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Attachment 5

TOXICS IN SPECIFIED PRODUCTS:
AN INTERIM REPORT

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INTRODUCTION

The intent of Minnesota Statute 115A.9651, Toxics in Specified Products, is to reduce the amount of lead, mercury, cadmium, and hexavalent chromium released to the environment by limiting the amount of those heavy metals used in the manufacture of inks, dyes, paints, pigments, and fungicides. By limiting heavy metal content in products, it will reduce the amount of these metals entering the waste stream.

The legislation is unique nationwide. The statute was originally passed in 1991 to take effect on July 1, 1994, as a complete ban on the use of the metals. The legislature amended the statute in 1992 and 1993, giving specific industries in Minnesota until 1997 to comply. These industries had made their case to the legislature that they were actively working on alternatives and needed additional time in order to develop those alternatives.

During the 1994 legislative session, the statute was again amended to include a detailed exemption process open to any manufacturer of one of the listed products, who could not make the 1994 deadline. The exemption requests were sent to the Commissioner of the Minnesota Pollution Control Agency (MPCA). If the information required in the statute was provided to the Commissioner, an exemption until 1997 was automatically granted. The Commissioner was required to provide the Legislative Commission on Waste Management with a list of all those who applied for an exemption and copies of the requests.

This report goes beyond the requirements of the statute to provide some additional background, and presents some of the issues that emerged during the exemption process. Yet, there is still much information to gather and sort out before the picture is complete.

SUMMARY OF THE STATUTE: 115A.9651

The first subdivision states the prohibition. Any ink, dye, pigment, paint, or fungicide manufactured after September 1, 1994 must not have any intentionally introduced lead, cadmium, mercury or hexavalent chromium or incidental amounts of each of those metals over 100 parts per million. The prohibition applies to products distributed for sale or use in Minnesota.

Subdivision 2 goes on to lay out the exemption process. Products may be exempted from subdivision 1 until July 1, 1997 if the manufacturer submitted a written request to the Commissioner of the MPCA, by August 1, 1994. The request must include, at least:

- *An explanation of why compliance is not technically feasible at this time;
- *How the manufacturer will comply by July 1, 1997; and
- *The name address and phone number of a contact person.

The users of one of the listed products could also obtain an exemption if necessary. If a manufacturer did not apply, the user of those products could request an exemption to the statute in their stead. The deadline for users was September 1, 1994. The information required in the exemption requests from users was very similar to that of manufacturers:

- *An explanation of why the person must continue to use the item and a discussion of potential alternatives;
- *An explanation of why it is not technically feasible at the time of the request to formulate or manufacture the item without intentionally introducing a listed metal;
- *That the person will seek alternatives to using the item by July 1, 1997, if it still contains an intentionally introduced listed metal; and
- *The name, address, and phone number of a contact person.

A user who has an exemption may request another exemption after September 1, 1994, for an alternative to the original item, as long as the alternative has a total concentration of all the listed metals which is significantly less than the original item. An exemption granted in this case would also expire after July 1, 1997. The exemption request for an alternative would have to be for a reformulation, not a new product.

Subdivision 3 contains one of the most important requirements in the statute. Everyone who applied for an exemption, both users and manufacturers, must submit a progress report to the MPCA prior to July 1, 1996. These reports will provide information on which manufacturers will likely be in compliance and which will not make the 1997 deadline and why. Manufacturers must report progress made towards compliance and the date compliance was or will be achieved. Users must describe progress made in eliminating the listed metals or finding an alternative, and the date the product will be free of intentionally introduced metals or the date the product usage will stop.

By October 1, 1996, the Commissioner of the MPCA will again report to the Legislative Commission on Waste Management (LCWM) on the progress made by all those who applied for exemptions. This report may include any recommendations on appropriate legislative or other action to keep non-compliant products out of the state after July 1, 1997.

