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June 5, 2009

ENVIRONMENTAL QUALITY BOARD

Pennsylvania Department of Environmental Protection  
Environmental Quality Board  
P.O. Box 8477  
Harrisburg, PA 17105-8477

ENVIRONMENTAL QUALITY BOARD  
PERMIT COMMISSION

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RE: LORD Corporation comments on Proposed Rulemaking [25 PA. Code CHS. 121, 129 and 130]

Dear Sirs:

I would like thank you for the opportunity to comment on the above rulemaking at the public meeting held in Pittsburgh on May 4<sup>th</sup>. Unfortunately, that forum did not allow for all of LORD Corporation's concerns to be addressed. Therefore, we would like to take this opportunity to further comment on the proposed rulemaking referenced above. Please consider these comments to be in addition to those already provided and attached for convenience.

LORD Corporation is a privately owned, diversified company, headquartered in Cary, NC, with manufacturing sites located in northwestern Pennsylvania and Indianapolis, Indiana producing products that would be impacted by this new regulation. LORD Corporation manufactures industrial adhesives used to bond a variety of substrates including rubber, metal and/or plastics. These products, trade-named Chemlok<sup>®</sup>, Lord<sup>®</sup>, Flocklok<sup>®</sup>, Versilok<sup>®</sup> and Fusor<sup>®</sup> would be regulated by the newly proposed Pennsylvania Rule for Industrial Adhesives. These adhesive products are used in a variety of markets, particularly automotive and defense, but their usage is essential to any application requiring noise, shock and/or vibration control or some type of highly durable, environmentally superior, structural bond.

In addition to our production of adhesives regulated by this rule, our manufacturing plant in Cambridge Springs, PA would be regulated as an applicator of primers and adhesives.

LORD Corporation is opposed to the proliferation of state rules regulating Industrial Adhesives primarily because many companies that use LORD Corporation adhesives are already subject to a number of VOC and HAP emission standards. These are primarily source specific emission limits that are policed through facility operating permits. Regulation via a state product rule will make compliance even more complicated and confusing and will increase the regulatory burden on these facilities. Furthermore, these rules limit operational flexibility and may even ultimately discourage users from adopting more environmentally friendly adhesives.

For example, many of our customers must comply with the USEPA Miscellaneous Metal and/or the Plastic Surface Coating Standards for Hazardous Air Pollutants. Although these standards apply to the surface coating of metals and plastic substrates, LORD adhesives were specifically included, as these adhesives are applied using similar processes. The Miscellaneous Metal Surface Coating NESHAP defines these products as "coatings that contain heat-activated polymer systems in either solvent or water that, when applied to metal substrates, dry to a non-tacky surface and react chemically with the rubber and metal during a vulcanization process."<sup>1</sup> In the proposed PA Industrial Adhesive rule, LORD and LORD customers may surmise that the "Metal to Urethane/rubber molding or casting adhesive" definition may be the equivalent category; however it is unclear from the somewhat confusing language used.

<sup>1</sup> Code of Federal Regulations, Part 63, Subpart Mmmm, 63.3981

This definition uses the phrase "to fabricate products like." Even though the word "like" is used and could be presumed to identify typical examples of such processes, we are concerned that this wording could be used in the future to restrict this category only to the fabrication of rollers for computer printers or other paper handling equipment. LORD Corporation believes that the Metal to Urethane/rubber molding or casting adhesive definition should be eliminated altogether and modeled after a definition used in the San Joaquin Air Quality Management District, Rule 4653 - Adhesives:

3.52 Rubber Vulcanization Adhesive/Primer: any adhesive product designed to bond rubber to metal, rubber, or polyester or nylon fabrics during the following vulcanization processes:

3.52.1 Molded vulcanization: the application of heat and pressure to uncured rubber in a mold;

3.52.2 Sheet-applied Vulcanization: the application of heat after rubber stock sheets have been adhered to the walls of tanks, tankers, elbow joints, protective earthquake building pads, or rail cars; or the application of heat after one or more layers of rubber stock sheets have been built-up to form a rubber product;

3.52.3 Cold vulcanization: the chemical reaction of an adhesive with rubber stock sheets that are adhered to earthmoving equipment, other high impact/abrasion devices, or industrial belting devices, without the application of heat or pressure.

Furthermore, Rubber is defined as:

3.50 Rubber: any natural or manmade rubber substrate, including but not limited to styrene-butadiene rubber (SBR), polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene (CSM), and ethylene propylene diene terpolymer.

LORD Corporation's suggested changes to these definitions are as follow (additions are italicized; deletions are indicated with a strike-through):

Rubber Vulcanization Adhesive/Primer: any adhesive product designed to bond rubber to metal, rubber, or polyester or nylon ~~fabrics~~ *or other plastic substrates* during the following vulcanization processes:

Molded vulcanization: the application of heat and/or pressure to uncured rubber in a mold *or casting process*;

Sheet-applied Vulcanization: per current definition in PA proposed rule.

