Kansas Administrative Regulations

Department of Health and Environment

Article 19.—Ambient Air Quality Standards and Air Pollution Control—Volatile Organic Compound Emissions.

28-19-714. Solvent metal cleaning.

(a) The provisions of this regulation shall apply to cold cleaning, open-top vapor degreasing, and conveyorized degreasing operations located in Johnson and Wyandotte counties, and to the sale of cold cleaner solvents for use within either Johnson or Wyandotte county, or both.

(b) Definitions. The following terms, when used in this regulation, shall have the following meanings:

(1) "Airless cleaning system" means a degreasing system that operates automatically and that seals at a differential pressure not greater than 0.475 pounds per square inch gauge (psig) before the introduction of solvent vapor into the cleaning chamber and maintains a differential pressure under vacuum during all cleaning and drying cycles.

(2) "Airtight cleaning system" means a degreasing system that is operated automatically and that seals at a differential pressure not greater than 0.5 psig during all cleaning and drying cycles.

(3) "Aqueous solvent" means a solvent that consists of 60 percent or more by volume of water with a flashpoint greater than 199°Fahrenheit (F) and that is miscible with water.

(4) "Electronic component" means any portion of an electronic assembly, including circuit board assemblies, printed wire assemblies, printed circuit boards, soldered joints, grounded wires, bus bars, and associated electronic component manufacturing equipment, including screens and filters.

(5) "Medical device" means any instrument, apparatus, implement, machine, contrivance, implant, in vitro reagent, or other similar article, including any component or accessory that meets one of the following conditions:

(A) It is intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease.

(B) It is intended to affect the structure or any function of the body.

(C) It is defined in the "national formulary" or the "United States pharmacopoeia," or any supplement to them.

(c) Except as specified in paragraph (c)(13) of this regulation, the owner or operator of each affected cold cleaning operation shall assure that the following requirements are met.

(1) After August 31, 2002 and through April 30, 2003, one of the following requirements shall be met:

(A) Except as otherwise required in paragraph (c)(1)(B), only cold cleaning solvents with a vapor pressure less than 2.0 millimeters of mercury (mm Hg) at 68°F shall be used.

(B) Only cold cleaning solvents with a vapor pressure less than 7.0 mm Hg at 68°F shall be used for each cold cleaning operation that is used for cleaning carburetors.

(2) Beginning on May 1, 2003, one of the following requirements shall be met:

(A) Except as otherwise required in paragraph (c)(2)(B), only cold cleaning solvents with a vapor pressure less than 1.0 mm Hg at 68°F shall be used.

(B) Only cold cleaning solvents with a vapor pressure less than 5.0 mm Hg at 68°F shall be used for each cold cleaning operation that is used for cleaning carburetors.

(3) An alternate method for reducing cold cleaning emissions may be used if the owner or operator demonstrates to the satisfaction of the department that the level of emission control is equivalent to or greater than the applicable requirements in paragraphs (c)(1) and (c)(2).

(4) Each cold solvent cleaner shall be equipped with a cover to minimize evaporation of the solvent while in the closed position, or with an enclosed reservoir to limit the escape of solvent vapors from the solvent bath if parts are not being processed in the cleaner.

(5) If one or more of the following conditions exist, the solvent cleaner cover required in paragraph (c)(4) shall be designed to be operated with one hand so that minimal displacement of the solvent vapors occurs:

(A) The solvent vapor pressure is greater than 15.5 mm Hg when measured at 100°F.

(B) The solvent is agitated.

(C) The solvent is heated.

For solvent cleaner covers larger than 10 square feet, either mechanical or power-assisted systems shall be used to aid in the operation of the cover.

(6) The cover of the cold solvent cleaner shall be closed whenever parts are not being handled in the cleaner.

(7) Each cold solvent cleaner shall be equipped with either of the following:

(A) An internal drainage facility that enables the cleaned parts to be enclosed under the cover while the cleaned parts are draining; or

(B) if the internal drainage facility cannot fit into the cleaning system and the solvent volatility is less than 31.0 mm Hg at 100°F, an external drainage system that allows the solvent to drain from the cleaned parts to an enclosed solvent reservoir.

(8) Cleaned parts shall be drained for at least 15 seconds or until dripping ceases.

(9) One of the following control methods shall be applied if the solvent vapor pressure is greater than 31.0 mm Hg measured at 100°F or if the solvent is heated above 120°F:

(A) Maintaining a freeboard height that gives a freeboard ratio greater than or equal to 0.75;

(B) using a water cover for solvents that are insoluble in, and heavier than, water; or

(C) using other systems of control, including a refrigerated chiller or carbon adsorption with a VOC emissions reduction efficiency demonstrated to the satisfaction of the department to be 65 percent or greater.

(10) A permanent, conspicuous label shall be attached to the cleaner near the operator's position summarizing the operating requirements of the equipment.

(11) Waste solvent shall be stored in covered containers and shall not be disposed of or transferred to another party in a manner that allows waste solvent to evaporate into the atmosphere.

(12) If a solvent spray is used, the spray shall be a solid fluid stream with an operating pressure of 10 psig or less and shall not be an atomized or shower-type spray.