NOTIFICATION OF AFFECTED INDUSTRIES

As soon as Governor Carlson signed the 1994 Waste Management Act amendments on May 6, the MPCA made every effort to notify all those who might be affected by the legislation. The MPCA asked national trade associations to be a conduit to get the word out. The National Paint and Coatings Association, the Color Pigment Manufacturers Association, and the American Plastics Council all agreed to mail a copy of an information letter to their membership and inform the MPCA when this was done.

The MPCA also sent a press release to all the major daily and weekly newspapers in the state, and some of these mentioned the legislation as one of the changes to the Waste Management Act. While the MPCA also sent press releases to various trade journals, the short time frame from enactment to the deadline for submittal of exemption requests, made inclusion in some journals impossible. Some, need as much as six months lead time to publish an article.

Information about the statute appeared in several MPCA publications. The Hazardous Waste Division newsletter, *Generator News* and the Ground Water and Solid Waste Division's publication, *Solid Waste Briefing*, both ran articles about Toxics in Specified Products. These two publications have a combined circulation of approximately 26,800. In addition, an article was included in the summer edition of the

Minnesota Technical Assistance Program (MnTAP) publication *The Source*, with a circulation of about 3700.

The MPCA also sent information letters to manufacturers, users, and interested parties who had called the MPCA for information over the previous two years. Companies that had previously been granted a legislative exemption were notified that they would need to request an exemption from the Commissioner. Several local companies gave the MPCA a list of their suppliers, and the MPCA sent information letters to those on the lists.

EXEMPTION REQUESTS RECEIVED

Manufacturers:

A total of 93 manufacturers nationwide received exemptions. Seventy-eight individual companies submitted requests. Two trade associations, the American Wood Preservers Institute and the Color Pigment Manufacturers Association, made joint requests for an additional 15 manufacturers. Seven of these companies have manufacturing facilities in Minnesota; the remainder are located in the United States and Canada.

Of the different categories listed in the statute, exemptions were requested for a total of approximately 2,318 inks, 0 dyes, 18,963 pigments, 1 fungicide, and 22,211 paints. It is important to note that these tallies are *very* approximate. In some industries, the distinction between these products is not clear, and putting a particular product into a particular category is difficult.

In addition, several companies requested an exemption for all the products they produce, rather than particular products that contain one of the listed metals. Some companies felt they manufacture too many paints to be able to review the formulas for all of them, or were concerned they might miss some. In some cases, the list of active formulas changes over time. In other words, a company may have 15,000 formulations listed in their records but some have not been ordered recently. An exemption was requested for all products, (included in the total) just in case a Minnesota customer would once again order it. Consequently, the above numbers may overstate or understate the number of products containing one or more of the listed metals.

The 93 manufacturers represent a wide variety of industries. The products listed in the exemption requests include:

- * porcelain and ceramic enamels,
- * automotive paints,
- * paints for metal building panels,
- * electrodeposition primers for auto bodies,
- * paint for signs,
- * highway bridge paint,
- * enamels used on glassware,
- * screen printing inks,
- * highway striping paint,
- * colorants for plastic
- * aircraft and marine primers and top coats,
- * permanent marking inks for electronic components,
- * machinery and engine enamels,

- * primers for aluminum boats, and;
- * the aforementioned fungicide, Chromated Copper Arsenate (CCA).

Users

Only six Minnesota companies found it necessary to apply for exemptions instead of their manufacturers. In some cases the manufacturer informed these Minnesota companies that they would not be applying for an exemption and it was the responsibility of the user to apply. In other cases, suppliers did not respond to inquiries and the users went ahead and applied to ensure continued supply.

A number of users applied unnecessarily, listing manufacturers who had previously applied. MPCA staff double-checked with the manufacturers to be certain their requests included the products used by the Minnesota companies and sent letters to the users informing them that they did not need to apply.

One local company representative told MPCA staff that going through the process of requesting an exemption for her company had been very educational. She found that outdated supply lists still identified metal-containing products that had long ago been discontinued as the engineers had found substitutes or no longer needed them. Therefore, the number of products actually in use and needing an exemption was less than initially expected.