~~Cold vulcanization: the chemical reaction of an adhesive with rubber stock sheets that are adhered to earthmoving equipment, other high impact/abrasion devices, or industrial belting devices, without the application of heat or pressure.~~

Replace Cold vulcanization with:

*Post Vulcanization: The application of heat and/or pressure to pre-molded rubber assembly in which the molded rubber is left partially uncured in order to achieve a bond to molded rubber surface.*

Furthermore, if rubber were to be defined as per the Bay Area Air Quality Rule 8.51, we are hopeful that these changes would accommodate the concerns of the Polyurethane Manufacturers Association and their members:

Rubber is defined as "Any natural or man-made rubber substrate, including but not limited to styrene-butadiene (SBR), polychloroprene (neoprene), butyl rubber, nitrile rubber, chlorosulfonated polyethylene (CSM), urethane, and ethylene propylene diene terpolymer (EPDM).

Compliance to both the Plastic and Metal Surface Coating NESHAP is based on a twelve month rolling average to an adhesive coating category limit that is expressed in pounds of HAP per gallon of applied solids rather than pounds per gallon or grams per liter. Since the regulatory metric is based on a 12-month rolling average, a regulated facility at times can use adhesives that may exceed the regulatory limit, as long as they compensate for these overages by using materials for other applications that are significantly below the limit. This allows these plants to achieve compliance; while at the same time allows them to use adhesives that meet all other performance or customer requirements. LORD recommends that this rolling average approach be used for the proposed rule.

If restricted to a RACT rule adhesive limit, operations may find it difficult to comply, particularly in applications where the demands of the bonded assembly or product specification make a high VOC product necessary. In these instances, a control device might be the only immediate solution. Although control devices are typically thought of as an acceptable means to compliance, the age, design and also the need to comply with Occupational Safety and Health Association (OSHA) requirements make control devices costly to install in operating facilities and significantly increase operating expenses. These facilities may simply shift their business to other non-regulated states, or perhaps cease operations altogether. Furthermore, increasing use of control devices will result in an increase in CO<sub>2</sub> emissions and consumption of natural resources, creating a shift in environmental problems. The only real solution to all these environmental issues, is increased use of aqueous or non-VOC containing adhesives. However, once these adhesive users have control devices in place, there is little incentive for them to evaluate and substitute these types of adhesives into their processes because the costs associated with re-qualifying a new adhesive are quite high and the process is resource intensive. Furthermore, facilities cannot simply shut down and start up incinerators at will, so these sources cannot abandon this method of control until there are VOC compliant alternatives available for every conceivable bonded assembly manufactured. It is for this reason that LORD Corporation feels that the best environmental and economic approach is to regulate this industry only with source specific emission limits, rather than through a general industrial adhesive rule that invokes category specific emission limits. An acceptable approach to this scenario would be to exempt Title V facilities from this Industrial Adhesives Rule.

Since this proposed rule is based on the reasonably available control technology (RACT) and best available retrofit control technology (BARCT) determination made by the California Air Resources Board (CARB) in 1998, the rule fails to take into consideration more recent regulatory activities that have been approved by the U.S. EPA and used by industry to demonstrate compliance to the restrictive VOC limits mandated by these rules. Several years ago, LORD Corporation and several other large adhesive suppliers were able to obtain approval from the U.S. EPA for a special VOC test method for 2-component reactive adhesives. This method was published as Appendix A in the Plastic Surface Coating NESHAP (Subpart PPPP). We were able to successfully demonstrate the need for this alternative method, particularly for adhesive formulations of the acrylic type. We request that this method also be included in the Pennsylvania Industrial Adhesive rule in section 129.77(s) and 130.705(a).

As stated at the May 4<sup>th</sup> Pittsburgh public meeting, LORD Corporation believes that the proposed rule will place disproportionate burden of compliance on LORD as the seller. The highly specialized nature of LORD products does not lend itself to a one size fits all approach. LORD products are used for many specialized bonding applications and there are not currently exact replacements for our product offerings that will comply with the VOC limit. Given the current language in the regulation, not only will we need to

ensure that we will not be selling product in violation of the rule, but we will have to bear a disproportionate amount of technical service and regulatory support costs to assist our customers in identifying and re-qualifying alternate adhesive systems and/or determining if their use meets the allowable exemptions. We request that the language that places a compliance burden on the manufacturer and seller be removed from the proposed rule.

We would also like to remind the agency that the proposed rule's compliance deadline is not achievable either relative to the implementation of control devices or the reformulation of adhesives. Per PA Bulletin, Doc. No. 09-619, the Board seeks comment on whether there should be a date-coding scheme incorporated into the final-form regulations to facilitate enforcement of a sell-through and use-through provision. LORD Corporation is in agreement that this may be a mechanism by which the state allows additional time for affected facilities to achieve compliance. However, it is not the most preferred means. Such a sell-through or use-through provision would force end-users to stockpile product, a costly expense in difficult economic times. It is our position that it would be far less complicated and more cost effective to simply make the compliance deadline 24 months from the date the final rule is published.