(13) The following activities and uses shall be exempt from the provisions of paragraphs (c)(1), (c)(2), and (c)(3):

(A) Janitorial and institutional cleaning;

(B) the cleaning of electronic components;

(C) cold solvent cleaning operations that meet the emission control requirements of K.A.R. 28-19-63, 28-19-71, 28-19-73, or 28-19-76;

(D) cold solvent cleaners using aqueous solvents;

(E) cold solvent cleaners using solvents regulated under any federal national emission standard for hazardous air pollutants according to K.A.R. 28-19-735 and K.A.R. 28-19-750;

(F) any cold solvent cleaner with a liquid surface area of one square foot or less or with a maximum capacity of one gallon or less;

(G) the cleaning of medical devices;

(H) airtight or airless cleaning systems, if all of the following requirements are met:

(i) The equipment shall be operated in accordance with the manufacturer's specifications and operated with a door or other pressure-sealing apparatus that is in place during all cleaning and drying cycles;

(ii) all waste solvents shall be stored in properly identified and sealed containers and, if applicable, shall be managed in compliance with article 31 of these regulations, the Kansas hazardous waste management standards and regulations. The associated pressure relief devices shall not allow liquid solvents to drain out;

(iii) spills that occur during solvent transfer shall be cleaned up immediately and, if applicable, shall be managed in compliance with article 31 of these regulations, the Kansas hazardous waste management standards and regulations. The used absorbent material shall be stored in closed containers; and

(iv) a differential pressure gauge shall be installed to indicate the sealed chamber pressure; and

(I) paint spray gun and nozzle cleaning if the cold solvent cleaner container or container system does not exceed 16 gallons in size and is kept tightly covered at all times except when access to the container is required.

(d) Except as specified in paragraph (d)(5) of this regulation, the suppliers of cold cleaning solvents for use in affected cold cleaners located in Johnson and Wyandotte counties shall meet the following requirements.

(1) Except as required in paragraph (d)(2), after August 31, 2002 and through April 30, 2003, each supplier of cold cleaning solvents shall sell or offer for sale only cold cleaning solvents with a vapor pressure less than 2.0 mm Hg at 68°F.

(2) After August 31, 2002 and through April 30, 2003, each supplier of cold cleaning solvents shall sell or offer for sale for the purpose of carburetor cleaning only cold cleaning solvents with a vapor pressure less than 7.0 mm Hg at 68°F.

(3) Except as required in paragraph (d)(4), beginning on May 1, 2003, each supplier of cold cleaning solvents shall sell or offer for sale only cold cleaning solvents with a vapor pressure less than 1.0 mm Hg at 68°F.

(4) Beginning on May 1, 2003, each supplier of cold cleaning solvents shall sell or offer for sale for the purpose of carburetor cleaning only cold cleaning solvents with a vapor pressure less than 5.0 mm Hg at 68°F.

(5) Sales of cold cleaning solvents in quantities of five gallons or less shall be exempt from the requirements of paragraphs (d)(1), (d)(2), (d)(3), and (d)(4).

(e) The owner or operator of an open-top vapor degreaser shall assure that all of the following requirements are met:

(1) The vapor degreaser shall be equipped with a cover that can be opened and closed easily without disturbing the vapor zone.

(2) The following safety switches and devices shall be provided:

(A) A condenser coolant flow and high level thermostat switch that shuts off the pump heat if the condenser coolant either is not circulating or is too warm;

(B) a spray safety switch that shuts off the spray pump if the vapor level drops more than four inches;

(C) a solvent level control;

(D) a sump thermostat; and

(E) a vapor level control thermostat that shuts off the pump heat when the vapor level rises above the recommended level.

(3) One of the following devices or systems shall be provided to control VOC emissions:

(A) A powered cover, if the freeboard ratio is greater than or equal to 0.75 and the degreaser opening is greater than 10.75 square feet;

(B) a refrigerated chiller;

(C) an enclosed design in which the cover or door opens only when the dry part is actually entering or exiting the degreaser;

(D) a carbon adsorption system, providing ventilation greater than or equal to 50 cubic feet per minute per square foot of degreaser opening during degreaser operation and exhausting less than 25 parts per million by volume of solvent when averaged over one complete adsorption cycle; or

(E) a vapor processing system, demonstrated to the satisfaction of the department to have an overall emissions control reduction efficiency of 65 percent or greater.

(4) The cover shall be kept closed at all times except when processing workloads through the degreaser.

(5) Solvent carryout shall be minimized by all of the following practices:

(A) Racking parts to allow complete drainage;

(B) moving parts in and out of the degreaser at less than 11 feet per minute;

(C) holding the parts in the vapor zone at least 30 seconds or until condensation ceases;

(D) draining any pools of solvent on the cleaned parts before removal from the vapor zone; and

(E) allowing parts to dry within the degreaser for at least 15 seconds or until visually dry.

(6) Porous or absorbent materials, including cloth, leather, wood, and rope, shall not be degreased.

(7) More than half of the degreaser's open-top area shall not be occupied with workload.

