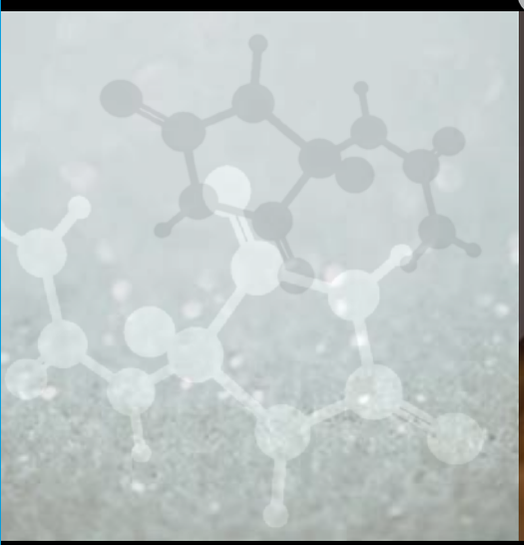
Cosmetic ingredients

AKEMA
FINE CHEMICALS

Company highlights



- Over 30 years of production experience
- EU manufacture based in Italy
- Complete series of allantoin derivatives
- Wide range of cosmetic preservatives
- Family-owned company
- Worldwide distribution network
- Commitment to customer care
- Microbiological service and challenge tests offered

Company profile

Founded in 1973, Akema Fine Chemicals is a manufacturer of specialty chemicals for the cosmetic and pharmaceutical industry. The company has focused on two main product lines:

» Allantoin and allantoin derivatives
» Cosmetic preservatives.

For more than 30 years Akema has successfully supplied both small and large cosmetic and pharmaceutical companies, building up a strong reputation as a reliable manufacturer of high-quality Allantoin.

An exclusive range of Allantoin derivatives is also produced, which offers formulators a valuable group of safe and effective functional ingredients for various specific applications.

Akema due to decades of experience has become a leading manufacturer of Imidazolidinyl Urea and Diazolidinyl Urea. Over the years the company has widened its range of preservatives to include new mild and alternative preserving systems.

Now Akema offers the cosmetic industry a comprehensive range of preservative systems, able to meet the challenging needs of the modern cosmetic market.

Akema is an independent family-owned company located in Northern Italy with a well established distribution network spread over the five continents.

All our products are manufactured in Italy using the latest technology and monitored by our own quality control system.

We are committed to providing a continual support for our customers ranging from assistance with marketing to technical services.
The challenge tests which are offered to customers play an important role in the selection of preservatives and in determining the appropriate level of use.

At present Akema is recognized as an accredited manufacturer of cosmetic ingredients with a long history and an established presence within the global marketplace. Akema provides high quality products and services to successfully serve the global cosmetic industry.

Akema continues to form successful partnerships giving a competitive advantage in the current demanding market.

Allantoin

Allantoin is a well recognized skin protectant agent for cosmetic and dermatological preparations.

Allantoin is a valuable healing agent which stimulates cell proliferation and healthy tissue formation. Applied to injured skin it promotes the regeneration of damaged epithelium and accelerates wound healing.

Allantoin has a mild keratolytic action that helps the natural desquamation of the stratum corneum and promotes soft skin.

A pronounced moisturizing effect results from its ability to increase the water binding ability of the stratum corneum which in turn improves skin appearance.

Used as an anti-irritant it helps alleviate the skin irritation caused by certain cosmetic ingredients such as surfactants, by forming complexes and neutralizing many irritant and sensitizing agents.

Allantoin as a natural component is found in many plants, particularly in comfrey roots (*Symphytum officinale*), in animals and as an organic component of many types of soil.
With a long history of use and no evidence of adverse effects, allantoin represents an extremely safe and effective cosmetic ingredient, ideal for modern cosmetic products.
In addition it is compatible with a large number of cosmetic ingredients and has high stability in a wide range of conditions.

Allantoin is effective in low concentrations. It is typically used in the range of 0.1-0.5%, although the concentration can be increased to 2% as well.

