

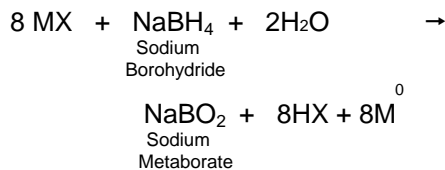
Product Information Bulletin

BoroMet 1240[®]

BoroMet 1240 is a stable aqueous solution of sodium borohydride (NaBH₄) and caustic soda (sodium hydroxide, NaOH), used by the printed circuit board, photo processing and metal plating industries to reduce and recover heavy and precious metals from chelated wastewater streams. NaBH₄ has proven to be very effective in the recovery of copper, nickel, silver, gold, platinum and palladium from various chelated aqueous process and wastewater streams for both environmental and economic reasons.

Practical Applications

The following reaction defines the typical reduction of metal with NaBH₄ solution where M = Metal and X = Anion:



Theoretical levels of NaBH₄ solution can be calculated to reduce specific metals utilizing the above reaction, and are defined in the following table.

Table 1

Metal	(ml BoroMet / Kg metal) Theoretical Concentration	(lb metal/ gal BoroMet) Metal Recovery
Copper	850	10
Nickel	1000	8
Silver	250	32
Gold	430	20
Platinum	600	14
Palladium	540	15

Theoretical levels should be used as a guideline.

Contact Montgomery Chemicals for complete product information, including suggested safety, handling, and storage procedures, transportation designations, and Material Safety Data Sheets. The material contained herein is believed to be accurate, however no warranty or guarantee is made as to accuracy or completeness. Nothing contained herein is to be construed as permission to infringe on any patent or license. Determination as to suitability of this product for a particular application is solely the responsibility of the user.

Actual **BoroMet** solution requirements may vary depending on the actual reduction conditions. Temperature, pH, time of reaction and possible side reactions with other species present, can affect the efficiency of the reaction. Optimization of specific applications can be performed by Montgomery Chemicals Technical Service Personnel.

Physical Properties

Sodium borohydride		12±0.2%
Sodium hydroxide		40±2.0%
Freezing point		13°C (55°F)
pH		14.0+
Density	@23°C	1.4gm/cc
	@73°F	11.7lbs/gal

Storage and Handling

BoroMet 1240 solution is extremely stable, undergoing minimal decomposition during long term storage, and should be stored and handled following standard procedures for caustic soda (sodium hydroxide) solution. Contact with Aluminum and other materials which react with sodium hydroxide solutions should be prevented. Contact with acids or acidic materials and extreme dilution should be prevented, as hydrogen gas may be released. Ventilate spill areas and flush with large quantities of water, per Material Safety Data Sheet instructions.

Shipping Information

BoroMet 1240 is available for shipment in 5 gal. pails, 55 gal plastic drums, and in 275 gal. (2,750 pound) tote bins. Other packaging is also available to meet specific customer requirements.

Technical Assistance

On-site customer technical support and assistance for all aspects of usage including jar tests, plant

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