APM/APS Cosmetics

APM and APS are applicable
onto various formulations
Last but not least, APM and APS are
active ingredients useful for skin care,
make-up and hair care products

Skin care

Oil | Cleansing cream | Washing foam | Lotion | Milk lotion | Cream | Essence | UV care cream | Mask | Iontherapy | Mixing essence

Make-up

Make-up base | Foundation

Hair care

Shampoo&Conditioner | Treatment

SHOWA DENKO K.K.

Chemical Sector Chemicals Div. Speciality Chemicals Dept.
Personal Care Materials Group
23F Muza Kawasaki Central Tower,
1310, Omiya-cho, Saiwai-ku, Kawasaki, Kanagawa 212-0014, Japan
TEL:+81-44-520-1382 Fax:+81-44-520-1383
http://www.sdk.co.jp

Showa Denko Europe GmbH.
Konrad-Zuse-Platz 4 D-81829, Muenchen, Germany
Tel: 49-89-9399620
http://www.showa-denko.com/

Showa Denko America Inc.
420 Lexington Avenue Suite 2850, New York. NY10170, U.S.A.
Tel: +1-212-370-0033
http://www.showadenko.us/

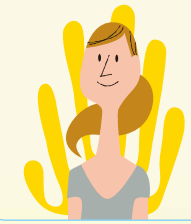
Effective and Stable
Vitamin C Derivatives

Magnesium L-ascorbyl 2-phosphate

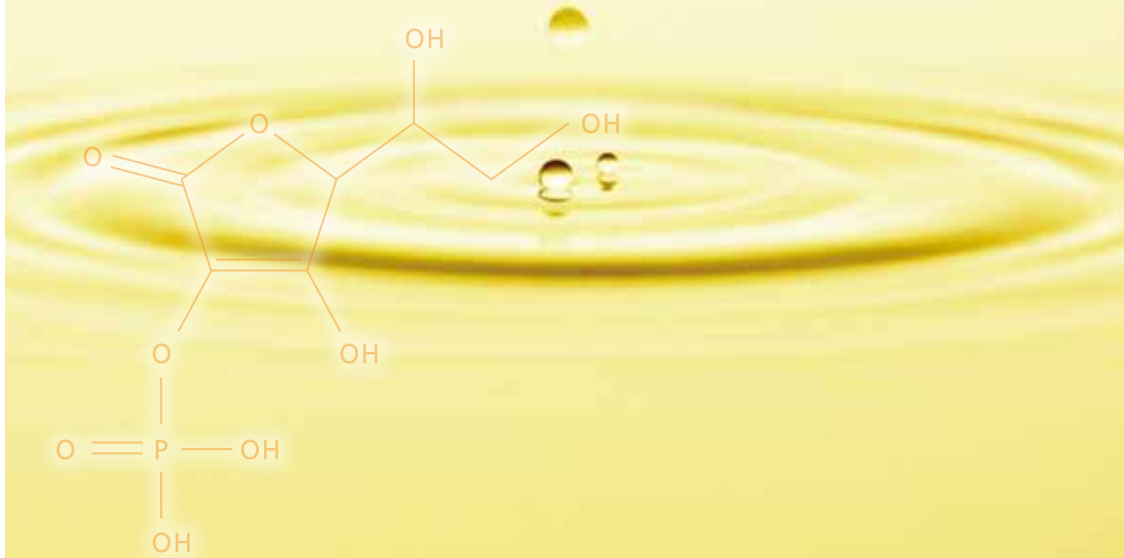
APM

Sodium L-ascorbyl 2-phosphate

APS



Effective quenchers of
intra-dermal reactive
oxygen species.
Show a variety of
skin beautifications



What's APM/APS

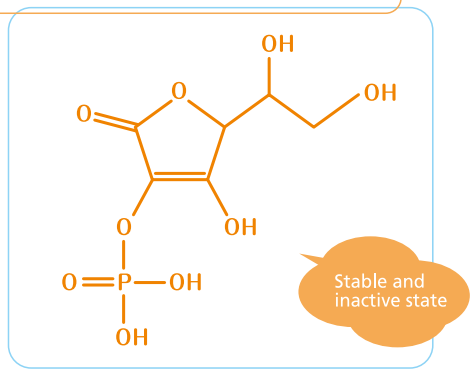
Several benefits besides skin- brightening !

APM, APS can be successfully applied for acne care, anti-aging, hair care among others. These functions are essentialiy effective for skin beautification and skin care.

What is APM or APS ?