APPLICATIONS:
» Skin care (face, lip, body, hands)
» Hair care
» Shaving products
» Baby care
» Sun care
» Bath products
» Oral care

As a company focused on Allantoin production for nearly 40 years, Akema offers specialized expertise and the highest quality and purity. Our product arises from a manufacturing process free from solvents, without the use of animal or vegetable materials.

Allantoin EP/USP

Allantoin EP/USP is the pharmaceutical grade which conforms to pharmacopeial specifications (USP, EP and JPC).
Due to its healing and protecting properties Allantoin has found a widespread use in various dermatological and veterinary preparations.

In topical pharmaceutical products it is a useful active ingredient which enhances cell proliferation, promotes the formation of granulation tissue and accelerates wounds healing.

As a keratolytic agent it promotes the removal of damaged tissue and dead cells, cleansing the areas where applied.

Allantoin can be used in topical drug products at 0.5-2% in the treatment of various conditions.

APPLICATIONS:
» Cuts, abrasions, ulcers
» Slow healing wounds
» Burns and sun-burns
» Acne and skin eruptions
» Ano-rectal diseases
» Dermatitis, xerosis, psoriasis
» Dental hypersensivity and periodontal diseases.

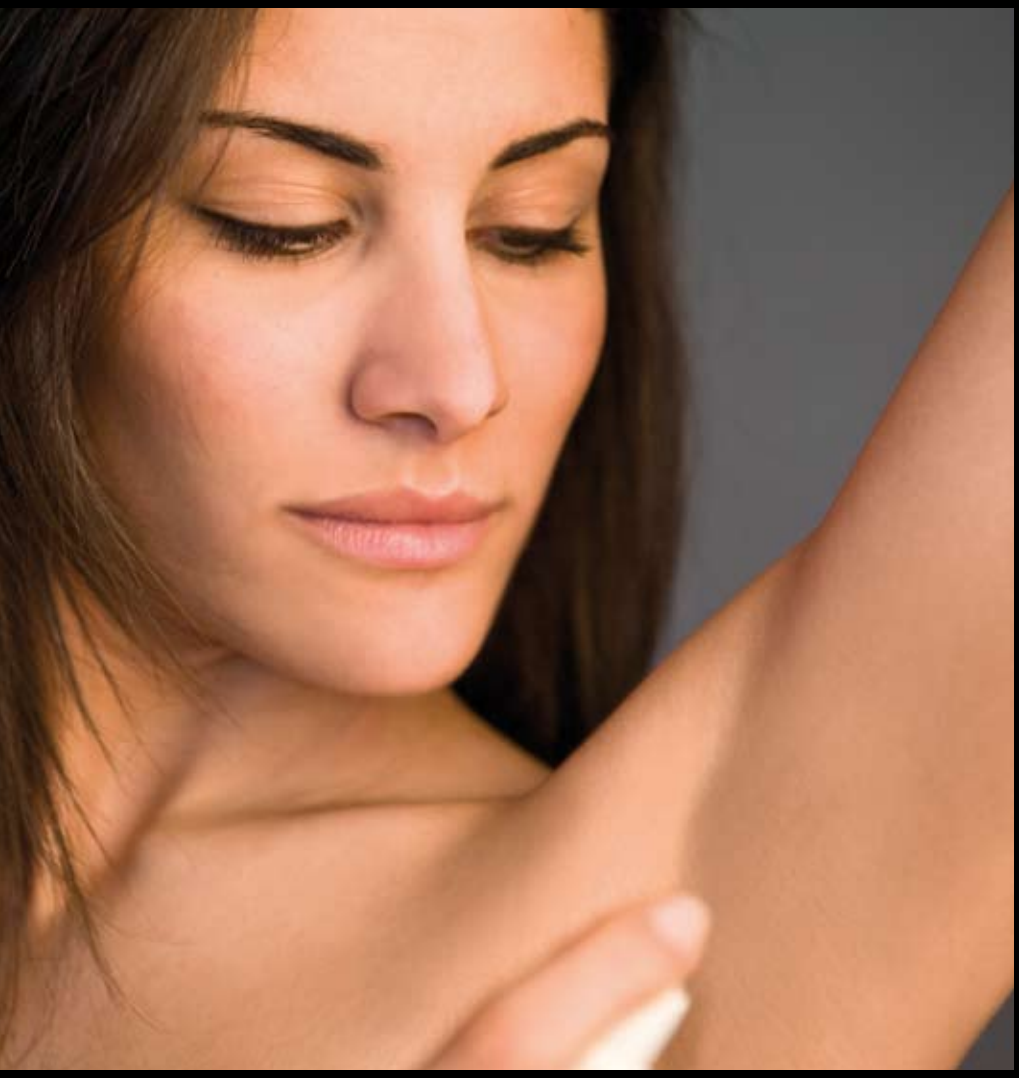
Allantoin Derivatives

The amphoteric characteristic of Allantoin permits combination with various chemical substances to form salts and complexes.

In combination with various therapeutic substances, Allantoin synergizes their activity reducing at the same time their side-effects, sensitizing or irritating properties.
The addition compounds and salts thus formed have been shown to possess useful dermatotherapeutic properties.

The aluminum allantoinate complexes combine the well-known properties of allantoin with the astringent action of aluminium to provide a beneficial effect in the treatment of acne, oral, foot and dermatological problems.

Other allantoin complexes provide valuable combinations of allantoin with other active ingredients which can be useful in various specific skin conditions.



ALCLOXA
INCI name: Alcloxa

