December 15, 2020

Renae Held, Program Manager II
Division of Air Quality
100 West Water St.
Suite 6A
Dover, DE 19904

RE: Delaware Regulation 1124, Section 33.0 "Solvent Cleaning and Drying"

Dear Ms. Held:

Safety-Kleen appreciates the opportunity to provide comments on the proposed Delaware Regulation 1124, Section 33.0 "Solvent Cleaning and Drying". We ask the Department to consider and balance the environmental and economic impacts that are expected to arise from the suggested changes. While Safety-Kleen supports efforts to protect human health and the environment, the standards contained in the proposed rules will result in substantial monetary costs. Safety-Kleen requests the Department takes into consideration the following comments when evaluating the efficacy and implementation of the proposed rules.

33.1.1 The applicable provisions of section 33.0 apply to any person who owns or operates a solvent cleaning machine that contains any amount of volatile organic compound (VOC) material.

Comment 1. Requirements within 33.0 of the proposed rule refer to "the owner or operator". A large portion of the parts washer industry involves leasing parts washers to users. There are several requirements in the rules that cannot be applicable to the owner of a leased parts washer while it is under the control of a leaser and must be only applicable to the operator of the unit. For example, an owner of a parts washer is not able to complete monthly inspections of the cover of the unit as required by 33.8.3 when the unit is located at the location of the operator. In an effort to prevent ambiguity and reduce confusion, the references to "owner" should be removed or revised to clearly list the responsibilities of the operator or owner of the operating entity.

33.3.3.3 Flushing of parts using a flushing device such as a flexible hose shall be performed only within the freeboard area of the cold cleaning machine. The solvent flushing shall be a solid fluid stream, not an atomized or shower spray, at a pressure that does not exceed 10 pounds per square inch gauge (psig) unless the flushing device is contained within a fully enclosed designed system, such as a flush booth which contains the overspray.

Comment 2. Section 33.3.3 applies to "Batch cold cleaning machines". The definition for a "Batch cold cleaning machine" in section 33.2 includes remote reservoir cold cleaning machines, like a sink-on-a-drum style parts washer. Section 33.3.3.3 states that flushing of parts using a flexible hose shall only be performed within the freeboard area of the cold cleaning machine. Remote reservoir style parts washers (e.g., sink-on-a-drum), are designed so that rinsing with a flexible hose is performed within the sink area. The freeboard area (air vapor and solvent interface) on a sink-on-

a-drum parts washer is the opening of the sink drain which is approximately 4.5 inches in diameter. This section needs to be expanded to specify that the flushing of parts is to be done within the sink area of remote reservoir units and not the freeboard area as it is not possible to flush parts within the 4.5 inch drain opening. As an alternative, a definition for freeboard area could be added as it applies for a sink-on-a-drum style parts washer.

33.3.4 For up to twelve months after [insert effective date], no person shall use, sell, or offer for sale for use in a cold cleaning machine any solvent with a vapor pressure of 1.0 millimeters of mercury (mm Hg) or greater, measured at 20°C (68°F) that contains volatile organic compounds.

Comment 3. With the current language, a compliant aqueous cleaning solvent would be banned since the vapor pressure of water at 20°C is approximately 17.5 mm Hg. We suggest new language which would not restrict compliant aqueous cleaners. For example: *"*For up to twelve months after [insert effective date]*, no person shall use, sell, or offer for sale for use in a cold cleaning machine any solvent where the composite* ***vapor pressure of regulated VOCs*** *is 1.0 millimeters of mercury (mm Hg) or greater, measure at 20°C (68°F)."* If this language is not corrected it will result in confusion in the regulated community and with field inspectors and may prevent operators from using compliant aqueous cleaners.

3.8.9 The owner or operator of a heated cold cleaning machine described in subsection 33.3.3.9 shall perform a test of the temperature control system as provided by the manufacturer at least once per year and after any repairs to the temperature control system.

