



# Re-evaluation Decision Document

RRD2006-03

## Methylene Bis(thiocyanate)

The purpose of this Re-evaluation Decision Document (RRD) is to notify registrants, pesticide regulatory officials and the Canadian public that Health Canada's Pest Management Regulatory Agency (PMRA) has re-evaluated the active ingredient methylene bis(thiocyanate) and its associated uses as a commercial biocide and material preservative in manufacturing processes.

On July 9 2004, Proposed Acceptability for Continuing Registration (PACR) document [PACR2004-26](#), *Re-evaluation of Methylene Bis(thiocyanate)* was published for consultation. The PMRA has reviewed the comments received and provides a response in Appendix I of this RRD.

The PMRA has determined that this active ingredient is acceptable for continued registration. Mitigation measures to further protect workers and the environment are specified in Appendix II of this RRD.

*(publié aussi en français)*

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## Appendix I Comments and Responses to PACR2004-26

### 1.0 Comment on the Degradation of the Methylene Bis(thiocyanate)

PACR2004-26 states that the use of products containing methylene bis(thiocyanate) may cause the liberation of hydrogen cyanide and/or cyanates as well as formaldehyde. However, evidence presented in the USEPA RED for methylene bis(thiocyanate) shows that neither cyanide nor formaldehyde are degradants.

The information used in the USEPA RED comes from the report by S. P. Cohen entitled *Hydrolysis of MBT in Buffered, Aqueous Solutions*<sup>1</sup>, submitted to Health Canada on 31 July 1995.

#### Response

The PMRA has reviewed the study<sup>1</sup> upon which the USEPA RED based its conclusions for occupational exposure to methylene bis(thiocyanate) degradants. The study authors theorised that the initial hydrolytic pathway of methylene bis(thiocyanate) could yield cyanate, which could further react to form carbon dioxide and formic acid under alkaline conditions. The USEPA RED also concluded that formation of formaldehyde and cyanide was theoretically possible. However, the authors of the study also reported that cyanate and formaldehyde were not detected in any of the buffered solutions under test conditions.

Based on the fact that these compounds were not detected in buffered solutions and that the USEPA did not require the label statements regarding the possible release of cyanates/cyanide or formaldehyde from using products containing methylene bis(thiocyanate), the PMRA will not be requiring precautionary label statements regarding cyanates/cyanide or formaldehyde at this time.

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<sup>1</sup> Cohen S.P., 1994. *Methylene bis(thiocyanate) (MBT): Hydrolysis of MBT in Buffered, Aqueous Solutions*. Pittsburgh Environmental Research Laboratory, Inc. PERL Study Number ME 9200145, Pittsburgh Environmental Research laboratory Inc. University of Pittsburgh Applied Research Center, Pittsburgh, PA, 15238. Study conducted for: Buckman Laboratories International Ltd, 1256 North McLean Blvd., Memphis, TN.

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## Appendix II      Revised Label Amendments

On the primary display panel of the label, the following must be added:

- “POTENTIAL SKIN SENSITIZER”

In the “**PRECAUTIONS**” section, the following must be added:

- “POTENTIAL SKIN SENSITIZER”
- “Wear a full-face NIOSH-approved respirator, chemical-resistant gloves, long pants, a long-sleeved shirt, shoes plus socks and a chemical-resistant apron during mixing/loading, clean-up and repair activities.”
- “Users should wash hands before eating, drinking, chewing gum, and when using tobacco or the toilet.”
- “Users should remove clothing/protective equipment immediately if this product comes in contact with the skin through soaked clothing or spills. Then, thoroughly wash the skin and put on clean clothing.”
- “Discard clothing or other absorbent materials that have been drenched or heavily contaminated with the concentrate of this product. Do not re-use them.”

In the “**ENVIRONMENTAL HAZARDS**” section, the following must be added:

- “This product is toxic to fish and other aquatic organisms. It is not to be used in circumstances that would cause or allow it to enter lakes, streams, ponds, estuaries, oceans or other waters in contravention of federal or provincial regulatory requirements. The requirements of applicable laws should be determined before using the product.”

For liquid product formulations applied to cooling water systems treating  $\geq 15\,000$  L (4000 gallons), the following statement is also required in the “**PRECAUTIONS**” section:

- “Do not apply by open pouring of the liquid to cooling water systems; a metering pump is required for this use.”

For Amerstat 282, Registration Number 14037, the registrant is required to remove all references regarding the use of methylene bis(thiocyanate) in log/thaw ponds from the product label.