Aluminium allantoinate complex with mild astringent, anti-irritant, soothing and healing action. Well tolerated also by individuals prone to irritation, reduce the irritant potential of cosmetic and OTC preparations.

APPLICATIONS:
» Antiperspirants, deodorants
» Oral care
» Shaving care
» Baby care
» Foot care
» Acne and skin eruptions products
» Anorectal drug products
USE LEVELS: 0.1-2%

ALCLOXA A.S. MODIFIED
INCI name: Aluminium Chlorohydrex, Allantoin

Alcohol-soluble form of Alcloxa, complexed with propylene glycol. Designed for use in high alcohol antiperspirants-deodorants, pre- and after-shave preparations, aerosols and lotions. Impart anti-irritant action with a comfortable sustained drying activity, leaving a nonsticky film.

APPLICATIONS:
» Antiperspirants, deodorants
» Shaving care
USE LEVELS: 6-20%

ALDIOXA
INCI name: Aldioxa

Aluminium salt of Allantoin with astringent, soothing and healing properties. Provide a mild antiperspirant action which serves to dry up weeping areas, prevents skin irritations and promotes the regeneration of injured tissue. Effectively employed to prevent and for the treatment of diaper dermatitis. Meets JP specifications.

APPLICATIONS:
» Antiperspirants, deodorants
» Oral care
» Baby care
» Foot care
» Antiacne and skin eruptions
USE LEVELS: 0.2-2%

ALPANTHA®
INCI name: Allantoin Panthenol

Functional ingredient with anti-inflammatory, soothing, and moisturizing properties. Stimulates epithelization and healing of oral mucous and skin impaired functions. Penetrates into hair with long lasting moisturizing effect, repairs hair damage and improves hair sheen. Wide range of cosmetic and cosmeceutical applications to help tissue regeneration and for dry sensitive skin.

APPLICATIONS:
» Hair care
» Sun care
» Oral & Lip care
» Shaving care
USE LEVELS: 1-5%

ALGLYCERA®
INCI name: Allantoin Glycyrrhetinic Acid

Functional ingredient with anti-inflammatory, anti-allergic, mild keratolytic and skin whitening properties. Reduces the irritant and sensitization effect caused by cosmetics, environmental agents and sun exposure, particularly to individuals with skin sensitivity. Suitable at 0.1-0.3% for cosmetics and cosmeceuticals dedicated to dry-sensitive skin, skin hyperpigmentation, sun care, shave care and oral care.

