

Product Data Sheet

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PRODUCT #: N722158

METALTREAT 530

Heavy Metal Precipitant for Wastewater Treatment

DESCRIPTION: A highly concentrated, deodorized, polysulfide based liquid blend. **METALTREAT 530** is designed to form a dense, filterable precipitate when treating most regulated heavy metals. The product is effective even when treating strongly chelated and/or complexed metals without employing ferrous pretreatment.

BENEFITS:

- **Does not contain dithiocarbamate or its salts**
- **Can be used to break and precipitate highly chelated and/or complexed heavy metals without pH or ferrous pretreatment**
- **Forms a dense easily filterable precipitate**
- **Ideal for continuous replenishment based upon ORP**

SPECIFICATIONS:

Specific Gravity (25C):	1.3
Active Ingredients:	40%
pH:	<12
Water Solubility:	Complete
Shelf Life:	3 years in sealed containers. 1 year once seal is broken

EQUIPMENT: Typical materials of construction are suitable for use including polypropylene, polyethylene, and PVC. **METALTREAT 530**, in its concentrated form, may not be compatible with some elastomers, including natural rubbers and EPDM. Transfer pumps and tubing coming in contact with concentrated precipitant should be Teflon™ or Teflon™ coated.

TREATMENT PROCEDURE: **METALTREAT 530** can be used in either batch or continuous flow wastewater treatment processes. Dosage rates can be estimated based on the levels of heavy metals in the effluent to be treated, or by monitoring the ORP, and making additions on a feed and bleed basis to maintain a predetermined ORP value.

Although the product will perform within a pH range of 3-11, best results are obtained when the pH of the effluent is maintained between 7 and 10.

Thorough mixing and adequate contact time will assure optimum performance. Dewatering the resulting precipitate can be expedited by employing an anionic flocculent such as **METALTREAT 957**.

1. Adjust the pH of the effluent to be treated to between 7 and 10.
2. Neutralize oxidizers (if any) in the solution using sodium thiosulfate.

This product should be used only for its intended purpose. The information stated above is based on our laboratory tests and experience, and is accurate to the best of our knowledge. Since actual use is beyond our control, the recommendations or suggestions are made without warranty, expressed or implied.

**TREATMENT
PROCEDURE: Cont'd..**

3. In batch treatment tanks and weir-type continuous flow clarifiers, add **METALTREAT 530** at the predetermined dosage rate. Assure solution agitation and contact time are sufficient to maximize performance, by periodically collecting a 200-300 ml sample of the effluent and adding a drop of **METALTREAT 530** to the solution. If precipitation is observed, more contact time is needed.
4. Add a flocculant to speed settling of the precipitate. (In continuous flow clarifiers, the settling agent can be added concurrently with the precipitant).
5. Segregate and dewater the resulting precipitate. A filter press or ultrafiltration membranes are typically used.
6. In some cases, excess sulfides in the final effluent must be oxidized to a sulfate prior to discharge. A simple method is a monitored addition of hydrogen peroxide to a positive ORP value.

**PROCESS
CONTROL:**

To minimize overdosing of **METALTREAT 530** in batch treatment processes, it is recommended the heavy metal concentration in the solution be quantified. The efficiency of the precipitation is based upon the molecular weight of the cation being precipitated. Refer to the chart below to determine the precipitation efficiency of the **METALTREAT 530** for common metals. Use the value to estimate the dosage of **METALTREAT 530** to employ.

METALTREAT 530 Precipitation Efficiency

Cation	Charge	Mg of Cation removed per ml of METALTREAT 530
Silver	1	295
Cadmium	2	170
Chrome	6	25
Copper	2	90
Mercury	1	390
Mercury	2	235
Nickel	2	80
Lead	2	235
Tin	2	165
Tin	4	80
Zinc	2	95

Use the following calculation to estimate the volume in ml of **METALTREAT 530** to employ.

$$\frac{A \times 3.785 \times C}{D} = \text{ml of } \mathbf{METALTREAT\ 530} \text{ to add.}$$

Where A = Volume of effluent in gallons
 C = Concentration of metal in mg/L or ppm
 D = mg of Cation removed per ml of **METALTREAT 530** (from Chart above)

CAUTIONS:

The product should not be used when the pH is less than 3, due to the possible formation of flammable hydrogen sulfide.

DISPOSAL:

Dispose of containers, unused contents and treated material in accordance with all local, state and federal regulations.