(8) The degreaser shall not be loaded to the point at which the solvent level would drop more than four inches when the workload is removed from the vapor zone.

(9) Spray shall always be below the vapor level.

(10) Solvent leaks shall be repaired immediately, or the degreaser shall be shut down until repairs are made.

(11) Waste solvent shall be stored in covered containers, and waste solvent shall not be disposed of or transferred to another party in a manner allowing the waste solvent to evaporate into the atmosphere.

(12) The cleaner shall not be operated so as to allow water to be visually detectable in solvent exiting the water separator.

(13) Ventilation fans shall not be used near the degreaser opening, nor shall exhaust ventilation exceed 65 cubic feet per minute per square foot of degreaser open area, unless necessary to meet OSHA regulations.

(14) A permanent, conspicuous label summarizing the operating procedures described in paragraphs (e)(4) through (e)(12) of this regulation shall be attached to the cleaner near the operator's position.

(f) Except as specified in paragraph (f)(12) of this regulation, the owner or operator of each conveyorized degreaser shall assure that all of the following requirements are met:

(1) Workplace fans shall not be used near the degreaser opening, nor shall exhaust ventilation exceed 65 cubic feet per minute per square foot of degreaser opening, unless the owner or operator documents that this ventilation is necessary to meet OSHA regulations.

(2) One of the following control devices or systems shall be installed:

(A) A refrigerated chiller;

(B) a carbon adsorption system, providing ventilation greater than or equal to 50 cubic feet per minute per square foot of air-vapor area during operation of degreaser and exhausting less than 25 parts per million of solvent by volume when averaged over a complete adsorption cycle; or

(C) a vapor processing system demonstrated to have an overall VOC emissions control reduction efficiency demonstrated to the satisfaction of the department to be 65 percent or greater.

(3) The cleaner shall be equipped with equipment, including a drying tunnel or a rotating or tumbling basket, that prevents cleaned parts from carrying out solvent liquid or vapor.

(4) The following safety switches and devices shall be provided:

(A) A condenser coolant flow and high-level thermostat switch that shuts off the pump heat if the condenser coolant either is not circulating or is above the recommended posted temperature;

(B) a spray safety switch that shuts off the spray pump or the conveyor if the vapor level drops more than four inches;

(C) a vapor level control thermostat that shuts off the pump heat when the vapor level rises above the recommended level;

(D) solvent level control; and

(E) sump thermostat.

(5) Openings during operation shall be minimized so that entrances and exits silhouette workloads with an average clearance between the parts and the edge of the degreaser opening of less than four inches or less than 10 percent of the width of the opening.

(6) Covers for closing off the entrance and exit during non-degreasing operations shall be installed and operated.

(7) Carryout emissions shall be minimized by the following:

(A) Racking parts for best drainage; and

(B) maintaining the conveyor speed at less than 11 feet per minute.

(8) Waste solvent shall be stored in covered containers, and waste solvent shall not be disposed of or transferred to another party in a manner allowing the waste solvent to evaporate into the atmosphere.

(9) Solvent leaks shall be repaired immediately, or the degreaser shall be shut down until these repairs are made.

(10) The cleaner shall not be operated so as to allow water to be visually detectable in solvent leaving the water separator.

(11) Covers shall be installed over entrances and exits of conveyorized degreasers, and the covers shall be closed when degreasing is not being conducted.

(12) The requirements of paragraph (f)(2) shall not apply to each affected degreaser that has less than 21.75 square feet of air vapor interface.

(g) Records of the following information shall be maintained. These records shall be kept on-site for a minimum of two years from the date of record:

(1) Each owner or operator of each solvent metal cleaning operation subject to this regulation shall keep the following records for affected degreasers:

(A) The amount and type of solvents used per month in affected degreasers; and

(B) all records pertaining to the maintenance of the affected degreasers and any associated emission control equipment.

(2) After August 31, 2002, each owner or operator of a facility subject to the requirements of paragraphs (c)(1) and (c)(2) of this regulation shall keep the following additional records for affected degreasers:

(A) The name and address of the solvent supplier;

(B) the date of each solvent purchase for affected degreasers; and

(C) the quantity and vapor pressure of each affected solvent purchased in units of mm Hg at 68°F.

(3) After August 31, 2002, each solvent supplier subject to the provisions of subsection (d) of this regulation shall keep the following records regarding the sale of each cold cleaning solvent subject to this regulation:

(A) The name and address of the solvent purchaser;

(B) the date of the solvent sale;

(C) the total volume of solvent sold; and

(D) the vapor pressure of each solvent sold in units of mm Hg at 68°F.

(4) Further recordkeeping may be required by the director, if necessary to adequately demonstrate compliance with this regulation.

(h) A stationary source subject to this regulation shall not be required to obtain a class III operating permit according to the terms of K.A.R. 28-19-500(d) if the only

emission limitations or standards applicable to the source are the requirements of this regulation.

(i) This regulation shall be effective on and after September 1, 2002.

(Authorized by K.S.A. 2001 Supp. 65-3005; implementing K.S.A. 65-3010; effective Sept. 1, 2002.)

***** Authenticated Kansas Administrative Regulation *****