



Foamax
— SHIMI —

GLOBAL SUPPLIER OF CHEMICAL
RAW MATERIALS

TECHNICAL CATALOG
2024 EDITION

COCAMIDOPROPYL BETAINES (CAPB)

HIGH PERFORMANCE
AMPHOTERIC SURFACTANT



Chemical Name:
Cocamidopropyl Betaine



Molecular Formula:
 $C_{19}H_{38}N_2O_3$



Molecular Weight:
~342.52 g/mol



Typical Active Matter:
29 – 32%



Appearance:
Clear to pale yellow liquid



EXCELLENT
FOAM BOOSTER



WIDE FORMULATION
COMPATIBILITY



MILD & SKIN
FRIENDLY



GOOD HARD WATER
PERFORMANCE



MULTI-INDUSTRY
APPLICATIONS

FOAMAX SHIMI

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COCAMIDOPROPYL BETAINE (CAPB)

TECHNICAL CATALOG



EXECUTIVE SUMMARY

Cocamidopropyl Betaine (CAPB) is a mild amphoteric surfactant derived from coconut oil fatty acids and dimethylaminopropylamine. It is widely used in personal care, home care and industrial cleaning formulations due to its excellent foaming, foam boosting and stabilizing properties, as well as its outstanding compatibility with a wide range of surfactants. CAPB effectively reduces the irritation potential of anionic surfactants, enhancing mildness and improving the overall performance of the final product. Its versatile nature makes it an essential ingredient in a broad variety of applications including shampoos, body washes, hand soaps, dishwashing liquids, and industrial cleaners.



KEY ADVANTAGES

- ✓ Excellent foam booster and foam stabilizer
- ✓ Enhances mildness and reduces irritation of formulations
- ✓ Outstanding compatibility with anionic, nonionic, cationic and amphoteric surfactants
- ✓ Effective performance in hard water conditions
- ✓ Improves viscosity and provides creamy foam
- ✓ Suitable for a wide range of pH conditions
- ✓ Biodegradable surfactant with good environmental profile*

**Biodegradability may vary depending on specific formulation and conditions.*



MAIN APPLICATIONS



PERSONAL CARE



HOME CARE



INDUSTRIAL
CLEANING



TEXTILE



COSMETICS



WATER
TREATMENT



AGRICULTURE



FOOD
INDUSTRY



OIL & GAS



OTHER
INDUSTRIES



HIGH PERFORMANCE
Amphoteric Surfactant



EXCELLENT
FOAM BOOSTER



MILD & SKIN FRIENDLY
Reduces irritation potential



WIDE COMPATIBILITY
Works with various
surfactant systems



GOOD HARD WATER
PERFORMANCE



BIODEGRADABLE
Environmentally considerate



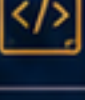
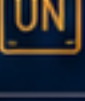
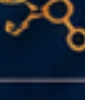
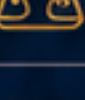
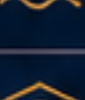
COCAMIDOPROPYL BETAINE (CAPB)

TECHNICAL CATALOG



CHEMICAL IDENTIFICATION

Cocamidopropyl Betaine (CAPB) is an amphoteric surfactant derived from coconut oil fatty acids and dimethylaminopropylamine.

	Chemical Name	Cocamidopropyl Betaine
	IUPAC Name	N-(3-Carboxy-1-oxopropyl)-N,N-dimethyl-1-octadecanaminium inner salt
	Trade Names	CAPB, Cocamidopropyl Betaine, Coco Betaine
	CAS Number	61789-40-0 / 86438-79-1
	EC Number	263-058-8 / 617-861-9
	PubChem CID	20280
	HS Code	3402.11.90
	UN Number	Not classified as dangerous goods under most transport regulations.
	Molecular Formula	$C_{19}H_{38}N_2O_3$ (varies slightly with chain length)
	Molecular Weight	~ 342.52 g/mol (average)
	Chemical Type	Amphoteric (Zwitterionic) Surfactant
	Appearance (General)	Clear to pale yellow liquid (aqueous solution)



