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**TYPICAL USES OF  
MAGNESIUM SULFATE (Epsom Salt)  
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**ADHESIVES:** Setting agent and extender in protein base glue, setting agent in low fume area formaldehyde resin used in wafer and chipboard.

**AGRICULTURE:** Micronutrient for addition to fertilizer or for use as a foliar spray.

**ANIMAL HEALTH AND FEED:** Dietary supplement, laxative.

**BUILDING MATERIALS:** Used in magnesium oxysulfate cements for roofing panels and wallboard, and as an ingredient in flame retardant coatings, effloresces brick.

**CATALYSTS (Specialty):** Source of magnesium ion.

**COSMETICS:** Used in hair wave neutralizer solutions and hair "densifier" products.

**DETERGENTS AND SOAPS:**  
*Bar Soaps: To prevent shrinking and cracking, magnesium tallowate.*  
*Light Duty Liquid Detergents: Foam stabilizer and densifier, viscosity control agent*  
*Heavy Duty Laundry Detergents: Source of magnesium ion, useful in zeolite –  $MgSO_4$  builder systems, foam stabilizer, source for synthetic magnesium water hardness, anti-caking agent.*

**ENZYME STABILIZER:** Brewery, high fructose, antibiotic, high fructose corn, cheese production.

**FERMENTATION PROCESSES:** Magnesium ion source in yeast and antibiotic production.

**FUEL OIL ADDITIVES:** Sulfur and magnesium based conditioner, and sulfate ion source.

**HIGH-FRUCTOSE CORN SYRUP PRODUCTION:** Enzyme Stabilizer.

**LATEX AND RUBBER PROCESSING:** Coagulating agent.

**LEATHER PROCESSING:** Weighting agent.

**MAGNESIUM BISULFITE, MAGNESIUM SILICATE, MAGNESIUM TRISILICATE PRODUCTION:** Raw material.

**MEDICINAL:** Analgesic soaking agent for bruises and sprains.

**PHARMACEUTICAL:** Magnesium hydroxide production.

**PLATING:** To precipitate heavy metals out of water.

**PULP AND PAPER:** Stabilizing agent for oxygen and peroxide bleaching operations, drainage aid, pulping additive, dye stabilizer, water hardening agent.

**REFRACTORY MANUFACTURING:** Magnesium oxysulfate binder in bricks, pore filler in chromesite bricks, specialty cement formulations, coloring agent.

**STAINLESS FLATWARE:** As a filler in hollow handles.

**STEEL PRODUCTION:** Salt bath for brightening and zinc plating.

**TEXTILES:** Stabilizing agent for peroxide bleaching, mordant in dyeing and printing, weighting agent for silk and cotton.

**TITANIUM DIOXIDE PRODUCTION:** Flocculating agent.

**WATER TREATMENT:** Removal of heavy metals, hardener.

**ZINC PROCESSING:** Color stabilizer, filtering aid.

**MISCELLANEOUS:** Artificial snow, explosives, magnesium stearate, magnesium sulfonate, photographic solutions.

***PRODUCERS OF MAGNESIUM SULFATE SINCE 1950***