Avena Lab
Farmadria d.o.o. Since 1991.

Import and distribution for Serbia: Farmadria DOO
info@avenalab.com
+381 (0) 69 / 55 65 029
www.avenalab.com

TECHNICAL DATA SHEET

Product Name: Magnesium Sulfate

INCI Name: Magnesium sulfate heptahydrate

CAS: 10034-99-8

Synonyms: Epsom Salt, Bitter Salt

Chemical Classification: Inorganic Salt

Functional Category: Volume Increasing Agent / Filler

IUPAC Name: Magnesium sulfate heptahydrate ($MgSO_4 \cdot 7H_2O$)

Description: Magnesium sulfate heptahydrate, also known as Epsom salt, is an inorganic mineral widely used in cosmetics for its positive effects on skin and muscles. When added to skincare formulations, it softens the outer layer of the skin, leaving it smooth and pleasant to the touch. Its natural anti-inflammatory properties help reduce redness and swelling, calming irritated skin, making it ideal for relaxation and restorative products such as baths and masks. Thanks to its mild abrasive effect, magnesium sulfate acts as a natural exfoliant, gently removing dead skin cells from the surface and enhancing skin's smooth texture and healthy glow. In cosmetics, magnesium sulfate heptahydrate ($MgSO_4 \cdot 7H_2O$) is preferred due to its easy water solubility. Unlike the heptahydrate, the anhydrous form ($MgSO_4$) lacks water molecules in its structure, making it "dry" in a chemical sense. The anhydrous form is less soluble in water compared to the heptahydrate, and therefore is less commonly used in cosmetic formulations. Magnesium sulfate heptahydrate is a white, odorless powder in crystalline form. It is highly soluble in water, with solubility increasing with temperature. The density of magnesium sulfate heptahydrate is approximately 1.68 g/cm³, depending on its specific crystalline form. It does not have a defined melting point, as it loses water upon heating and eventually forms anhydrous magnesium sulfate ($MgSO_4$) at higher temperatures.

Benefits:

- Softens the skin's surface, making it smooth and pleasant to the touch.
- Possesses anti-inflammatory properties, helping to reduce redness and swelling.

Avena Lab
Farmadria d.o.o. Since 1991.

Import and distribution for Serbia: Farmadria DOO
info@avenalab.com
+381 (0) 69 / 55 65 029
www.avenalab.com

TECHNICAL DATA SHEET

- Soothes irritated skin, providing a sense of relief.
- Acts as a natural exfoliant, removing dead skin cells.
- Promotes a healthy texture and natural glow of the skin.
- Contributes to muscle relaxation when used in baths.
- Easily dissolves in water, facilitating use in cosmetic formulations.

Application: Magnesium sulfate is used in cosmetic products at concentrations that vary depending on formulation type and desired effects. In body and foot baths, concentrations generally range from 1% to 5%, providing sufficient solubility and effective muscle and skin relaxation. In exfoliating products, similar concentrations are used, typically up to 5%, to act as a mild abrasive that removes dead skin cells. In hair care products, such as volumizing sprays, magnesium sulfate is used at lower concentrations, around 0.5% to 1%, to achieve texture without excessive drying. Adding magnesium sulfate carefully in formulations, with solubility testing, ensures optimal stability and even distribution in the product. When preparing water-in-oil (W/O) emulsions, small amounts of magnesium sulfate (1g/100ml) are added to the water phase to stabilize the emulsion, creating a kind of “pressure equalization” between water droplets. It combines well with moisturizing ingredients like hyaluronic acid and is an effective texture modifier.

Animal Testing: Not tested on animals

GMO: Non-GMO

Vegan: Free of animal-derived components

Origin of Raw Material: Germany