QUALITY ASSURANCE

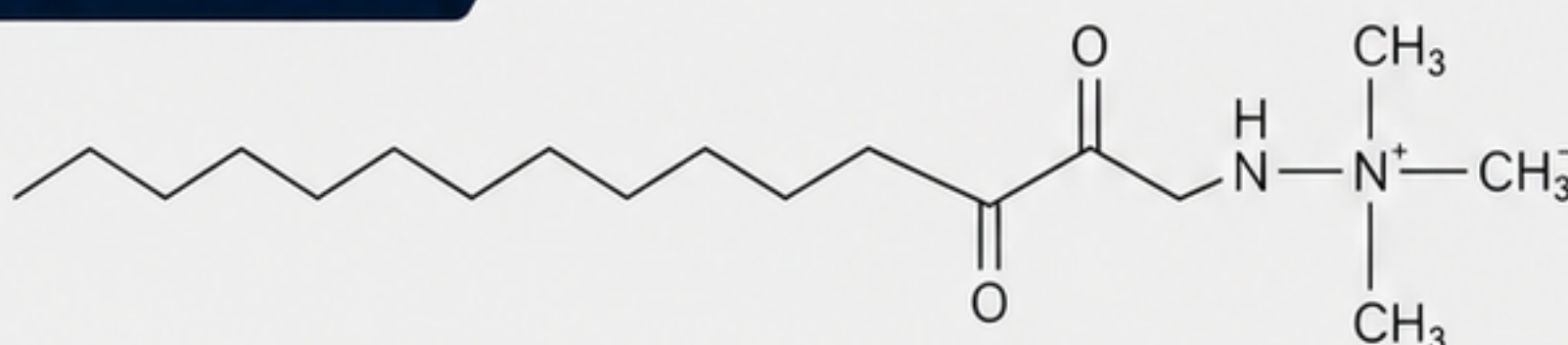
All batches are tested and certified to meet international quality standards.



GLOBAL COMPLIANCE

Compliant with REACH (ECHA), GHS, and other applicable international regulations.

STRUCTURAL FORMULA



Note: CAPB is typically a mixture of homologues derived from natural coconut oil fatty acids. Therefore, the exact molecular weight and composition may vary.

COCAMIDOPROPYL BETAINE (CAPB)

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PHYSICAL & CHEMICAL PROPERTIES

Typical properties of commercial grade Cocamidopropyl Betaine solution (29 – 32% active matter).

PROPERTY	TYPICAL VALUE	METHOD / SOURCE
% Active Matter	29 – 32 %	Supplier TDS
Appearance	Clear to pale yellow liquid	Visual
Color (Gardner)	≤ 4	ASTM D1544
Odor	Characteristic, mild	Organoleptic
pH (5% aqueous solution)	4.0 – 5.5	ASTM E70
Density (25 °C)	1.03 – 1.06 g/cm ³	ASTM D4052
Viscosity (25 °C)	200 – 800 mPa·s	ASTM D2196
Solubility	Soluble in water	Internal Method
Moisture	≤ 4.0 %	Karl Fischer
Melting Point	Reliable scientific data is currently unavailable for this parameter.	—
Boiling Point	≈ 100 °C (aqueous solution)	—
Flash Point	> 100 °C	ASTM D92
Cloud Point (1% solution)	Reliable scientific data is currently unavailable for this parameter.	—
Refractive Index (20 °C)	1.440 – 1.460	ASTM D1218
Surface Tension (25 °C, 1%)	30 – 35 mN/m	ASTM D1331
Electrical Conductivity	Reliable scientific data is currently unavailable for this parameter.	—
Heavy Metals (as Pb)	≤ 10 ppm	ASTM D5185 / ICP
Chloride (as Cl ⁻)	≤ 100 ppm	ASTM D512
Sulfate (as SO ₄ ²⁻)	≤ 200 ppm	ASTM D516
Thermal Stability	Stable under normal conditions of use and storage.	Supplier TDS



STABLE PERFORMANCE

Consistent quality and reliable results



MILD & SAFE

Suitable for personal care and gentle formulations



HIGH COMPATIBILITY

Works synergistically with various surfactant systems



FOAM ENHANCER

Boosts foam volume and stability



QUALITY ASSURED

Tested to meet strict international standards



IMPORTANT NOTE

The values listed above are typical for standard grades and may vary depending on manufacturing process and batch. Please refer to the Certificate of Analysis (COA) for exact specifications.