Because the statute required minimal information be submitted, the level of detail in the exemption requests varied tremendously. Several manufacturers viewed their requests as an opportunity to educate MPCA staff and the LCWM. They included articles from scientific journals and explanations of what purpose the metals served in their product. Other requests provided the minimum amount of information required under the statute. All company representatives who called the MPCA for information were encouraged to be as expansive as possible in their requests. One company provided the information but was concerned about the privacy of what it considered proprietary information.

POTENTIAL ISSUES

Military specifications were among the reasons cited by manufacturers and users for why it was not feasible to remove the heavy metals from their products. In some cases, one or more of the listed metals are part of the paint formulation spelled out in the specifications. The products are used on replacement parts for military hardware and weapons such as missiles or ships, some of which have been in existence since World War II. In some cases the use of one of the listed metals serves a specific function; in other cases, heavy metals have not been eliminated simply because the formulation has not been reviewed in many years. Several branches of the military, like the Navy, are reviewing the use of lead and changing the paints they are using. Lead-free paints are now used on ships in some applications. Even so, the review and amendment of military specifications is a slow process. In order to use a product that deviates from military specifications, a contractor must show that the alternative is as good as what is specified and get the replacement certified for use. This, too, is a slow process. Contractors lack incentives to make the extra effort to get a replacement certified and there is always a lag time while a new product is tested.

Health or safety related issues were also cited by several manufacturers as technical reasons for the use of the metals. For example, a lead containing enamel is used on medical and laboratory glass to indicate the units of measure. Lead is a traditional ingredient in the enamel so that it matches the expansion coefficient of the glass and does not flake off when the glass is heated or cleaned.

An example of a safety related issue would be the use of adhesive primer on aircraft. The metal containing primers enhance the surface of the aluminum so the structural adhesive will adhere and hold the parts together. Review and qualification of a new primer formulation by the aircraft manufacturers takes about three years. To maintain Federal Aviation Administration certification of the aircraft, repair facilities must use qualified materials.

COMPLIANCE

In telephone conversations and other correspondence, some industries have stated that they will have difficulty making their new 1997 deadline. This is particularly true in the aviation field and where military specifications are involved. In addition, the bright yellows and oranges created by adding cadmium to plastics will be difficult to duplicate with alternative formulations. However, some industries are making rapid progress in their search for substitutes and will make the 1997 deadline with time to spare. In other industries, there are substitutes available but they are more expensive or may not work as effectively, or may be perceived as being less effective.

Minnesota is the only state with this type of law. If other states were to enact similar legislation, increased market pressure would provide greater incentive for manufacturers to reformulate. From discussions with representatives in other states, this seems unlikely for the foreseeable future. However, other states are watching with interest the implementation of the law, its impact and what transpires over the next several years.

The MPCA will be continuing its efforts to ensure that other state agencies are aware of the requirements of the legislation and the opportunities it presents. The Department of Transportation has changed its specification for paints to be consistent with Minnesota Statute 115A.9651, and now requires the use of non-metal-containing paints. Print Communication, a Division of the Department of Administration, does not use any metal-containing inks and has not for a couple of years. The MPCA has contacted the Department of Natural Resources and other Divisions within the Department of Administration concerning the effect they can have as purchasers. The MPCA plans to form an inter-agency focus group to work on these issues.

As several callers pointed out to Agency staff this summer, enforcing this statute will be very difficult, if not impossible. Ensuring that all the specified products being sold in Minnesota either have an exemption or contain none of the listed metals is a task well beyond the available resources. Even making sure that only exempted products are being sold or used by the companies that went to the trouble of getting exemptions is not possible. In some cases, obtaining a sample of the product is difficult since they are not sold on the general consumer market. The MPCA staff acknowledge the difficulties but will continue to work with those who requested exemptions to find alternatives to the metal-containing products regulated under Minnesota Statute 115A.9651.