Comment 4. The heaters used in aqueous parts washers are typically engineered to negate the need for testing the temperature control system. For example, aqueous parts washer heaters will include a primary thermostat and secondary safety thermal cut off sensor. If the primary thermostat fails, the secondary safety thermal cut off senses a temperature above its fixed set point and kills power to the heater. The secondary safety thermal cut off helps ensure the cleaning solution isn't heated to an unsafe (e.g., scalding temperatures) or non-compliant (temperatures that exceed the boiling point of the cleaning solution) temperature. For this reason, most aqueous parts washer manufacturers will not have any recommended test procedures for temperature control systems. Aqueous parts washer operators would not be able to comply with this requirement if such recommendations from the manufacturer are not available. The annual temperature system performance test is an additional regulatory burden to the user and is not necessary with the typical design of an aqueous parts washing unit.

33.3.7 Beginning on [insert date twelve months after effective date], the following VOC requirements for cold cleaning machines shall apply.

> 33.3.7.1 No person shall use, sell or offer for sale for use in a cold cleaning machine any solvent containing more than 25 grams of VOC per liter in a cold cleaning machine, except as noted in subsections 33.3.7.2 or 33.3.7.3. See subsection 33.10.3 for more details.

Comment 5. Safety-Kleen requests the Department consider the tremendous undertaking it will be to transition all solvent based parts washers within the state when setting an implementation date. A

three year implementation period is suggested for a change of this magnitude. Some of the factors to consider include the following:

1) Petroleum based (higher VOC) solvent parts washers are not compatible with the aqueous solutions. Due to the mild steel components, pump incompatibilities, and need for a heater, these units must be replaced with parts washers specifically designed for aqueous solutions. Distributers likely do not have the inventory readily available to swap all the petroleum solvent based units within the state and will have to manufacture additional units. Sourcing of parts and increasing production at manufacturing facilities will easily take over one year to produce the needed inventory. The available inventory issues are amplified by the COVID-19 pandemic, and the recent implementation of a similar solvent VOC reduction regulation in New York which further reduces any availability of aqueous parts washers.

2) Adding to the challenges for a service provider and user are the legal contracts with government, municipalities, and large corporations which will require renegotiation to change any agreed upon products or pricing.

3) The DNREC needs to consider the economic impact of the proposed solvent cleaning rules. Based on our experience, the manufactured cost differential between a petroleum solvent parts washer and the "equivalent" aqueous parts washer can be 98%. These added costs must obviously be passed on to the end user. We estimate the average cost for an aqueous parts washer service (where the spent aqueous cleaner is RCRA non-haz) can be 18% higher than that of a petroleum based service in today's market. Why? Aqueous solution parts washers require more volume than petroleum solvent version of the same unit. In addition, spent petroleum solvent is bulked and recycled within the Safety-Kleen recycling network and used over and over. Pricing for petroleum based parts washer services are based on Safety-Kleen's ability to control costs by bulking the spent solution and transport the material in bulk to a recycling center where the spent solution is recycled and made back into new product. All aqueous cleaning solutions have a onetime use and must be disposed after they become spent and new product must replace the used material. If an aqueous solution is contaminated by hazardous constituents after use and becomes a hazardous waste this material may need to be incinerated at a significant cost to the end user ($100s per drum). In addition, the average aqueous service term is approximately 10 weeks per year, while an average petroleum solvent service term is typically 13 weeks per year, resulting in 1 to 2 more services per year (est. 50% increased costs annually).

Aqueous solutions will require heat to clean effectively which will increase energy usage and electrical costs to the users.

Finally, all businesses and industry sectors have been impacted by the COVID-19 pandemic. As a result, businesses are running at reduced capacity with reduced staffing and have been forced to cut labor and costs in order to maintain operations. Regardless of the size of a business, the cost to install new equipment and the increased operation and disposal costs will need to be planned and budgeted for within the regulated community and may not be

feasible for some businesses at this time. Industry desperately needs some time to recover from the impacts of COVID-19.

33.3.7.2 Solvent to clean post-solder printed circuit boards as well as critical adjunct processes, including the cleaning of raw solder paste and adhesives from hard surfaces, such as stencils and misprinted boards during the printing process, and baked on fluxes (polymerized fluxes) from reflow and wave solder oven components, such as conveyor fingers and condensation traps, may contain no more than 150 grams VOC per liter of solution and all other applicable provisions of Section 33.0 must be followed.