APPLICATIONS:
» Skin care
» Sun care
» Oral care
» Shaving care
USE LEVELS: 0.1-0.3%

ALMETH®
INCI name: Allantoin Acetyl Methionine

Derivative of the sulphur-containing aminoacid methionine with anti-seborrhoeic, anti-dandruff, anti-acne and healing properties. Useful in hair products for the treatment of dandruff and seborrhea capitis. Sooths the irritated skin and promotes healing of acne lesions.

APPLICATIONS:
» Hair care
» Skin care
USE LEVELS: 0.2-1.0%

ALPOLYGAL®
INCI name: Allantoin Polygalacturonic Acid

Functional ingredient with moisturizing, smoothening and anti-irritant properties. Suitable for products dedicated to dry, sensitive and aged skin. Improves the skin-feel of cosmetic formulations.

APPLICATIONS:
» Skin care
USE LEVELS: 0.5-1.0%

Other allantoin derivatives are also available:

» **ALLANTOIN CALCIUM PANTOTHENATE**

» **ALLANTOIN VC**

» **ALLANTOIN BENZOCAINE**

» **ALLANTOIN ZINC UNDECYLENATE**

» **ALLANTOIN MICRONIZED**

» **ALLANTOIN ENCAPSULATED**

» **ALDIOXA VC**

» **ALDIOXA ACETYL METHIONINE**

Cosmetic preservatives

Due to their nature, cosmetics can support the proliferation of microorganisms. Microbial contamination of cosmetics is a substantial risk to product quality, consumer health and regulatory compliance.

The manufacture of safe cosmetic products includes the use of a tailor-made preservative system for the protection against microbial growth during manufacture, storage and usage.

Cosmetic formulators require preservatives which are safe for the consumer and at the same time inactivate different types of microbial contaminants.

They should also be compatible with the formulation, stable throughout the product's life, meet the regulations and be in line with ever changing market needs.

Due to the requirements of the trends in the current cosmetic market, we offer a variety of preservation options, ranging from traditional actives to systems based on parabens, IPBC or organic acids.
An alternative option to traditional preservatives has been developed as well.

This wide range of products will offer the opportunity to find the most appropriate preservation for every specific need.

PRESERVATIVE A15
INCI name: Imidazolidinyl Urea

Long history of safe use. Fine white powder highly soluble in water, very active against Gram+ and Gram- bacteria. Widely used in cosmetics and topical pharmaceutical products. Meets USP/NF requirements.
APPROVALS: EU, USA, Japan[1], ASEAN, Brasil
USE LEVELS: 0.2-0.4%.

PRESERVATIVE A2
INCI name: Diazolidinyl Urea

Fine powder highly soluble in water. Highly effective against Gram+ and Gram- bacteria with some antifungal activity. Suitable in most personal care products for rinse-off, leave-on and wet wipes.
APPROVALS: EU, USA, ASEAN, Brasil
USE LEVELS: 0.1-0.3%

KEMIDANT L
INCI name: DMDM Hydantoin, Water

Clear liquid with 55% of active in water solution, highly effective against Gram +, Gram - bacteria, active against molds. Long history of use in most type of cosmetics.
APPROVALS: EU, USA, Japan[1], ASEAN, Brasil
USE LEVELS: 0.2-0.5%

KEMIDANT L40
INCI name: Water, DMDM Hydantoin

Clear liquid with 40% of active in water solution, highly effective against Gram +, Gram - bacteria, active against molds. Stable in wide pH range. Tolerates low storage temperature. Suitable for the preservation of most types of cosmetics for rinse-off, leave-on and wet wipes.
APPROVALS: EU, USA, Japan[1], ASEAN, Brasil
USE LEVELS: 0.3-1.0%

KEM 30
INCI name: Sodium Hydroxymethylglycinate, Water

Liquid preservative derived from glycine with 50% of active in water. Broad spectrum antimicrobial activity, highly effective against Gram+ bacteria, Gram- bacteria and molds. Can be used upto pH 12, also useful for the neutralization of carbomer gels and anionic systems. Effective as unique preservative in many formulations.
APPROVALS: EU, USA, ASEAN, Brasil
USE LEVELS: 0.2-0.5%

Preservative systems

No single preservative meets the requirements for a complete preservation in all situations. Individual preservatives are often less effective against certain microbial species than others; most do not have broad spectrum activity against both bacteria and fungi.
To enhance the antimicrobial effectiveness, blends of different actives with complementary activity are used together.
The preservative systems are balanced combinations of actives, which represents the best compromise between efficacy, safety and formulation compatibility.