RECOMMENDATION

Store in original closed containers in a cool, dry place away from direct sunlight.

COCAMIDOPROPYL BETAINE (CAPB)

TECHNICAL CATALOG



PERFORMANCE CHARACTERISTICS

CAPB is an amphoteric surfactant that delivers excellent synergistic performance with other surfactants, improves formulation mildness and enhances overall product quality.

PARAMETER	PERFORMANCE	DESCRIPTION / BENEFIT
Cleaning Performance	★★★★☆	Enhances detergency when used with anionic surfactants.
Foaming Ability	★★★★★	Excellent foam booster and volume improver.
Foam Stability	★★★★☆	Produces stable, fine and creamy foam.
Hard Water Stability	★★★★☆	Maintains good performance in hard water conditions.
Compatibility with Anionic Surfactants	★★★★★	Excellent compatibility and strong synergy.
Compatibility with Nonionic Surfactants	★★★★★	Excellent compatibility, improves mildness and foam.
Compatibility with Amphoteric Surfactants	★★★★★	Excellent compatibility across a wide pH range.
Compatibility with Cationic Surfactants	★★★☆☆	Generally compatible; performance depends on formulation.
Acid Compatibility	★★★★☆	Stable in acidic conditions typically found in formulations.
Alkali Compatibility	★★★☆☆	Moderate stability in high alkaline conditions; formulation dependent.
Oxidizer Compatibility	★★★☆☆	Compatible with common oxidizing agents at typical use levels.
Biodegradability	★★★★☆	Readily biodegradable surfactant*.
Shelf Stability	★★★★☆	Stable under recommended storage conditions.

SURFACTANT SYNERGY

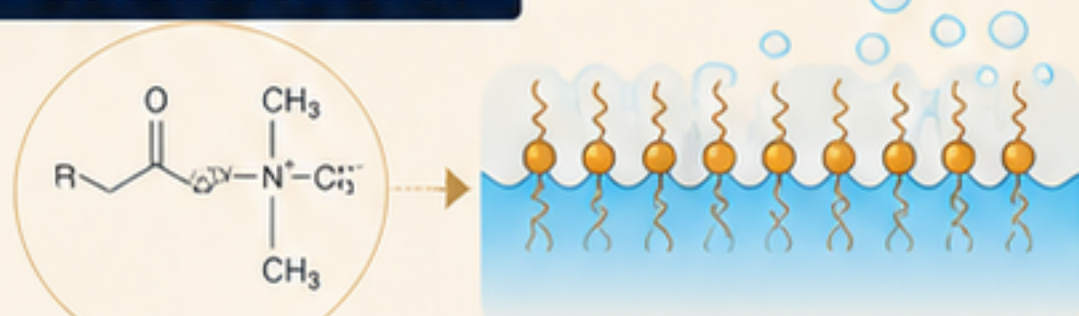
CAPB enhances foam, viscosity and mildness when combined with other surfactants.



KEY BENEFITS IN FORMULATIONS

	Boosts foam volume and creaminess
	Improves mildness and reduces irritation potential
	Enhances product stability and viscosity response
	Provides excellent aesthetic and sensory properties
	Broad compatibility for formulation flexibility

MECHANISM OF ACTION



CAPB reduces surface tension and interfacial tension, allowing better wetting, soil removal and foam formation. It also forms mixed micelles with other surfactants, improving overall system performance.



