



A Complete Solution For The Chelation and Sequestering of Heavy Metals

Lead	Mercury
Iron	Copper
Cobalt	Chromium
Manganese	Barium
Cadmium	Calcium
Nickel	Tin
Magnesium	Aluminum



Product Information

Product Code: HMD2000

Container:

- 13.76 lb. Sealed Bucket
- 125 Pods / 50gm per Pod
- 100% Recyclable

Pallet Specifications:

- Containers: 64
- Dimensions: L48 X W40 X H52 inch
- Total Weight: 950 lbs.



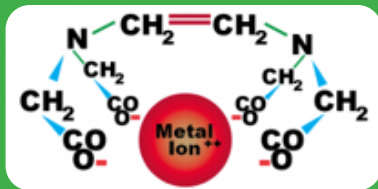
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It is important to note, that **HMD+** has a high affinity for heavy metal alkaline earth ions such as Lead. This affinity results in the formation of highly stable and soluble hexadentate chelate complexes, easily extracted from the targeted underground area.

Spectrum Catalyst uses a Pod Delivery System and Effervescent Technology to safely and completely treat the targeted underground structure. **HMD+** is Generally Regarded As Safe ("GRAS") and does not require Hazard Classification or Labeling in accordance with the Global Harmonization System ("GHS"). However, good hygiene practices should be used when handling **HMD+**.

Chelating and Sequestering Agents are chemical compounds that react with metal ions to form a stable, water-soluble complex. They are also known as chelates, chelators, or sequestering agents. Chelating agents have a ring-like center, which forms two to six bonds with the metal ion allowing it to be solubilized. In other words, the bonds lockup the metal ions in a claw-like fashion as illustrated below. As such, **HMD+** acts as a Metal Deactivator rendering the metals inactive and ineffective.



Container Size & Directions For Use:
Container Size: 13.76 lb. Sealed Bucket (125 Pods/50 gm. per Pod).

Recommended Use Amount: One bucket of **HMD+** per manhole or service box, and two buckets per larger vaults.

Directions For Use:

- 1.) Personnel should be trained in the use of this product. See Safety Data Sheet.
- 2.) Ensure area to be treated is clear of bystanders and foot traffic.
- 3.) Spread pods over the contaminated area to be treated.
- 4.) Wet pods gently under low pressure to avoid generating airborne particle dust.
- 5.) Only after pods have dissolved and powder is completely wetted, work into sediment.
- 6.) Once fully mixed, let stand for approximately 10 minutes before extraction.
- 7.) The container and Lid are 100% recyclable for environmental safety.



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Heavy Metal Dissolve Plus ("HMD+") is a Biodegradable Heavy Metal Chelating & Sequestering Agent (described herein). It provides a complete solution for the removal of Heavy Metals present in Manholes, Service Boxes, Vaults and corresponding Sump-Pump Basins

A variety of toxic and extremely hazardous Heavy Metals (especially Lead) may accumulate in these underground structures and become hazardous to field/service workers and the environment as a whole. The presence of Heavy Metals is typically from street run-off and existing old lead pipes, conduits, solder joints, electrical components, construction material and paint. Incorporating **HMD+** into a Utility's scheduled maintenance operations provides a cost-efficient and highly effective means to stabilize, chelate and sequester Heavy Metals for the removal to designated Holding Tank Facilities or Transfer Stations. These Transfer Stations benefit from **HMD+** in duplicate fashion when wet and dry material is stored for transport to Environmental Treatment Plants.

Spectrum Catalyst partnered with Dow Chemical Company's Industrial Solutions Team to provide the metal chelation capacity of **HMD+** for a wide range of Heavy Metals. (> atomic weight 22.98).

<i>Metal Chelation Capacity</i>	<i>Parts HMD+ per part metal (w/w)</i>
Lead (Pb)	1.1
Barium (Ba)	1.6
Copper (Cu)	3.5
Mercury (Hg)	1.1
Cadmium Cd)	2.0
Calcium (Ca)	5.6
Calcium Carbonate (CaCO3)	2.2
Magnesium (Mg)	9.3
Cobalt (Co)	3.8
Iron (Fe)	4.0
Aluminum (Al)	8.4
Manganese (Mn)	4.1
Nickel (Ni)	3.8

The data provided are typical values, intended only as a guide, and should not be construed as absolute specifications.



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