

## Product Information Bulletin

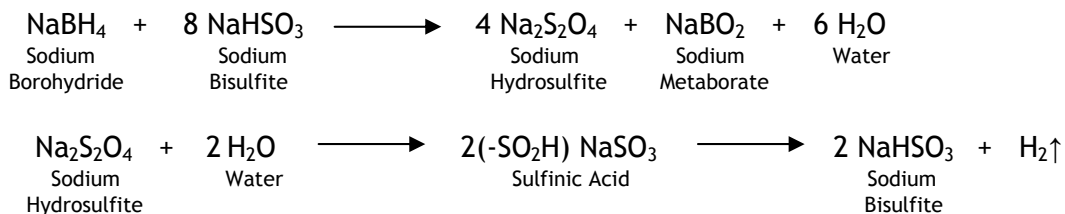
### MontBrite 1240<sup>®</sup>

### Sodium Borohydride Solution

**MontBrite 1240 solution** is a stable nonflammable aqueous solution of sodium borohydride (NaBH<sub>4</sub>) and caustic soda (sodium hydroxide, NaOH), used by the paper industry in the on-site generation of sulfinic acid (-SO<sub>2</sub>H) bleach for the reductive bleaching of recycle and virgin pulp. The all liquid system, automatically produces bleach solution on demand, provides the user with a readily available source of fresh bleach solution containing minimal quantities of corrosive decomposition products.

#### Sulfinic Acid Production

Sulfinic Acid is produced by the continuous reduction of sodium bi-sulfite with sodium borohydride, based on the following reactions:



The sodium bisulfite required for the process can be obtained from outside merchant sources as a sodium meta bisulfite 99% powder or as a 38% aqueous solution.

The optimum chemical ratio is one part of **MontBrite 1240 solution** to 3.7 parts of sodium metabisulfite powder or 11 parts of 38% sodium bisulfite solution to replace four parts of sodium hydrosulfite. The two components should be diluted separately using a suggested 1:10 ratio with water and then mixed together in a ventilated mix tank. The bleach solution may be stored or used on demand to replace sodium hydrosulfite for any reductive paper bleaching application.

All materials used in the bleach generation process are stable liquids, delivered in drums, totes or bulk, therefore operator attention to the process and the hazards of handling merchant bleach powder are minimized.

## Physical Properties

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

## Storage and Handling

**MontBrite 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 should be avoided. Ventilate spill areas and flush with large quantities of water, per Material Safety Data Sheet instructions.

## Shipping Information

**MontBrite 1240 solution** is available for bulk shipment in 4,000 gallon tank trucks, 275 gallon tote bins, and 55 gallon plastic drums. Other packaging is also available to meet specific customer requirements.

## Technical Assistance

On-site customer technical support and assistance for all aspects of **MontBrite 1240 solution** usage and handling, including product transport and storage, bleach generation unit design, fabrication, startup, calibration, service, and economic analysis is available to all **MontBrite 1240 solution** customers. Plants presently using merchant hydrosulfite liquid or powder, or sodium borohydride for bleach generation are encouraged to contact Montgomery Chemicals to discuss full scale plant trials of **MontBrite 1240 solution**.

*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.*

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