

April 14, 2004

MEMORANDUM

Subject: Ecological Risk from Antimicrobial Uses of Metam-Sodium to be Considered in the RED Document (PC Code 039003)

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Metam-sodium has several antimicrobial uses in addition to the agricultural uses considered in the EFED science chapter. These are: treatment of wood poles, treatment of sewage/organic sludge and animal wastes, cane/beet sugar mills, and hides/skins (leather manufacture). The treatment process and potential environmental exposure for each use is described below.

Treatment of wood poles: For remedial treatment of poles/pilings, holes are drilled into the pole at specified intervals, the product is instilled into the holes, and the holes are plugged and sealed. Treatment can be made above ground or as a groundline

treatment.. Product labels for these uses have environmental hazards statements regarding fish toxicity, and requirements of the NPDES program regarding effluent discharge. There are no labels allowing pressure-treatment, brush-on, antisapstain, or other wood preservative uses for these products. Environmental exposure from the remedial pole treatment and wood chip treatment should not occur, as the labels are very specific about hole drilling and plugging for pole treatment and recycling of runoff for chip treatment.

Sewage/sludge/animal waste treatments: The chemical is applied in a closed outdoor system, and the treated waste is then held for a specified period of time prior to application to agricultural fields (Busan 1236 label specifies 3-5 day holding period; Rid-A-Vec label specifies a holding period of 14 - 21 days or until phytotoxicity testing demonstrates that the sludge is safe to apply to agricultural crops). The environmental fate properties of metam-sodium and its major degradate, MITC, indicate that both should have degraded by 21 days. A minimum holding period of 21 days, similar to that defined on the Rid-A-Vec label, is recommended for all products used for sewage/sludge/animal waste treatments to ensure that there will be little or no environmental exposure to metam-sodium or MITC from this use.

Leather manufacture: Treatment of processing brines used in leather manufacture is an indoor industrial treatment. The waste treated brines are either evaporated in an enclosed indoor heat-exchange system, or, in some cases, injected into deep wells for storage, which requires a special permit (Dean Didato, Vice President of Leather Chemical Sales, Buckman Laboratories, personal communication). Discharge of any effluents from the treatment plant is regulated via the NPDES program. Risk to plant and animal species is expected to be insignificant for the evaporative method. There is the possibility that metam sodium or MITC could leach to groundwater from the deep wells and result in water contamination, causing risk to plants and animals. More information is needed regarding the well depth and any leaching-prevention measures, such as concrete or steel liners, as well as the permitting process/requirements, in order to assess the risks from this disposal method.

Cane/beet sugar processing: This is an indoor industrial use, and no environmental exposure is expected to occur when label directions are followed.

No appreciable risk to non-target and endangered/threatened plant or animal species is expected from the above antimicrobial uses of metam-sodium, with the possible exception of deep well injection of leather processing fluid wastes. Additional information is needed to determine whether or not this could occur. AD does not have any other ecological/environmental risks of concern for the antimicrobial uses of metam-sodium, but does recommend that labels for sewage/sludge/animal waste treatment products be modified to have a longer holding period, a minimum of 21 days, between treatment and application to agricultural fields, comparable to the one defined on the Rid-A-Vec label.