TEST CONDITIONS

Temperature: 25 ± 2 °C
Solution: 1% active in deionized water
Methods: As per standard test methods (ASTM / Internal)
Values may vary depending on grade and batch.

* Based on readily biodegradable nature of similar amphoteric surfactants as reported by suppliers and scientific literature.

COCAMIDOPROPYL BETAINE (CAPB)

TECHNICAL CATALOG



INDUSTRIAL APPLICATIONS

Cocamidopropyl Betaine (CAPB) is a versatile amphoteric surfactant used in a wide range of industries due to its excellent foaming, mildness and compatibility with other ingredients.



DETERGENTS



Enhances foam, improves viscosity and provides excellent cleaning performance in laundry detergents.



HOME CARE



Widely used in dishwashing liquids, surface cleaners and all-purpose cleaners for improved foam and mildness.



PERSONAL CARE & COSMETICS



Ideal for shampoos, body washes, facial cleansers, hand soaps and other personal care products due to its mild nature.



INDUSTRIAL CLEANING



Effective in industrial cleaners and degreasers to improve foam stability and cleaning efficiency.



TEXTILE INDUSTRY



Used in textile processing auxiliaries as a wetting, emulsifying and foaming agent.



AGRICULTURE



Used in agrochemical formulations as a wetting agent and adjuvant to improve spreading and penetration.



WATER TREATMENT



Acts as a foaming and surfactant component in water treatment and membrane cleaning solutions.



OIL & GAS



Applied in drilling fluids and enhanced oil recovery formulations for foaming and emulsification purposes.



FOOD INDUSTRY*



May be used as a processing aid and foaming agent in certain food-related applications (confirm compliance with local regulations).



OTHER INDUSTRIES



Used in paints & coatings, leather, paper, mining and other specialty applications.

*Not intended for direct addition to food. Use only in accordance with applicable regulations.

WHY CHOOSE CAPB?



- ✓ High versatility across multiple industries
- ✓ Excellent compatibility with various formulations
- ✓ Improves performance while maintaining mildness
- ✓ Stable in a wide range of pH and temperature
- ✓ Supports sustainable and environmentally friendly formulations



TYPICAL USE LEVELS (AS ACTIVE MATTER)

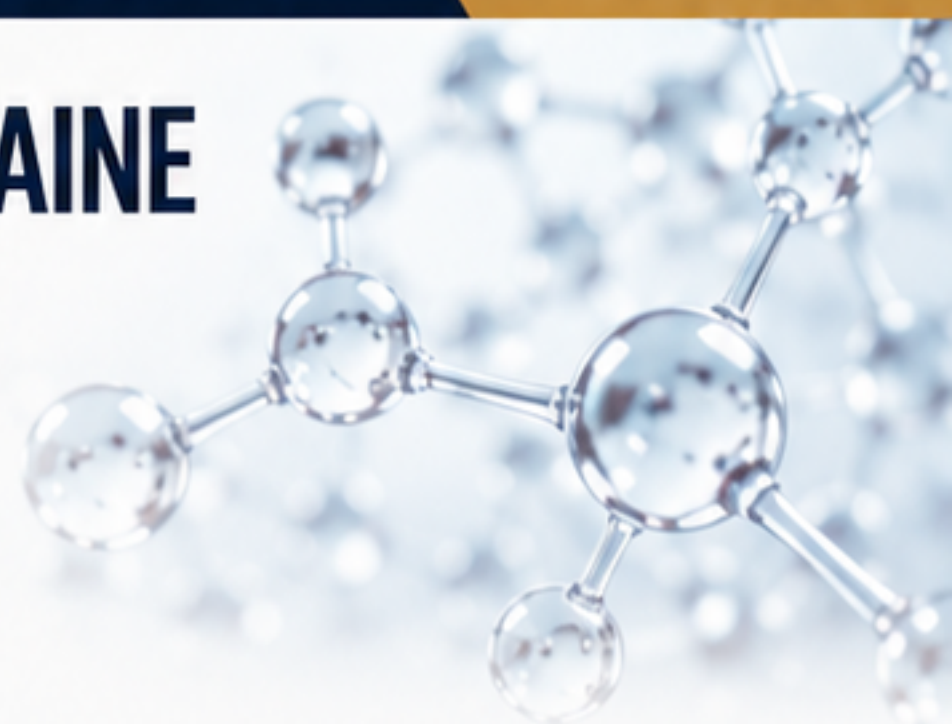
Personal Care Products	1.0 – 6.0 %
Home Care & I&I Cleaners	1.0 – 5.0 %
Laundry Detergents	2.0 – 6.0 %
Industrial Cleaning	1.0 – 4.0 %
Agriculture / Adjuvants	0.5 – 2.0 %

