ilma

Independent Lubricant Manufacturers Association

400 N. Columbus Street, Suite 201, Alexandria, VA 22314 • p 703.684.5574 • f 703.836.8503 • www.ilma.org • ilma@ilma.org

July 24, 2015

By Overnight Delivery & Electronic Mail

Mr. Greg Schweer, Chief
New Chemicals Notice Management Branch
Office of Pollution Prevention and Toxics
Environmental Protection Agency
Room 4133-A; (MC- 7405M)
1200 Pennsylvania Avenue, N.W.
Washington D.C. 20460

Re: Reasonable Timeline and Cost Considerations for Replacement of Medium-Chain Chlorinated Alkanes and Long-Chain Chlorinated Alkanes

Dear Mr. Schweer:

The Independent Lubricant Manufacturers Association ("ILMA" or "Association") offers these additional comments on the Environmental Protection Agency's ("EPA" or "Agency") pending review of the Pre-Manufacture Notices ("PMNs") for medium-chain chlorinated alkanes ("MCCAs") (C_{14}-C-$_{17}$) and long-chain chlorinated alkanes ("LCCAs")(C_{18}-C_{20}). These comments supplement ILMA's June 10, 2015 letter and the matters discussed during our June 3, 2015 meeting. Specifically, ILMA would like to expand upon the "Realistic Timing Considerations" section in its June 10 letter.

The metalworking fluids ("MWFs") industry and downstream end-users remain very concerned with EPA's pending deadline of May 31, 2016 to eliminate the production and import of MCCAs and LCCAs. There is no practicable way to transition away from MWFs containing MCCAs and LCCAs by May 31, 2016, even if an alternative fluid currently exists for each specific application.

In our June 3 meeting, ILMA noted the amount of manpower needed to develop, test, and fully incorporate alternative fluids into manufacturing processes. The MWF industry is a relatively small community, but the subset of the industry that actually formulates MWFs and then tests the fluids is even smaller. Changing out a MWF in a manufacturing process is more than the simple removal of one fluid and immediate replacement with another MWF. It is a time and labor-intensive activity with relatively few individuals trained to do the required work.

There is a Lack of Manpower

There are a limited number of MWF suppliers in the United States with chemists that develop the thousands of MWFs formulations in laboratories for use in the expansive array of domestic manufacturing applications and processes. ILMA, through its internal surveys, believes its Manufacturing Members account for approximately 80% of the MWFs sold annually in the United States. Of ILMA's 317 member companies, there are 125 companies that manufacture and blend lubricants. Of these 125 Manufacturing Members, ILMA believes 62 companies manufacture and sell MWFs. These 62 member companies each employ between one and five chemists who formulate MWFs. Assuming an average number of three chemists per company, and further assuming non-ILMA members who account for the remaining 20% of the MWF volume employ a similar number, the total number of chemists in the United States that formulate MWFs is 232[1].

Next, we then turn to the total number of MWF technicians. These are the individuals employed by the MWF suppliers, including ILMA members, that possess the technical expertise to go into customers' manufacturing facilities and machine shops and work directly with these customers to test and re-test the various fluid formulations developed by the chemists. MWF technicians are also inclusive of the individuals in end-user customers' facilities that similarly possess the requisite expertise and knowledge to implement alternative MWFs. ILMA estimates that there are 2,500 total MWF technicians employed by both suppliers and end-users.

ILMA arrived at its MWF technician estimate based on the average attendance at the Society of Tribologists and Lubrications Engineers' ("STLE") Annual Meeting. STLE is a premier educational resource for professionals in the lubricants industry and is attended annually by the majority of MWF technicians.[2] There were 1,500 industry professionals at STLE's May 2015 conference in Dallas. It is ILMA's assessment that 60% of the MWF technicians attend the STLE Annual Meeting. In order to account for the remaining 40% of the market that may not attend the STLE Annual Meeting, and provide EPA with a reasonable estimate, ILMA added an additional 1,000 technicians for a total of 2,500 individuals.

There are a Significant Number of Sites and Applications

Using the Organization for Economic Co-operation and Development's Emission Scenario Document ("ESD") for MWFs, the Association conservatively projects there are 30,000 end-user sites. ILMA arrived at this number from EPA's estimate that "approximately 89,000 MP&M (metal products and machinery industry) sites operate in the United States," its recent member survey on MCCAs and LCCAs, census data, and conversations with industry experts. ILMA believes that the estimate of 30,000 sites that use MWFs containing MCCAs or LCCAs is reasonable.