Preservative systems with parabens

Parabens have been successfully used in foods, medicines and cosmetics preservation for more than 70 years.
They are the most widely used antifungals in preserving compositions for personal care products.

According to US & EU regulatory agencies, the safety concerns on human health raised in recent years concerning parabens and incorrectly amplified by the media, have no scientific basis. Methylparaben, Ethylparaben, Propylparaben and Butylparaben maintain a global approval status in all cosmetic applications with no further restrictions.

KEMABEN

INCI name: Propylene Glycol, Imidazolidinyl Urea, Methylparaben, Propylparaben

Synergistic combination of widely used cosmetic preservatives in liquid form. Broad spectrum activity against bacteria, yeasts and molds. Suitable for rinse-off, leave-on and wet wipes.
APPROVALS: EU, USA, Japan[1], ASEAN, Brasil
USE LEVELS: 0.6-1.2%

KEMABEN 2

INCI name: Propylene Glycol, Diazolidinyl Urea, Methylparaben, Propylparaben

The first and most popular preservative blend for cosmetics.
Most commonly used cosmetic preservative blend. Synergistic combination of widely used cosmetic preservatives in liquid form. Broad spectrum activity against bacteria, yeasts and molds. Effective in a wide range of cosmetics for rinse-off, leave-on and wet wipes.
APPROVALS: EU, USA, ASEAN, Brasil
USE LEVELS: 0.5-1.0%

KEMABEN 2E

INCI name: Propylene Glycol, Diazolidinyl Urea, Methylparaben, Propylparaben

Liquid preservative system with broad spectrum activity against bacteria and enhanced activity against yeasts and molds. Particularly suggested for emulsions very susceptible to fungal contamination.
APPROVALS: EU, USA, ASEAN, Brasil
USE LEVELS: 0.3-1.0%

KEMABEN 4

INCI name: Phenoxyethanol, Methylparaben, Butylparaben, Ethylparaben, Propylparaben

Liquid preservative system with broad spectrum activity against bacteria and highly effective against fungi. Very popular combination, widely used for the protection of emulsions, oils and wet wipes. Globally approved for rinse-off and leave-on applications without restrictions.
APPROVALS: EU, USA, Japan, ASEAN, Brasil
USE LEVELS: 0.2-1.0%

KEMABEN 5

INCI name: Phenoxyethanol, Propylene Glycol, Methylparaben, Ethylparaben, Propylparaben

Liquid broad spectrum preservative system active against bacteria, yeasts and molds. Optimised blend for aqueous and oily formulations. Worldwide approved without limitations; suitable for rinse-off, leave-on and wet wipes.
APPROVALS: EU, USA, Japan, ASEAN, Brasil
USE LEVELS: 0.5-1.5%

KEMABEN DHA

INCI name: Phenoxyethanol, Methylparaben, Dehydroacetic Acid

Unique optimized combination with broad spectrum activity against bacteria, yeasts and molds and superior water solubility. Effective at acidic pH upto 6. Worldwide approved for rinse-off, leave-on and wet wipes applications.
APPROVALS: EU, USA, Japan, ASEAN, Brasil
USE LEVELS: 0.4-1.0%

Preservative systems with IPBC

Iodopropynyl Butylcarbamate, also known as IPBC, is a highly effective fungicidal agent. It is widely used in cosmetic preservation in combination with other antibacterials which complete its antimicrobial spectrum of activity. Such blends show synergistic effects, allowing the use of lower levels of single preservatives.