Note: Dosage may vary depending on formulation, raw materials and desired performance.



COCAMIDOPROPYL BETAINE (CAPB)

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FORMULATION RECOMMENDATIONS

CAPB is highly versatile and compatible with a wide range of surfactants and additives. The following guidelines are recommended for optimal performance.

PARAMETER	RECOMMENDATION
 Typical Use Level	1.0 – 6.0 % (as active matter) Depending on product type and desired performance.
 Recommended pH Range	4.0 – 8.0 Stable and effective in mildly acidic to mildly alkaline systems.
 Recommended Processing Temperature	20 – 60 °C Can be added at any stage of the formulation.
 Solubility	Freely soluble in water. Disperse with gentle mixing.
 Processing Notes	Add slowly under moderate agitation. Avoid excessive foaming during manufacturing.
 Compatibility Notes	Compatible with a wide range of surfactants, sequestering agents, polymers, preservatives, and fragrances.
 Best Performance With	Anionic surfactants (e.g., SLES, SLS, LAS) Nonionic surfactants (e.g., alcohol ethoxylates) Amphoteric surfactants Cationic surfactants (quaternary ammoniums)
 Incompatible With	Strong oxidizing agents in high concentration. Strong acids/alkalis may affect product stability. Always perform a compatibility test in the final formulation.
 Recommended Application	Personal care, home care, industrial cleaners, textile auxiliaries and other formulations as co-surfactant and foam booster.



SUGGESTED ADDITION SEQUENCE



NOTE:

The above recommendations are provided as general guidelines. Please conduct laboratory trials to determine the optimum conditions for your specific formulation.



FORMULATION TIPS

- ✓ Combine CAPB with anionic surfactants for superior foam and mildness.
- ✓ High electrolyte systems may reduce viscosity; adjust thickener if necessary.
- ✓ Ideal for sulfate-free and mild cleansing formulations.
- ✓ Enhances foam density and improves rinsability of final products.



DOSAGE CONSIDERATIONS

Actual dosage depends on:

- Active matter content
- System surfactant ratio
- Desired performance
- End product type



STORAGE DURING PROCESSING

Keep containers closed during use. Avoid contamination and excessive temperature exposure.