MANUFACTURERS WHO HAVE APPLIED FOR AN EXEMPTION TO MINN. STAT.
115A.9651

AMERICAN PORCELAIN ENAMEL CO.
AMERICAN STANDOX
AMERICAN WOOD PRESERVERS INSTITUTE JOINT APPLICATION FOR:
CHEMICAL SPECIALTIES INC.
HICKSON CORPORATION
OSMOSE WOOD PRESERVING INC.
AMERICHEM INC.
AMERON
AKSO COATINGS INC.
BASF CORPORATION
BRUNING PAINT CO.
C.P.F. ONE SHOT
CARBOLINE
CERDEC CORPORTATION
COLONIAL PRINTING INK CORPORATION
COLOR MIX INC.
COLOR PIGMENTS MANUFACTURERS ASSOCIATION JOINT APPLICATION FOR:
APPOLLO COLORS, INC.
ARIZONA OXIDES, INC.
COLUMBIAN CHEMICALS CO.
E. M. INDUSTRIES, INC.
HARCROS PIGMENTS, INC.
HOOVER COLOR CORPORATION
ISHIHARA CORPORATION (USA)
KIKUCHI COLOR AND CHEMICAL CORPORATION
MASON COLOR AND CHEMICAL WORKS INC.
MILES INC.
NEW RIVERSIDE OCHRE
SHEPHERD COLOR COMPANY
COOKSON MATTHEY CERAMICS INC.
COOKSON PIGMENTS
COURTAULDS COATINGS INC.
COVENTRY COATINGS
COZ CORPORATION
CUDNER & O'CONNOR CO.
DEFT., INC.
DEXTER CORPORATION
DOMINION COLOUR CORPORATION
DUPONT COMPANY
ELPACO COATINGS CORPORATION
E/M CORPORATION
ENGELHARD CORPORATION
FERRO CORPORATION
GENERAL COLOR & CHEMICAL COMPANY
GENERAL FORMULATIONS, INC.
GLIDDEN COMPANY
M.A. HANNA COMPANY
HARWICK CHEMICAL CROPORATION
HENTZEN COATINGS, INC.
HORTON-EARL CO.
HOUSE OF KOLOR

HUNT MANUFACTURING
INK DEZYNE INTERNATIONAL INC.
INTERPLASTIC CORPORATION
JOHNSON MATTHEY
LNP ENGINEERING PLASTICS
LILLY INDUSTRIES, INC.
LOCKHEED FORT WORTH COMPANY
MAMECO INTERNATIONAL INC.
MATTHEWS PAINT CO.
MAUTZ PAINT CO.
MOLINE PAINT MANUFACTURING CO.
MORTON INDUSTRIAL COATINGS
NAZ-DAR/KC
NESTE POLYESTER INC.
PPG INDUSTRIES
PARKER AMCHEM (HENKEL)
PEACOCK COLORS, INC.
PENN COLOR INC.
PERRY-AUSTIN BOWLING PRODUCTS
PLASTI-KOTE CO. INC.
PLEXCO (CHEVRON CHEMICAL CO.)
PRATT & LAMBERT
RTP CO.
REED SPECTRUM
T.J. RONAN PAINT CORPORATION
SCM CHEMICALS
SARTOMER
SERICOL
SHERWIN WILLIAMS
SIERRA CORPORATION
SOUTHERN COATINGS
SPIES HECKER (HOECHST GROUP)
3M
TALSOL CORPORATION
TECHNER PM
TNEMEC COMPANY, INC.
UNITED MINERAL AND CHEMICAL CORPORATION
U.S. PAINT CORPORATION
UPONOR ALDYL CO.
VALSPAR CORPORATION
VIKING PAINTS INC.
VOGEL PAINT AND WAX CO. INC.
WAYNE PIGMENT CORPORATION
WHITFORD CORPORATION
YENKIN-MAJESTIC

'USERS' WHO HAVE APPLIED FOR AN EXEMPTION

EXCEL METAL FINISHING
GOPHER SIGN COMPANY
HONEYWELL, INC.
McKECHNIE PLASTIC COMPONENTS
NORTHLAND ALUMINUM PRODUCTS
UNITED DEFENSE LP