

# Regenerable Adsorbent Materials



With the production and distribution of regenerable adsorbent materials we remove arsenic, fluorine, boron, iodine, iron, manganese, ammonia, and sodium from the water. As a bulk filter media this is an excellent solution for water utilities and water technology companies and for some industrial water management providers.

#### **Our continuously manufactured products:**

- AsMet – Arsenic III and Arsenic V adsorbent
- FluMet – Fluoride adsorbent
- BoMet – Boron binding adsorbent
- IoMet – Iodine De-adsorbent
- ZMet – Iron, Manganese, Ammonia, Sodium binding adsorbent

#### **Fields of application:**

- for water utility companies and for water industry companies
- for communal and industrial wastewater treatment companies
- to treat the process water of power plants, mining and other factories
- for water bottling plants
- for vegetables, fruits, food processing industries

#### **Benefits of the product:**

- cerium based adsorber resin – flexible use for all user from domestic to waterworks and all water industry players
- can be attached to existing waterworks, or installed newly with suspended solid pre-filter
- lifetime 7-10 years
- regenerable, allowing for smaller filter and lower running cost and leaving smaller environmental footprint
- taste, smell, and mineral content of the water stays the same
- ensure the supply of stable water quality with cost saving long term operation



### ASMET for drinking water treatment

- reduces the **arsenic** concentration to less than 1 µg/l (WHO standard 10 µg/l)
- binds the As (III) and As (V) contents of the water
- temperature should not exceed 50°C – some hot springs can be treated

In addition to the traditional and chemical-intensive arsenic mitigation methods **AsMet** is a specially developed filter resin that offers cost-effective, sustainable and low-power solution in the field of water treatment.

### FLUMET for wastewater treatment (steel, aluminium, fertilizer, semiconductor and other industries)

- pH and Redox substances need controlling with pre-treatment, pH is optimal between 3 and 3.5
- adsorbs **Fluoride** ions under the level 1 mg/l
- maximum fluoride concentration is 30 mg/l

### ZMET for drinking water treatment

- made from ground natural zeolite mined in Hungary
- general cation exchange potential, for the removal of **Ammonia, Phosphates, Iron, Manganese** etc.

### BOMET applying where seawater has boron above permissible health levels, so desalination need to remove it

- best results for boron mitigation are between 30–300 mg/l boron
- salt brines can also be mitigated to produce boron free sea salt

### IOMET for drinking water treatment, and for radioactive waste removal

- to remove unhealthy levels of iodine in drinking water
- removes I-131 radioactive iodine - nuclear mitigation and reduction of **radioactive waste** trough concentration is possible

	AsMet	FluMet	BoMet	
	Arsenic	Fluoride	Boron	
<b>Composition characteristic</b>	Composition	Crystalline aqueous cerium oxide powder on a polymeric support		
	Adsorption (g/l-Ad)	1.1–1.5	10–12	6–8
	Specific gravity	1.4	1.4	1.4
	Average particle diameter	0.7 mm	0.7 mm	0.7 mm
<b>Condition of use</b>	Initial setting	Not necessary	Not necessary	Not necessary
	pH	5.8–8.6	3.0–3.5	7.0–9.0
	Operating temp	50°C max.	50°C max.	50°C max.
	Contaminants that affect adsorption efficiency	Oxidizing / reducing agents, PO <sub>4</sub> <sup>3-</sup> , B(OH) <sub>4</sub> <sup>-</sup> , F <sup>-</sup> , HCO <sub>3</sub> <sup>-</sup> , SiO <sub>2</sub>	Oxidizing / reducing agents, PO <sub>4</sub> <sup>3-</sup> , Al <sup>3+</sup> , Fluorides	Fluorides, PO <sub>4</sub> <sup>3-</sup> , F <sup>-</sup> , HCO <sub>3</sub> <sup>-</sup> , SiO <sub>2</sub>
	Regeneration conditions	NaOH, NaOCl, HCl	NaOH, HCl	NaOH, HCl