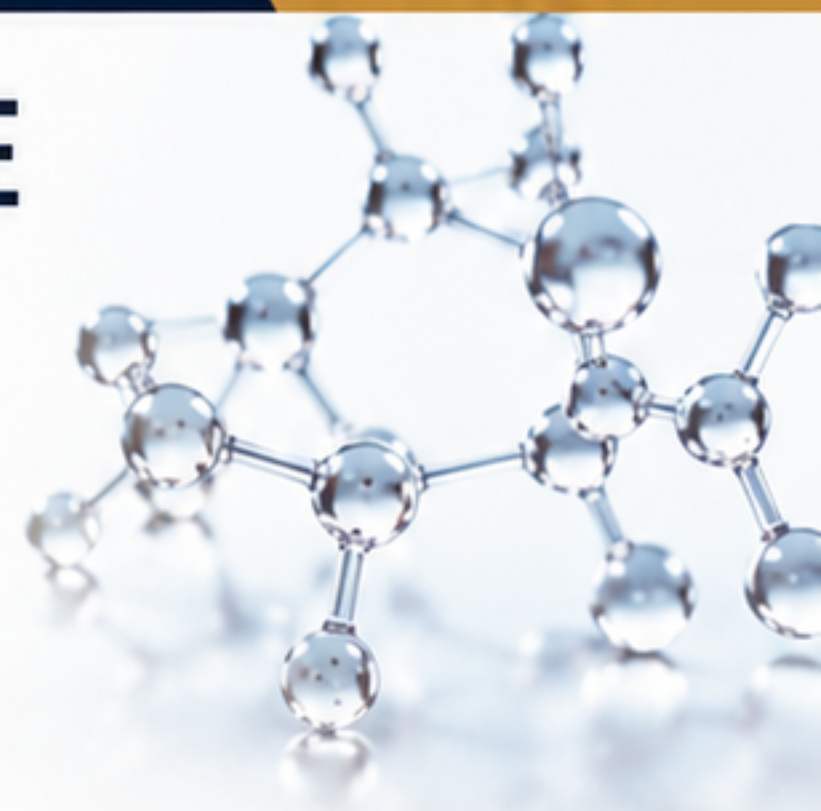
QUALITY ASSURED

FoaMax Shimi supplies high quality CAPB that meets international standards.



COCAMIDOPROPYL BETAINE (CAPB)

TECHNICAL CATALOG



SAFETY INFORMATION

Cocamidopropyl Betaine (CAPB) is a mild amphoteric surfactant. The following safety information is provided based on available SDS data and scientific literature.

GHS CLASSIFICATION (Typical)

Skin Irritation
Category 2

Eye Irritation
Category 2A

Not classified as hazardous
for aquatic environment
(under standard criteria)

HAZARD PICTOGRAMS



SIGNAL WORD

WARNING

HAZARD STATEMENTS

H315: Causes skin irritation.

H319: Causes serious eye irritation.

Precautionary statements are provided below.

PRECAUTIONARY STATEMENTS

Prevention

- P264: Wash hands and exposed skin thoroughly after handling.
- P280: Wear protective gloves / protective clothing / eye protection / face protection.
- P272: Contaminated work clothing should not be allowed out of the workplace.
- P273: Avoid release to the environment.

Response

- P302+P352: IF ON SKIN: Wash with plenty of water.
- P332+P313: If skin irritation occurs: Get medical advice / attention.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses if present and easy to do. Continue rinsing.
- P337+P313: If eye irritation persists: Get medical advice / attention.
- P362+P364: Take off contaminated clothing and wash it before reuse.

Storage

- P403+P233: Store in a well-ventilated place. Keep container tightly closed.

Disposal

- P501: Dispose of contents / container in accordance with local / regional / national / international regulations.

PERSONAL PROTECTIVE EQUIPMENT (PPE)



Protective
Gloves



Safety
Goggles



Protective
Clothing



Adequate
Ventilation

EMERGENCY & FIRST AID MEASURES



Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention if irritation persists.



Skin Contact: Wash affected area thoroughly with soap and water. If irritation occurs, seek medical advice.



Inhalation: Move to fresh air. If breathing is difficult, seek medical attention.



Ingestion: Rinse mouth with water. Do NOT induce vomiting. Seek medical attention if symptoms persist.

FIRE FIGHTING MEASURES



CAPB is not flammable. Use water spray, foam, dry chemical or CO₂ appropriate for the surrounding fire.

SPILL & LEAK HANDLING



Contain spill and absorb with inert material (e.g., sand, diatomaceous earth). Prevent entry into drains and waterways. Dispose of in accordance with local regulations.

STORAGE CONDITIONS



Store in cool, dry and well-ventilated area. Keep container tightly closed. Protect from freezing, heat and direct sunlight.

TRANSPORT INFORMATION



Not classified as dangerous goods for transport under standard regulations. Always refer to the latest SDS for specific transport information.

HANDLING PRECAUTIONS



Avoid contact with eyes, skin and clothing. Avoid breathing mist. Use with adequate ventilation.



