



Magpie Product Data Sheet

# Polymers for Selective Metal Capture

Magpie Polymers offers high performance, innovative and **patented filtration technology** for the selective removal of transition metals from industrial waste or process water.

**TOXIC METALS**  
comply with strict regulation



Lead	Cobalt
Cadmium	Copper
Antimony	Uranium
Mercury	

**VALUABLE METALS**  
recover the very last trace



Gold	Indium
Silver	Gallium
Palladium	Yttrium
Platinum	Cerium
Rhodium	Niobium

Low residual **concentration**  
(1 µg/l after filtration)

**Competitively priced**

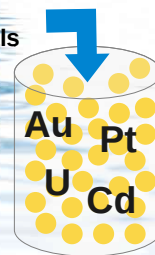
**Unequaled selectivity**

Efficient in **hard and salty water**

**Broad pH range**  
(below 1 and up to 12)

Magpie's polymers fix metals in a standard filtration process. The driving force behind this is coordination chemistry: selective bond are formed between the metals and the polymer beads. This is very different from ion-exchange chemistry, commonly used in water treatment, giving Magpie improved performance and improved selectivity

water-in:  
containing metals



water-out:  
free of metals

## Customer service

Magpie Polymers has the industrial production capacity to answer to your demand and typically delivers in 25 liter bags. We have the technical and analytical expertise to design and implement custom-made purification units. Our team can work with you to develop a system with optimal performance best suited to your specific water-treatment needs. Easy to use evaluation kits are also available.



## Use

The polymers are used in industry standard filtration equipment. Metals are captured in a simple filtration step and can be recovered through chemical treatment of the saturated products.

## Performance

Magpie Polymers captures transition metals as shown on page 1. This list is non-exhaustive, do not hesitate to ask for a specific metal that is of your interest. The products are transparent to alkaline and alkaline earth metals thus can be used in hard or salty water. Using the different polymers in a step-wise filtering system, metals can be separated. Depending on the metal, very low final concentrations can be obtained (1µg/l). The products are designed for industrial use. For other specific uses such as food processing or drinking water, please contact us prior to implementation.

## Properties

Physical form  
Functional group

Total adsorption capacity  
Particle size  
Swelling properties  
Shipping weight

Off-white beads, shipped free of water  
Neutral phosphine  
Phosphine oxide  
Phosphine sulfide  
2 eq/kg for copper  
0.5-1.0 mm  
<1%  
~1 kg/L

## Suggested operating conditions

Operating temperature  
Temperature resistance  
Maximum flow-rate  
Regeneration

0 < 80 °C  
< 200 °C  
60 BV/h  
Metal dependent, please contact us

### Disclaimer

Magpie Polymers believes that all information is correct and accurate at the time of issue. Magpie Polymers reserves the right to make changes to the products without prior notice. Magpie Polymers does not assume any responsibility for the use of the described product.

