

Cocamidopropyl Betaine

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COCAMIDOPROPYL BETAINE is a pseudoamphoteric zwitterion detergent derived from long-chain alkyl betaines. Because it was thought to be less irritating than sodium laurel sulfate, its use expanded.

The first step in the making of cocamidopropyl betaine consists of the reaction of coconut fatty acids with 3-(dimethylamino)propylamine, yielding cocamidopropyl dimethylamine. This amidoamine is converted into cocamidopropyl betaine by reaction with sodium monochloroacetate. Both dimethylaminopropylamine and cocamidopropyl dimethylamine are thought to be the main sensitizers, occurring as impurities left over from the manufacture of cocamidopropyl betaine.

These sensitizers were particularly prevalent in commercial-grade shampoos and liquid cleansers, hence their prevalence as the main occupational sources among hairdressers. Consumers were sensitized mainly through shampoos and other toiletry products such as liquid shower gels, roll-on deodorants, and facial cleansers.¹

Since the removal of the sensitizing residues, the problem has mostly disappeared, but allergy to cocamidopropyl betaine on its own has been documented. When testing, consider testing to all three allergens (ie, cocamidopropyl betaine, amidoamine, and dimethylaminopropylamine).

Cocamidopropyl betaine is available from many suppliers under more than 50 trade names, including Tegobetaine L7 (Evonik Industries, Esson, Germany) and Ampholyt JB 130 (Sasol Olefins & Surfactants, Hamburg, Germany).²

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Allergen Avoidance provides clinicians with high-quality up-to-date practical information to supply to patients about specific contact allergens.

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Cocamidopropyl Betaine

What is it?

Cocamidopropyl betaine is a compound added to various toiletries, especially shampoos, as a surfactant. This allows the product to foam, lather, and spread more easily.

Synonyms for cocamidopropyl betaine include Tegobetaine L7; N-(carboxy methyl)-N, N-dimethyl-3-[(1-oxococonut) amino]-1-propanaminium hydroxide, inner salt, and coco betaine.

Where is it found?

Cocamidopropyl betaine is found in liquid soaps, shampoos, hair colorants, shower and bath formulations, and waterless cleansers. It is especially found in products labeled “gentle,” “for sensitive skin,” “made for infants,” and “non-irritating.” Although not present in most bar soaps, it is found in Dove bar soap (Unilever, USA).

How can it be avoided?

Avoid using all products whose list of ingredients contain the words “cocamidopropyl betaine,” “betaine,” or “sultaine.” When you are exposed to this chemical in a liquid soap or detergent, your skin will react by developing a red, scaly, and (maybe) itchy rash wherever the chemical touches your skin.

Some well-known brand-name cleansers that do not contain cocamidopropyl betaine are Cetaphil soaps and cleansers (Galderma, Ft. Worth, TX) and Free and Clear Shampoo (PSI, Rochester, MN).

The best strategy is to avoid products that contain cocamidopropyl betaine. Your dermatologist may have given you a list of products that are safe for you to use. This list contains only products that do not contain anything you are allergic to. Be careful to avoid products that have similar names to those that are listed or that are made by the same companies that make the products that are on the list.