IMPORTANT NOTE:

This information is provided in good faith based on current knowledge and SDS data. It is the responsibility of the user to comply with all applicable laws and regulations.



FOR PROFESSIONAL USE ONLY

Refer to the Safety Data Sheet (SDS) for complete safety and regulatory information.



COCAMIDOPROPYL BETAINE (CAPB)

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PACKAGING & LOGISTICS

FoaMax Shimi ensures that Cocamidopropyl Betaine (CAPB) is supplied in high-quality, durable and safe packaging to preserve product integrity during storage and transportation.

PACKAGING OPTIONS	DESCRIPTION	NET WEIGHT	FEATURES
 PLASTIC DRUM Secure, UN-compliant HDPE drum for safe handling and transportation.	 200 kg (Net)	HDPE (High Density Polyethylene)	- Excellent chemical resistance - Strong and impact resistant - Moisture-proof - Suitable for stacked storage - Recyclable material
 IBC TOTE Ideal for bulk handling, storage and large scale production needs.	 1,000 kg (Net)	Inner: HDPE Outer: Galvanized Steel Cage	- Cost-effective for bulk users - Easy loading and unloading - Space-saving - Reusable and recyclable
 BULK DELIVERY For large volume requirements via stainless steel or lined tanker trucks.	 Bulk (On Request)	Stainless Steel or Lined Tanker	- Suitable for continuous supply - Efficient and economical - Customizable logistics solution - Complies with international regulations



SHELF LIFE

24 months from the date of manufacture under recommended storage conditions.



SHIPPING CONDITIONS

- Not classified as dangerous goods under major transport regulations (IMDG, IATA, ADR).
- Transport in clean, dry and covered vehicles.
- Avoid extreme temperatures during transport.
- Follow local and international regulations.



AVAILABLE DOCUMENTATION

FoaMax Shimi provides complete documentation to support quality, safety and regulatory compliance.



STORAGE CONDITIONS

- Store in original, unopened containers.
- Keep in a cool, dry, well-ventilated area.
- Protect from direct sunlight, heat and freezing.
- Keep container tightly closed when not in use.
- Recommended storage temperature: 5 – 30 °C.



COA

Certificate of Analysis
Batch-specific analysis report.



TDS

Technical Data Sheet
Detailed technical information.



SDS

Safety Data Sheet
Comprehensive safety and handling information.



SUSTAINABILITY COMMITMENT

FoaMax Shimi is committed to sustainable practices. Our packaging materials are recyclable and selected to minimize environmental impact while maintaining product safety.