---

[1] While ILMA understands that EPA may be reluctant to accept some of ILMA's assumptions and estimates, the Association's data are well respected as reliable industry information. ILMA-supplied data are widely cited in the Organization for Economic Co-operation and Development's Metalworking Fluid Emission Scenario Document.

[2] STLE's mission statement is "[t]o advance the science of tribology and the practice of lubrication engineering in order to foster innovation, improve the performance of equipment and products, conserve resources and protect the environment."

From discussions with ILMA members, the Association's assessment is that there are 10,000 critical applications/uses of MWFs containing MCCAs or LCCAs spread out over these 30,000 sites. Stated differently, there are approximately 0.33 critical uses at every end-user facility in the United States, if the total applications are spread evenly across all facilities. "Critical use" encompasses a specific use for which the lack of alternatives acceptable to the customer would result in a significant market disruption, as well as where there are no technically or economically feasible alternatives or substitutes available to the user from the standpoint of the environment and/or human health. For these critical uses, it simply may not be possible to find alternative chlorine-free formulations, but the number is included in the calculation to illustrate the universe of manufacturing operations that utilize MWFs containing MCCAs and LCCAs.

In addition to the 10,000 "critical use" applications in the United States, there are approximately 375,000 non-critical uses of MWFs containing MCCAs or LCCAs at customers' sites. This number takes into account the practical realities that, in any given end-user facility, there are multiple applications that use MWFs that contain MCCAs or LCCAs. ILMA estimates that each of these 30,000 sites has approximately 10-15 applications or operations that utilize a MWF containing MCCAs or LCCAs. Taking the average of 12.5 applications spread across 30,000 facilities yields 375,000 non-critical uses in the United States. ILMA concedes that chlorine-free alternatives likely can be implemented for these non-critical uses; however, the substitution requires a considerable amount of time from a limited number of skilled chemists and technicians.

At Least Five Years are Necessary to Transition to Alternative Fluids

ILMA calculates from discussions with its Manufacturing Members that at least 72 hours is needed to make a fluid change, per operation or per application. This best-case estimate is based on the fact that each fluid needs to be separately formulated, tested, and fully incorporated into the manufacturing process for each use or application. The 72 hours[3] is needed in the United States, in part, because of the various standards and regulations that have to be met.

MWF changes are a time and labor-intensive process. Each fluid has to be specially formulated and tested for use in individual machines. Even similar processes (e.g. fabrication and formation of high nickel alloy tubing) require multiple tests and augmentations depending upon the type of machine used for the process. Even the same machine that manufactures the same part that is a few years older requires a specifically-tailored fluid that may or may not work in the newer machines.[4] Further, customers have to give final approval for the performance of the fluid to ensure the manufactured part is the same finished quality. As a result, fluid changes are an extensive trial-and-error process that takes a considerable amount of time. Therefore, the 72 hours is an exceedingly low, best-case approximation of the true amount of time that is actually needed to fully test and incorporate a new MWF in a manufacturing process.

[3] This does not account for the fact that a fluid change triggers a re-approval or re-certification process that can take several months to years to complete.

[4] ILMA members have anecdotally shared the difficulties in changing out different fluids in manufacturing processes and the considerable variation on the time needed to complete the process. One member conveyed he personally had tried to change out a fluid in an application for over three years and still has not completed the transition.

In summary, the total applications, both critical and non-critical, that utilize MWFs containing MCCAs or LCCAs are 385,000. If one takes the total number of applications (385,000) and multiplies it by ILMA's best-case estimate of 72 hours to formulate, test, and fully incorporate a new fluid, then 27,720,000 hours are needed to fully complete the substitution process. If one takes this total number of hours needed (27,720,000) and divides it by the number of capable technicians (2,500), then 277 weeks (presuming a 40-hour work week) or 5.31 years of working non-stop are needed to transition fully away from MWFs with MCCAs and LCCAs to alternative fluids. This calculation is predicated upon chemists and technicians working exclusively on reformulating MCCA or LCCA containing MWFs and nothing else. In reality, these individuals have an array of responsibilities that would not allow their attention to be solely directed to the replacement of MCCAs and LCCAs in MWFs.

Based on the foregoing, good-faith estimates and calculations, it is simply not possible for the industry to reformulate and replace MWFs containing MCCAs and LCCAs containing MWFs by May 31, 2016.

Reformulation will Cost Billions of Dollars

The time needed to formulate away from MWFs containing MCCAs or LCCAs will also come at an immense cost to MWF suppliers and end-user customers. Section 2(c) of the Toxic Substances Control Act ("TSCA") instructs EPA to carry out the act in a "reasonable and prudent manner" and that "the Administrator shall consider the environmental, economic, and social impact of any action . . ." ILMA and its customers are concerned about the significant cost associated with a ban of MCCAs and LCCAs. EPA should give careful consideration to the financial burden of a ban, in part, because many ILMA members and their customers are small businesses.

