoothness on the paper machine. It can be used alone or combined with starch, AKD, or ASA to further improve sizing and surface quality.



Key features and advantages

- Enhances surface strength, water resistance, and printability
- Excellent compatibility with starch and other surface agents
- Improves coating holdout and reduces linting and dusting
- Provides stable operation and uniform film formation
- Suitable for both neutral and alkaline papermaking systems

Applications

- Surface sizing for writing and printing paper
- Coated and base paper for packaging board
- High-grade cultural paper and specialty paper

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Cationic Rosin Sizing Agent

Cationic Rosin Sizing Agent – Reliable Internal Sizing for Acidic and Neutral Papermaking

Cationic Rosin Sizing Agent is a modified rosin-based internal sizing chemical designed for acidic to neutral papermaking systems. It provides excellent hydrophobicity and improves paper water resistance, surface strength, and printability by forming a stable rosin–alum complex within the fiber network.

Compared with traditional anionic rosin sizes, this product features a cationic modification that enhances retention on fibers and improves sizing efficiency, even under conditions with lower aluminum sulfate dosage. It ensures uniform distribution, stable performance, and reduced sizing reversion during storage or high-speed paper production.



Key features and advantages

- Excellent internal sizing performance and water resistance
- Strong fiber affinity and high retention efficiency
- Effective under acidic and weakly neutral conditions
- Improved sizing stability and reduced dosage of alum
- Compatible with various pulps and papermaking additives

Applications

- Printing and writing paper
- Cultural and offset paper
- Packaging board and specialty grades
- Suitable for high-speed paper machines

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AKD Wax

AKD Wax – High-Performance Internal Sizing for Paper

AKD Wax (Alkyl Ketene Dimer Wax) is a key internal sizing agent widely used in neutral and alkaline papermaking. It reacts with cellulose fibers to form a hydrophobic layer, providing excellent water resistance, surface strength, and dimensional stability to paper and paperboard.

Our AKD Wax is produced with high purity and consistent particle size, ensuring stable emulsification, efficient retention, and reliable performance across various pulp types. It is suitable for both batch and continuous emulsification systems, enabling high-quality sizing and improved paper properties.



Key features and advantages

- Excellent internal sizing performance for water-resistant paper
- High purity and uniform particle size for consistent results
- Enhances paper surface strength, printability, and dimensional stability
- Compatible with neutral and alkaline papermaking systems
- Easy emulsification and stable storage

Applications

- Printing and writing papers
- Packaging paper and paperboard
- Specialty papers requiring enhanced water resistance
- Food contact papers and liquid packaging boards

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AKD High Polymer Emulsifier

AKD High Polymer Emulsifier – Efficient Emulsification for Superior Paper Sizing

AKD High Polymer Emulsifier is a specially designed emulsifier for Alkyl Ketene Dimer (AKD) wax, enabling the production of stable, high-performance AKD emulsions for internal sizing in neutral and alkaline papermaking. It ensures uniform dispersion, fine particle size, and excellent retention, enhancing the water resistance, surface strength, and printability of paper.

Our AKD High Polymer Emulsifier offers high stability, low foaming, and compatibility with various pulp types and papermaking additives. Its advanced formulation allows for efficient emulsification even under high-speed production conditions, providing reliable and cost-effective sizing performance.



Key features and advantages

- Produces stable, fine AKD emulsions with high retention
- Enhances paper water resistance, surface strength, and print quality
- Excellent compatibility with pulps and other papermaking chemicals
- Low foaming, easy to handle, and highly stable
- Suitable for both batch and continuous emulsification systems

Applications

- Internal sizing of printing, writing, and packaging papers
- Production of high-quality food contact and liquid packaging paper
- Specialty papers requiring enhanced water resistance and surface strength

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Liquid AKD

Liquid AKD – Ready-to-Use Internal Sizing for Paper

Liquid AKD (Alkyl Ketene Dimer) is a high-efficiency internal sizing agent designed for neutral and alkaline papermaking. Supplied as a ready-to-use emulsion, it provides excellent water resistance, improved surface strength, and enhanced printability by forming a hydrophobic layer on cellulose fibers.

Our Liquid AKD features stable emulsification, fine particle size, and high retention, ensuring uniform distribution and consistent performance across a variety of pulp types. Its easy-to-use formulation simplifies dosing, reduces preparation time, and maintains high efficiency even in high-speed paper production systems.



Key features and advantages

- Ready-to-use emulsion for quick and efficient application
- Improves paper water resistance, surface strength, and print quality
- Stable emulsion with fine, uniform particle size
- High compatibility with neutral and alkaline papermaking systems
- Easy handling and consistent sizing performance

Applications

- Internal sizing of printing and writing paper
- Packaging paper and paperboard
- Food contact and liquid packaging papers
- Specialty papers requiring high water resistance and dimensional stability

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