IPBC was recently approved for use in cosmetic products in Japan, gaining the present status of global approved preservative.
Effective at very low concentrations, IPBC represents an alternative to parabens for products which are very susceptible to fungal contamination. Largely used in personal care wipes.

KEMIDANT PLUS

INCI name: DMDM Hydantoin, Iodopropynyl Butylcarbamate

Powder form, synergistic combination highly effective against bacteria, yeasts and moulds. Cost effective alternative to be used alone in most types of cosmetics, particularly for rinse-off products.
APPROVALS: EU [2], USA, Japan [1], ASEAN [2], Brazil
USE LEVELS: 0.1-0.4%

KEM PLUS

INCI name: Phenoxyethanol, Iodopropynyl Butylcarbamate

Liquid preservative system based on the antifungal IPBC, highly active against yeasts and molds. Effective alternative to parabens, useful for the protection against fungal contamination of a wide range of cosmetics for rinse-off, leave-on and wet wipes.
APPROVALS: EU [2], USA, Japan, ASEAN [2], Brazil
USE LEVELS: 0.02-0.4%

KEM PLUS 2

INCI name: Phenoxyethanol, Iodopropynyl Butylcarbamate

Liquid preservative system with broad spectrum activity against bacteria, yeasts and molds. Versatile alternative to parabens-based system suitable for the protection of a wide range of cosmetics for rinse-off, leave-on and wet wipes.
APPROVALS: EU [2], USA, Japan, ASEAN [2], Brazil
USE LEVELS: 0.5-0.9

Preservative systems with organic acids

Organic acids are organic compounds with weak acidic properties, which are widely represented in nature as constituents of plants.

Organic acids and their salts are largely used in foods, medicines and cosmetics.

They are mainly antifungal agents effective in formulations with acidic pH, because only the undissociated form present in acidic conditions, can pass through the cell membrane and inhibit the microbial growth. With a long history of safe human use and global approval, they provide an interesting alternative which is becoming popular for the preservation of cosmetics.

Organic acids and their salts, together with benzyl alcohol, are the only preservatives permitted by organic & natural certification bodies.

KEMIDANT K

INCI name: DMDM Hydantoin, Water, Potassium Sorbate

Highly active preservative blend with broad spectrum antimicrobial activity against bacteria, yeasts and moulds. Stable and cost-effective system for the protection of a wide range of cosmetics in acidic condition preferably up to pH 6. Suitable for rinse-off, leave-on and wet wipes.
APPROVALS: EU, USA, Japan[1], ASEAN, Brazil
USE LEVELS: 0.2-0.6%

KEM K

INCI name: Phenoxyethanol, Water, Potassium Sorbate

Mild and skin-tolerable preserving blend with broad spectrum activity against bacteria, yeasts and molds. Effective alternative in cosmetic preservation, can be used for the protection of a wide range of personal care products with a slightly acidic pH, preferably up to 6. Globally allowed for use in cosmetics and dermopharmaceuticals with no application restrictions.
APPROVALS: EU, USA, Japan[1] , ASEAN, Brazil
USE LEVELS: 0.5-1.2%

KEM E

INCI name: Benzyl alcohol, Water, Potassium Sorbate, Sodium benzoate

Liquid preservative with broad spectrum efficacy based on natural-identical ingredients. Gentle on the skin, preserving combination highly effective against bacteria, yeasts and molds in acidic conditions up to pH 5.5. Globally approved in rinse-off and leave-on applications, it is suitable for use in a wide variety of cosmetic products. Permitted for the preservation of natural & organic cosmetics by main certification standards (Ecocert, BDIH, Soil Association, ICEA/AIAB).
APPROVALS: EU, USA, Japan, ASEAN, Brazil
USE LEVELS: 0.5-1.2%

Notes on regulatory status:

All listed preservatives are approved according to EU Cosmetics Directive and US regulation.
Restricted concentrations, warnings, application restrictions are applicable. Please refer to the product documentation for more specific information.

(1) Allowed in rinse-off products, not to be used on mucous membrane (label required).
(2) Allowed in bath products, shower gels and shampoos without restrictions; in other rinse-off products can't be used for children under 3 years (label required). Allowed in leave-on products not for use on large part of body and not for children under 3 years (label required).
Not to be used for oral-care and lip-care.

