



MaccoPure Mineral Salts for Bottled Drinking Water

... sometimes called Table Water, is the description given to water that may come from more than one source or not from a single underground source. Water that has been produced by **distillation, deionization, reverse osmosis (desalination)** or similar processes is purified or demineralized water, so minerals need to be added back. The quality of mineral salts used for water mineralization is a very important factor for the water producer who must follow WHO's Guidelines for Drinking Water Quality and Guidelines on Health Aspects of Water Desalination.

Based on the currently available data, various researchers have recommended that the following levels of calcium and magnesium should be in drinking water:

- For magnesium, a minimum of 10 mg/l and an optimum of about 20-30 mg/l.
- For calcium, a minimum of 20 mg/l and an optimum of about 50 (40-80) mg/l.
- For total water hardness, the sum of calcium and magnesium should be 2 to 4 mmol/l.

Exposure to **Bromides** in drinking water is usually unlikely. Bromine generally creates a dangerous by-product called bromate which is generally more toxic than bromide on its own. Bromate is considered as a carcinogen, therefore it is important to control a level of Bromides in mineral salts added to demineralized water.

Macco Organiques is producing and offering unique **MaccoPure mineral salts** to be used in Bottled Drinking Water, meeting all WHO recommendations:

Mineral Salt	Formula	CAS Number	Solubility in H ₂ O at 20°C (g/100ml)	Metal Content	pH of 5% solution	Taste	Bromides Content (ppm)
Calcium Chloride Dihydrate	CaCl ₂ ·2H ₂ O	10035-04-8	130,10 hydrate	27,26%	4,5-8,5	salty, bitter	< 10
Magnesium Sulphate Heptahydrate	MgSO ₄ ·7H ₂ O	10034-99-8	55,27 hydrate	9,86%	5,0-9,2	bitter	< 5
Magnesium Sulphate Dried	MgSO ₄ ·xH ₂ O	22189-08-8	44,09 hydrate	13,25% as 3,5Hy	5,0-9,2	bitter	< 5
Magnesium Chloride Hexahydrate	MgCl ₂ ·6H ₂ O	7791-18-6	304,35 hydrate	13,96%	4,5-7,0	bitter	< 20
Sodium Chloride	NaCl	7647-14-5	35,86	39,34%	4,5-7,0	salty	< 50
Sodium Bicarbonate	NaHCO ₃	144-55-8	9,60	27,97%	≤8,6	salty, alkaline	< 5
Potassium Chloride	KCl	7447-40-7	34,19	52,45%	5,5-8,0	salty	< 50
Potassium Bicarbonate	KHCO ₃	298-14-6	33,19	39,05%	≤8,6	slightly alkaline	< 5

* Calcium Hydroxide and Potassium Hydroxide for increasing pH of water are also available

WHO / USEPA established a maximum Bromate level of 10 ppb in drinking water. **MaccoPure mineral salts** are consistently maintained at less than 1 ppb when added to the bottled drinking water whether it is added as single component in water mineralization or more than one type of the above minerals.

It must be taken into account that in cases where Bromate level exceeded more than 10 ppb upon adding any of MaccoPure mineral salts it doesn't mean that it is the source that causes to exceed the standard level of Bromate rather there are 3 main factors that causes high Bromate level:

1. Improper control of disinfectant in water treatment (such as Sodium Hypochlorite or Calcium Hypochlorite).
2. Prolong product ozonation.
3. Damaged / leaking RO membrane and others.

Certification and Registrations: GMP Q7, FSSC 22000, ISO 9001, CoS/CEP, DMF, Halal, Kosher, API Facility and DMF registrations at the US FDA

Quality Standards: EP, BP, USP, JP, FCC, E-numbers, ACS

Our standard pack sizes: Low volume sacks and jars (50 g - 5 kg), Bags (10 kg - 25 kg), Carton boxes 25 kg, Plastic drums (12 kg - 250 lb), Fibre drums (25 kg - 250 lb), Big-bags (400 kg - 1 000 kg)

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MINERALS
 TO LIFE...