Comment 6. The Ozone Transport Commission (OTC) Model Rule for Solvent Degreasing (rev 2012) Section 7.0 and California South Coast Air Quality Management District (SCAQMD) Rules 1122 (k), 1124(l), and 1171 (c) include multiple additional exemptions (e.g., cleaning of medical devices, high precision optics, aerospace, military, etc.). The South Coast rules have been effective at implementing the VOC solvent reduction in industry while accommodating the special needs of specific industry sectors without debilitating businesses and the economy. We suggest Delaware include the same exemptions to help ensure consistency across all states with similar regulations and to avoid limiting or preventing these industries from operating within the state of Delaware.

33.11 Test Methods

33.11.1 The VOC content of materials subject to the provisions of Section 33.0 shall be determined by the EPA Reference Method 24 (Determination of Volatile Matter Content, Water Content, Density Volume Solids, and Weight Solids of Surface Coatings, Code of Federal Regulations Title 40, Part 60, Appendix A-7), dated May 1, 2019 and hereby incorporated by reference, or by SCAQMD Method 304 [Determination of Volatile Organic Compounds (VOCs) in Various Materials] contained in the SCAQMD "Laboratory Methods of Analysis for Enforcement Samples" manual, dated 1996 and hereby incorporated by reference. The VOC content of materials containing 50 g/l of VOC or less shall be determined by SCAQMD Method 313 (Determination of Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry), dated 1991 and hereby incorporated by reference or any other alternative test methods approved by the Department and by EPA.

Comment 7. SCAQMD is in the process of making changes to its Method 313. We suggest reaching out to SCAQMD to determine status of Method 313, so that an outdated version of the test method isn't referenced in the Department's new rule.

(http://www.aqmd.gov/home/rules-compliance/compliance/vocs/architectural-coatings/current-and-past-activities/working-group)

It is also critical the state of Delaware understands the limitations of Method 313. Our research has found there is an extremely limited number of accredited laboratories that are capable of running this specific test method. In fact, the ONLY lab we've found thus far is SCAQMD's in-house laboratory, and the turnaround times for this analysis can be six months, plus. We suggest referencing a test method that can be performed by readily available labs.

Unintended Consequences:

Comment 8. Small businesses that view the costs as too onerous may discontinue service. When customers discontinue a service, they continue to operate and may not dispose of generated waste properly. In this situation, the increased cost burdens result in environmental health and safety consequences that should be considered in this rule proposal.

Comment 9. While aqueous cleaners may have low VOC emissions, aqueous cleaners are sometimes perceived as not as effective in cleaning in certain situations by the user. Under these circumstances, operators may opt to use unregulated high VOC solvents. For example, some operations may rely on unsafe solvents, such as gasoline, diesel, methyl ethyl ketone, perchloroethylene, or acetone instead of using an aqueous cleaner where they perceive aqueous solutions as less effective. These chemical substitutes may pose greater worker exposure and fire/explosion hazards. Safety-Kleen clean parts washers are not rated for acetone use and would not meet NFPA or UL requirements and will result in a fire hazard.

Additionally, our experience has shown that there is an increase in the use of solvent spray cans after a parts cleaner user switches to aqueous cleaners. Aerosols disperse directly into the air when used and, in addition to VOCs, may contain ozone depleting compounds, and hazardous air pollutants.

Comment 10. Aqueous cleaners use heat in order to adequately clean parts. The environmental consequences of increased energy usage should be considered when evaluating the environmental goals of the Department.

More information or studies may be needed to determine the environmental impacts of the rule change in regards to the potential new use of unregulated high VOC solvents, aerosol can sprays and cleaning supplements used in conjunction with aqueous cleaners, lack of recyclability (one time use) of low VOC solvents, and increased water and energy usage of low VOC solvent parts washing equipment.

Safety-Kleen looks forward to working cooperatively with the Department to protect human health and the environment and appreciates the Department's time and consideration.

If you have any questions concerning our comments or require clarification, please contact me at (734) 516-0291 or maggie.tenant@safety-kleen.com.

Sincerely,

Maggie Tenant Digitally signed by Maggie Tenant
Date: 2020.12.15 11:29:49 -05'00'

Maggie Tenant
Vice President of Environmental Compliance