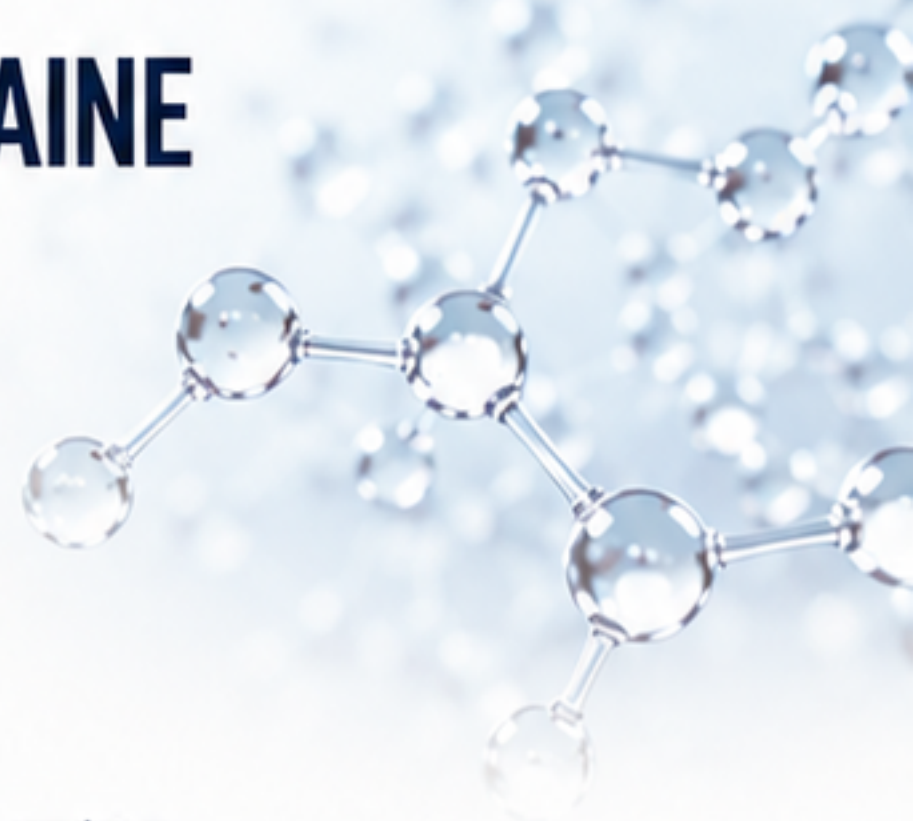
CUSTOMER SUPPORT

For inquiries, orders or technical support, please contact our experienced team.



COCAMIDOPROPYL BETAINE (CAPB)

TECHNICAL CATALOG



REFERENCES

The information presented in this catalog is based on data from reliable scientific publications, regulatory documents and technical data sheets from reputable industry sources.

NO.	SOURCE	DESCRIPTION
1	PubChem	Cocamidopropyl Betaine (CID: 24899441)
2	NIH - NCBI	Cocamidopropyl Betaine: Chemical and Pharmacological Information
3	ECHA	Registered Substance Factsheet – Cocamidopropyl Betaine
4	OECD	SIDS Initial Assessment Report for Cocamidopropyl Betaine
5	ICSC (WHO)	International Chemical Safety Card – Cocamidopropyl Betaine (ICSC: 1670)
6	GESTIS	Cocamidopropyl Betaine – Data Sheet
7	Sigma-Aldrich Technical Data Sheet	Cocamidopropyl Betaine (Product No. C3654)
8	Merck (MilliporeSigma) SDS	Safety Data Sheet – Cocamidopropyl Betaine
9	BASF Personal Care	Surfactant Guide – Amphoteric Surfactants
10	Dow Chemical Company	Surfactants Technical Information – Amphooteric Surfactants
11	Evonik Industries	TEGO® Betaines – Product Information
12	Clariant	Hostapon® Betaines – Technical Information
13	Croda International	Crodasperse™ and Betaines – Product Brochure
14	Solvay	Miranol® Ultra Series – Technical Data

NO.	SOURCE	DESCRIPTION
15	Nouryon	Mackam® Betaines – Product Information
16	Ashland	Amphoteric Surfactants – Product Guide
17	Lubrizol	BETAINES – Performance Surfactants Overview
18	ScienceDirect	Review: Amphoteric Surfactants: Synthesis, Properties and Applications
19	ACS Publications	Journal of Surfactants and Detergents – Research Articles on Betaines
20	Wiley Online Library	Amphoteric Surfactants in Personal Care Formulations
21	Springer	Surface Active Agents: Properties and Applications
22	EPA	Toxicological Review of Cocamidopropyl Betaine
23	OSHA	Hazard Communication Standard – 29 CFR 1910.1200
24	EU Commission	Cosmetic Ingredient Database (CosIng) – Cocamidopropyl Betaine
25	ISO 22716	Cosmetics – Good Manufacturing Practices (GMP)
26	Technical Data Sheets from Manufacturers	Various CAPB technical data sheets from global suppliers
27	Safety Data Sheets from Manufacturers	Various CAPB SDS documents from global suppliers



DATA RELIABILITY

All data and recommendations are provided in good faith based on the best knowledge and reliable sources available at the time of publication. Users are responsible for determining the suitability of the product for their specific application.



CONTINUOUS IMPROVEMENT

FoaMax Shimi is committed to continuous research and development to provide high-quality products and up-to-date technical information.