Multifunctional system with antimicrobial properties

STABIL
INCI name: Phenethyl alcohol, Caprylyl Glycol

Stabil is an innovative multifunctional system which represents a reliable and safe alternative to the traditional preservatives for personal care.
It is a combination of widely accepted cosmetic ingredients which acts as a skin moisturizer, wetting agent and mild fragrance.

Furthermore it has a broad spectrum activity against bacteria, yeasts and moulds, which allows the control of microbial growth.
It is therefore an ideal option for creating mild and skin-compatible self-preserving cosmetics.

Stabil is globally approved for all applications, doesn't contain ingredients commonly recognized as preservatives and the formulated producted may be described as being preservative-free.

Clear, colourless liquid compatible with the most used cosmetic ingredients and effective in a wide range of pH and temperature. It is a versatile system that can be used at 0.6-1.2% in a wide range of personal care applications, particularly recommended for individuals with sensitive skin and in baby care.

No further preservatives are normally required in the appropriately formulated product.

As a combination of well established and safe cosmetic ingredients with excellent antimicrobial performance, Stabil offers formulators a different modern concept, which meets current consumer and market demands for alternative preservation strategies.

Microbiological service

Every cosmetic formulation has unique preservative requirements which depend on many factors such as the chemical composition, the physical form, the intended use and the type of container.

This complex environment and its many interactive possibilities, makes it difficult to predict with precision the ultimate effectiveness of a preservative in the final product.

It is therefore necessary to conduct a direct microbiological preservative-effectiveness test on the finished formulation to confirm that the preserved product may withstand the microbial contaminants it might meet during production and consumer use.

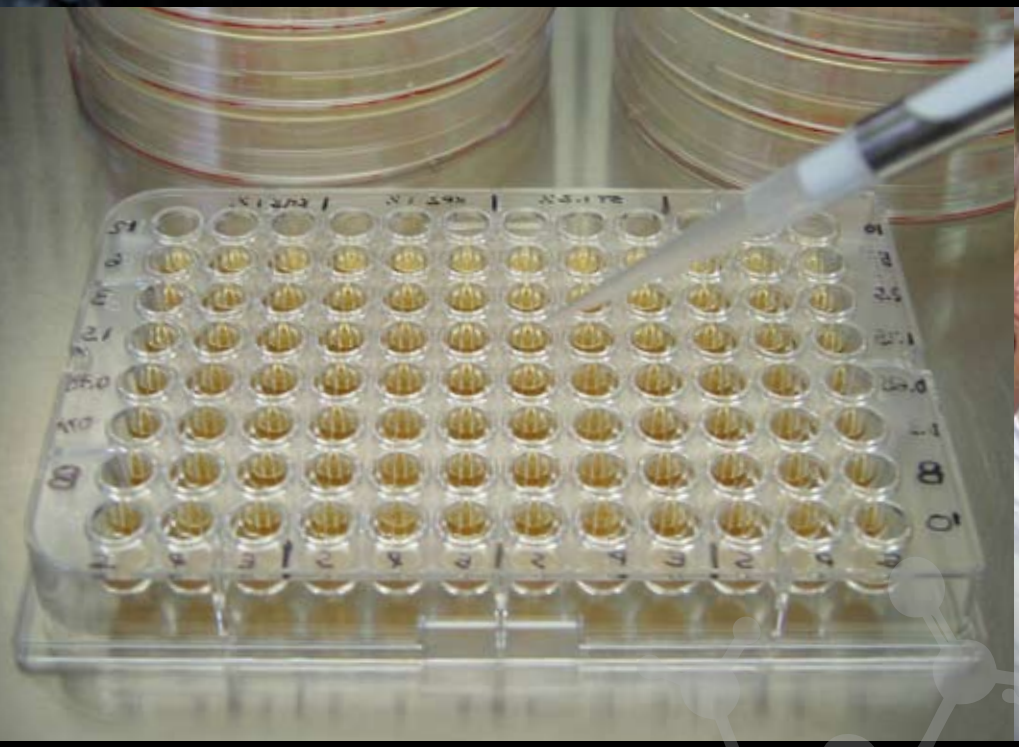
This test is also referred to as the challenge-test. It typically consists of the addition of standardized inocula of bacteria yeast and moulds to the product sample. The surviving microorganisms are estimated during a 28-day incubation period at different time intervals, then results are compared with established acceptance standards.