Of the 232 chemists, salaries range from $47,000-$280,000 depending upon the individual's education, experience and the size of the company for which the individual works, according to a 2014 survey done by Lubes 'N' Greases Magazine. Taking a lower-end salary of $75,000 for illustration purposes, and multiplying that by the total number of chemists (232), then the annual sum spent on chemist's salaries is $17,400,000.

Salaries range from $30,000-$380,000 for sales managers or MWF technicians according to the same survey. Again, taking a very low salary of $80,000 for illustration purposes and multiplying it by the total number of technicians (2,500), then $200,000,000 was spent on MWF technician's salaries in 2014.

Based on the timing analysis above, which assumes these chemists and MWF technicians do nothing but work on MCCA and LCCA reformulation over the next 5.31 years, the salary costs alone to the industry for the reformulation are $1.15 billion[5].

[5] ($17,400,000 + $200,000,000) x 5.31 years = $ 1,154,394,000

Beyond salaries for the individuals that formulate and test the MWFs, a considerable amount of money is spent during the trial-and-error process to develop functional, alternative fluids. This takes into account the cost to the MWF suppliers that have to allocate the time for the tests and the amount of personnel that must be supplied to monitor the tests. Additionally, there is a significant cost associated with the lost production at the MWF supplier's facility because an economically-viable fluid cannot be produced if space and time are allocated to test a potential alternative.To be sure, research and development ("R&D") are part and parcel to every economic sector, but those activities generally occur on a smaller scale and not to the detriment of other portions of a production facility.

Further, there is a considerable cost associated with testing for the customer. If tests are being run on a machine that usually outputs 1,000 finished products an hour, then there is a significant amount of money lost while machines are undergoing tests and can produce no economically viable items. Given the extent to which MWFs containing MCCAs and LCCAs are used in the United States, there would be a mass-scale reformulation and testing period at both the MWF suppliers' facilities and at the end-user customers' facilities that would require significantly more resources than traditional R&D testing.

The true cost of lost production and the accompanying scrap that results is difficult to quantify in dollars; however, a simple model is useful for illustrative purposes. For example, a machine outputs 500 finished parts per hour and those parts sell for $5.00 each. If that particular machine must be taken off-line to reformulate a fluid then $2,500 is lost each hour that the machine is not operational. If one takes that lost production over the best-case estimate of 72 hours to reformulate (e.g., when the machine will be inoperable), then $180,000 is lost over the course of the reformulation trial period for that particular application.

If this number is taken ($180,000) and applied to every application that exists in the United States (585,000) that use MWFs containing MCCAs and LCCAs then $69.3 billion will be lost due to reformulation at end-user customers' sites.[6] Additionally, if the cost of salaries for both chemists and MWF technicians are factored in $1,154,394,000), then the expenditure increases to over $70 billion. This is a significant amount of money that will have to be allocated solely for the purpose of finding alternatives to MWFs containing MCCAs and LCCAs and nothing else.

Accordingly, the overall process to formulate away from MWFs containing MCCAs and LCCAs will not only require a significant amount of time, but it will also come with an immense cost to the MWF industry and its customers. This calculation is not intended to be a detailed economic analysis, but it is illustrative of the scope of problem. Even if EPA adjusted this cost estimate downward by several orders of magnitude, it is clear that the regulatory ban will be an extraordinary financial burden for the MWF industry and U.S. manufacturers.

[6] Further, if the lost production at MWF supplier's facilities were included this number would be higher by several orders of magnitude.

EPA should initiate a formal comment process to allow stakeholders to weigh in on the financial considerations of a MCCA and LCCA ban. Further, ILMA would encourage EPA to hire an independent economist to review more closely the likely financial impact of the removal of MCCAs and LCCAs from commerce next May.

Conclusion

ILMA respectfully requests that EPA allow a minimum of a five-year transition if the Agency rejects the PMNs for MCCAs and LCCAs. Even a five-year transition will be problematic and will come at an immense cost to the MWF industry and its customers. Further, a public comment period on the economic impact of the costs to develop and implement substitute chemistries is warranted.

Sincerely,

Holly Alfano
Executive Director

cc: Ken Moss, Team Leader, Notice and Regulations Management Teams
ILMA Board of Directors
ILMA SHERA and Metalworking Fluids Committee
Andrew Jaques, Executive Director, Chlorinated Paraffins Industry Association
John K. Howell, Ph.D.
Jeffrey L. Leiter, Esq.
Daniel T. Bryant, Esq.