Despite the fact that similar rules have been in place for a number of years, it should not be assumed that companies like LORD will have little trouble complying with this state industrial adhesive rule. This is far from true. LORD Corporation products are highly specialized, often having been developed to meet specific customer application and bonding methods. When these adhesive rules were implemented in several of the air districts in California, many of the manufacturers that used LORD products in relatively small amounts (too small to bear the cost of installing control devices) left the state. Ironically, most of these air districts are still classified as ozone non-attainment and will likely remain that way once the US EPA re-designates geographic areas under the 2008 ground-level ozone standard in March of next year.

Lastly, we reiterate that this rule will impose a competitive disadvantage to manufacturers operating in Pennsylvania. Manufacturing facilities outside of our state, including those owned by LORD Corporation that are not bound by a similar Industrial Adhesive rule, have a competitive advantage in that they are able to choose adhesives on the basis of performance and cost without having to incur additional operational costs to control emissions beyond what is required by USEPA. In these very difficult economic times, we urge the agency to consider the economic impact of this rule carefully.

It is for the above reasons that we urge you to carefully consider our comments. All of us have an interest in the increased use of environmentally beneficial technologies and pollution prevention approaches, but it is LORD Corporation's position that this rule in its current form does not adequately balance the economic impact and benefits gained from compliance. It is important to remember that most of the industrial sources covered by this proposed rule are already heavily regulated by state and federal regulations.

Please feel free to contact me should you have any additional questions or would like to schedule a meeting to further discuss the issues.

Sincerely,



George M. Kickel  
Director, Environment, Safety, Health and Regulatory Compliance



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May 4, 2009

Pennsylvania Department of Environmental Protection  
Environmental Quality Board  
P.O. Box 8477  
Harrisburg, PA 17105-8477

RE: LORD Corporation comments on Proposed Rulemaking [25 PA. Code CHS. 121, 129 and 130]

Dear Members of the Environmental Quality Board:

Good Afternoon. My name is George Kickel, and I am Director of Environment, Safety, Health and Regulatory Compliance for LORD Corporation. I wish to submit the following comments, on behalf of LORD Corporation, at today's public hearing on the Proposed Rulemaking for Adhesives, Sealants, Primers and Solvents. LORD Corporation, which has been in business since 1924, employs over 1,000 people at its four facilities located in Pennsylvania.

LORD is uniquely impacted by these regulations as we both manufacture and apply adhesives that will be regulated under the proposed rule at our facilities in Pennsylvania. I have four primary concerns about the proposed regulations that I would like to address today.

**First, the proposed rule places the burden of compliance on the seller.** The rule, as written, applies to any person (entity) who supplies, sells, offers for sale or uses adhesives, sealants, or adhesive or sealant primers. This statement extends compliance not only to the user, but to the manufacturer as well. Thus, LORD, as an adhesive manufacturer, becomes responsible for ensuring that we do not sell product in violation of the rule limits to customers that do not have control systems in-place. This is an overly burdensome regulatory requirement on LORD Corporation and other manufacturers. In effect, it forces LORD to act as a regulatory agency. Many of our customers are small users, for which we have little information. It would be difficult and costly for us to determine whether the rule applies to a customer, or if they have installed control devices at the time of each sale.

I also find it difficult to understand how this component of the regulation will be enforced equally with manufacturers of adhesives located within Pennsylvania and those located outside of the United States. It is our position that the responsibility for compliance be placed with the user of the material and the Department and not the seller.

**Second, the compliance deadline relative to the implementation of control devices is not achievable.** The April 15, 2010 deadline is not achievable to install a control device. With the final regulation not scheduled for publication for several more months, it would leave a regulated facility only a few months to design, apply for permits, construct, build, install, conduct acceptance testing, and gain final permit approval. Our recent experience with the installation of control devices at LORD facilities located in Pennsylvania and elsewhere indicates that at least two years should be allowed to ensure adequate time for all phases of the project, including obtaining the required permits. The permit process for the last thermal oxidizer we installed in Pennsylvania added approximately six months to the project schedule. DEP witnessed emission control testing can add an additional month or more at the conclusion of the project. These factors, and the others listed, must be taken into consideration to set a more realistic compliance deadline.

**Third, the compliance deadline relative to the reformulation of adhesives is not achievable.** Recent experience with compliance for the Miscellaneous Metal Surface Coating NESHAP has demonstrated that the proposed April 15, 2010 compliance deadline is not achievable. It is not realistic to develop, reformulate, test, and achieve final customer approval for a new adhesive in less than one year. This also would force our customers outside of Pennsylvania to incur additional costs associated with adhesive reformulations and our products manufactured in Pennsylvania would be at a competitive disadvantage in the marketplace. The industry would be better served if the compliance deadline would be moved out an additional year to allow for proper reformulation and customer acceptance testing to occur.

**Fourth, the rule imposes a competitive disadvantage to manufacturers operating in Pennsylvania.** Manufacturing facilities outside of our state, including those owned by LORD Corporation that are not bound by a similar Industrial Adhesive rule, have a competitive advantage in that they are able to choose adhesives on the basis of performance and cost without having to incur additional operational costs to control emissions.

I encourage everyone on the Board to continue a dialog with LORD as you consider implementation of this new regulation. Thank you for your time and the opportunity to comment.

George M. Kickel, Director, Environment, Safety, Health and Regulatory Compliance