The purpose of conducting a challenge-test is to select the appropriate type of preservative and to determine the optimal level which ensures a safe preservation without excess. In this way, the preservative concentrations are kept as low as possible in order to improve skin compatibility, avoid adverse reactions and unnecessary costs.

To meet these specific needs of cosmetic manufacturers, our in-house microbiological laboratory offers its experienced technical support.

Challenge tests are offered to customers to assess the adequate preservation of each cosmetic formulation, compare the activity of different preservatives and finally find the appropriate level of use.
This test is performed according to a modified European Pharmacopoeia method.

Our microbiologists may also assist customers during formula development and help solve preservation issues with existing preservative systems.



Product list

	Product name	INCI name
Allantoin	**ALLANTOIN**	Allantoin
	ALLANTOIN EP/USP	Allantoin (EP, USP, JPC name)
Allantoin derivatives	**ALCLOXA**	Alcloxa
	ALCLOXA A.S. MODIFIED	Allantoin, Aluminum Chlorohydrex
	ALDIOXA	Aldioxa
	ALPANTHA	Allantoin Panthenol
	ALLANTOIN CALCIUM PANTOTENATE	Allantoin Calcium Pantothenate
	ALGLYCERA	Allantoin Glycyrrhetinic Acid
	ALLANTOIN VC	Allantoin Ascorbate
	ALMETH	Allantoin Acetyl Methionine
	ALPOLYGAL	Allantoin Polygalacturonic Acid
Cosmetic Preservatives	**PRESERVATIVE A15**	Imidazolidinyl Urea
	PRESERVATIVE A2	Diazolidinyl Urea
	KEMIDANT L	DMDM Hydantoin, Water
	KEMIDANT L 40	Water, DMDM Hydantoin
	KEMIDANT PLUS	DMDM Hydantoin, IPBC
	KEMIDANT K	DMDM Hydantoin, Water, Potassium Sorbate
	KEM 30	Sodium Hydroxymethylglycinate, Water
	KEMABEN	Propylene Glycol, Imidazolidinyl urea, Methylparaben, Propylparaben
	KEMABEN 2 - KEMABEN 2E	Propylene Glycol, Diazolidinyl Urea, Methylparaben, Propylparaben
	KEMABEN 4	Phenoxyethanol, Methylparaben, Butylparaben, Ethylparaben, Propylparaben
	KEMABEN 5	Phenoxyethanol, Propylene Glycol, Methylparaben, Ethylparaben, Propylparaben
	KEMABEN DHA	Phenoxyethanol, Methylparaben, Dehydroacetic acid
	KEM PLUS - KEM PLUS 2	Phenoxyethanol, IPBC
	KEM K	Phenoxyethanol, Water, Potassium Sorbate
	KEM E	Benzyl alcohol, Water, Potassium Sorbate, Sodium Benzoate
Multifunctional system with antimicrobial properties	**STABIL**	Phenethyl Alcohol, Caprylyl Glycol

Distribution network

The products listed in this brochure are available worldwide through our local agents or from our headquarters in Italy.

Additional products are also available or can be developed according to specific needs.

Akema has a large network of distributors and agents in more than 40 countries worldwide. Further information and help finding the best solution for your needs can be obtained directly from ourselves or via our agents.
The complete product documentation package and samples are available upon request.

For more information on products and services contact us directly or visit our website at :
www.akema.it

For details on our distribution in your area, please contact us via phone, fax or e-mail.

adv & styling: les garçonnes.it ph. atdslab.it thanks to the models: Annalisa e Giulia

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