



FCN-201 -
 ATTACHMENT 11 - ENVIRONMENTAL ASSESSMENT
 22 January 2002

Notifier: R. T. VANDERBILT COMPANY, INC.
 P. O. Box 5150, Norwalk, CT 06856-5150 USA
 30 Winfield Street, Norwalk, Ct 06855

Requested action: Food Contact Notification for substance named above.

Chemical name: 2H-Benzimidazole-2-thione, 1,3-dihydro-, 4 (or 5)-methyl-, zinc salt
 (2:1) CAS Registry Number 61617-00-3

Proposed use: antioxidant synergist for natural or synthetic rubber gloves intended for use in the food processing industry, in particular meat packing.

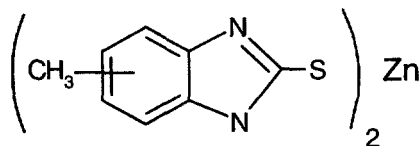
Use level: typically 0.5% by weight of finished food contact material. Maximum anticipated use level: 1.0% by weight of finished food contact material.

Need for action: Food Contact Substance acts as an antioxidant synergist, reducing the amount of primary antioxidant required.

Locations of use: The Food Contact Substance will be used at glove manufacturing facilities which are located in The gloves made with the food contact substance will be used at meat and poultry processing facilities in the United States; these facilities may be in

Locations of disposal: Disposal of the food contact substance is expected to occur at locations of use. The substance will be deposited in municipal solid waste landfills, combusted in municipal waste combustors or commercial/industrial solid waste incinerators.

Substances subject to the proposed action: 2H-Benzimidazole-2-thione, 1,3-dihydro-, 4 (or 5)-methyl-, zinc salt (2:1) CAS Registry Number 61617-00-3. Molecular weight: 393.85. Molecular formula: (C₈H₈N₂S)₂Zn. Structural formula:



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Introduction into the environment as a result of manufacture: There are no extraordinary circumstances in the manufacture of this product that would result in its release to the environment.

Introduction into the environment as a result of use: Little or no FCS will be introduced to the environment as a result of normal use because the substance is almost completely incorporated into the rubber where it is expected to remain throughout their use.

Introduction into the environment as a result of disposal:

Landfills: Based on migration studies performed to demonstrate the human safety of the proposed use, we expect that only very low levels of the substance will leach from rubber articles (gloves) in landfills. Even if a very small amount of the substance migrates from gloves in landfills, we expect extremely low quantities to actually enter the environment based on EPA regulations governing municipal solid waste landfills.

Combustion: The substance is composed of carbon, hydrogen, nitrogen, sulfur and zinc, elements commonly found in municipal solid waste. The complete combustion of this substance in a properly functioning incinerator will product carbon dioxide, nitrogen oxides, sulfur oxides, zinc oxides, water and other oxidized compounds of the component elements. Since the market volume of the substance is a very small fraction of the municipal solid waste generated and disposed in the United States, adding this substance to waste that is combusted will not significantly alter the emissions from municipal solid waste combustors or commercial/industrial solid waste incinerators. Due to the nature of the combustion products and their low levels compared to amounts currently generated, we do not expect that combustion products from the incineration of the substance will cause a violation of applicable emissions laws and regulations.

Fate of substance released into the environment: No information needs to be provided on the fate of the substance released into the environment as the result of use or disposal of rubber gloves containing the substance. As discussed above, only very small quantities, if any, will be introduced into the environment from its use and disposal. Therefore, the use and disposal of the of the substance are not expect to threaten a violation of applicable laws and regulations, e.g. EPA's regulations in 40 CFR parts 60 and 258.

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Environmental effects of release substance: No information needs to be provided on the effect of the substance released into the environment as the result of use or disposal of rubber gloves containing the substance. As discussed above, only very small quantities, if any, will be introduced into the environment from its use and disposal. Therefore, the use and disposal of the of the substance are not expect to threaten a violation of applicable laws and regulations, e.g. EPA's regulations in 40 CFR parts 60 and 258.



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Use of energy and resources: This substance reduces the amount of antioxidant required for optimum performance of rubber gloves used in the meat packing industry. However, since both the antioxidant and the substance are used in small quantities, essentially no change in natural resources and/or energy will result from its use.

Mitigation measures: Given the extremely low levels of substance expected to enter the environment, specific mitigation measures have not been developed nor are they warranted at this time.

Prepared by:

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Doctor of Philosophy in Pharmacology, Thomas Jefferson University 1989.

The undersigned official certifies that the information presented is true, accurate and complete to the best of the knowledge of R. T. Vanderbilt Company, Inc.

25 January 2002

/s/

/s/

David B. Bower, Ph.D.

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