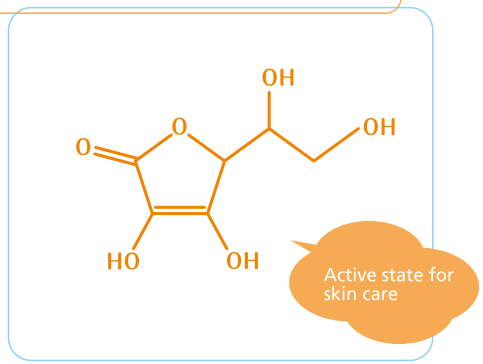
APM, APS are the stable under atmospheric conditions. If applied on skin, they quickly changed into an active form of vitamin C in the epidermis thanks to the intradermal enzyme called phosphatase.

Ascorbyl-2-phosphate (AP) is inactive and chemically stable under atmosphere



If applied on the skin, AP body gets hydrolyzed by the work of phosphatase

AP turns to ascorbic acid as an active form for skin care and beautification thanks to intra-dermal enzyme phosphatase.



APM, APS are stable and physiologically inactive until applied on the skin, and easy to various formulations.

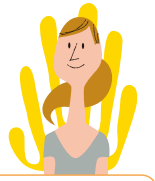
Vitamin C (ascorbic acid) is famous for its efficacy on skin beautification, for example, skin-brightening, but very unstable chemically. It easily oxidates under atmospheric conditions. Asborbyl 2-phosphate (AP) is a stable, aqua soluble pro-vitamin C. With ascorbate's sensitive hydroxyl group modified by phosphoric ester, AP is resistant to atmospheric oxygen. Though it is not physiologically active, various effects appear after AP is changed to ascorbate via hydrolysis catalyzed by phosphatase. Thanks to their chemical stability, APM and APS enable not only an easy formulation of vitamin C in cosmetics, but also its effective delivery into the skin. AP is available for cosmetic use in two forms, magnesium salt (APM) and sodium salt (APS). There is no physiological difference so far observed in the two salts, however there chemical properties differ: APM is more stable and APS is more soluble in water.

APM and APS guarantee the enrichment of vitamin C in the skin.

APM and APS remain stable in formulation, but if applied on the skin, vitamin C rapidly produces dephosphorization of AP, and enriches the skin proportionally to the amount of AP contained.

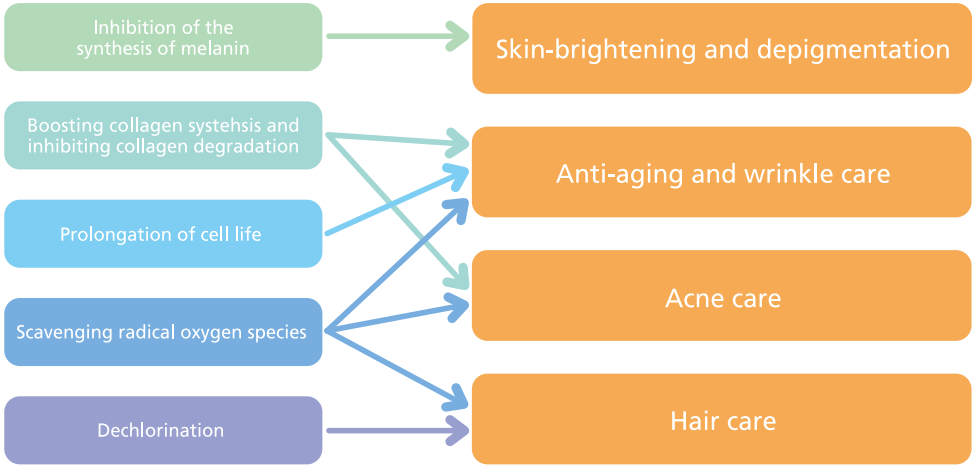
How about the efficacy of APM and APS ?

APM and APS have multi-functioning effect on the skin, essentially for skin care products.



5 important functions of APM / APS

Multi-functioning for skin care and hair care



Exceptional protection against UV-generated radical oxygen species, which prevents photo-aging.

APM and APS are mainly used as active ingredients for skin-brightening applications. However, recent investigations show significant results on skin beautification, as well as high performance on scavenging radical oxygen species. Acnes, photo-aging, and hair damages are commonly caused by UV-generated radicals. AP protects against such radical diseases. The enhancement of collagen synthesis helps the rash recovery of skin firmness, in which also reductions of active oxygen species have an important role. The same effect enhances the cell life by extending the length of telomere. For hair care applications, APM and APS reduce free chlorine in aqueous solution and protect hair cuticles from damages caused by oxidative chlorine. As a result, APM and APS are extremely useful and applicable on a variety of skin care treatments.