Air Pollution Control

Reset Form

Self-Inspection Checklist

Optional Information

Name of School:
Date of Inspection:
Career-Technical program/course/room:
Signature of inspector:

Guidelines:

Federal air pollution control regulations are contained in Title 40 of the Code of Federal Regulations (40 CFR). These regulations are promulgated by the Environmental Protection Agency (EPA) and are based on the requirements of various parts of the Federal Clean Air Act. The goal of these regulations is to ensure that substances are not emitted into the air at concentrations that could cause air pollution. The major provisions of the air pollution regulations include procedures for obtaining air emission permits, regulation of maximum allowable emissions of certain gases and particulate matter, procedures for proper use of equipment that could cause the emission of pollutants into the air, and requirements for certain operations and chemicals known to be particularly capable of causing air pollution. Many EPA regulations apply only to major sources of substances and have requirements that are based on a source's potential to emit those substances. State air pollution control programs may incorporate many of these rules; however, other State-specific requirements, including the regulation and permitting of smaller sources, also apply. The user of this checklist should also be familiar with all applicable State and local rules and regulations.

Air Permits

Operating permits are required under the provisions of Title V of the Clean Air Act of the Clean Air Act Amendments of 1990. Regulations covering Title V permits are found at 40 CFR 70. Operating permits are required for sources that are major sources of Ambient Air Quality Standard pollutants, a major source of a hazardous air pollutant, covered by the acid precipitation provisions of the Clean Air Act, and sources regulated under certain programs of a State implementation plan.

How much of a pollutant must be emitted to be a major source depends on the pollutant and on the air quality in your State. In most cases, schools will not emit large enough amounts to be considered a major source. Consult with your State air pollution control agency or EPA regional office.

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National Institute for Occupational Safety and Health

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In addition to the operating permit program, each State has its own air permit program for smaller sources of air pollution. You should be familiar with requirements for your State as well.

Note: This checklist does not include any regulations dealing with the regulation of emissions from industrial boilers or from power generation.

Ambient Air Quality Standards

The EPA has maximum emission concentrations that must not be exceeded for suspended particulate matter, sulfur dioxide, carbon monoxide, ozone, lead, and nitrogen dioxide. These can be found in Title 40, Part 50 of the Code of Federal Regulations [40 CFR 50].

Hazardous Air Pollutants

Title III of the Clean Air Act Amendments of 1990 [U.S.C. 7401 et seq.] contains a list of 189 hazardous air pollutants (HAPS). These substances require state-of-the-art emission-reduction systems because of their high toxicity, or other hazards associated with their use. In most cases, EPA considers an operation to be a major source of HAPS if it has the potential to emit 10 tons per year of any substance on that list. However, much lower emission concentrations may be required by State agencies. Your State may require registration or other actions, no matter how little is used in the school. Referral should be made to your State air pollution code. Two substances commonly used in Career-Technical schools that are on this list of toxic substances are trichloroethylene and tetrachloroethylene. For any hazardous or toxic material, the best solution is to substitute a less toxic substance whenever possible.

Operational Requirements

Requirements for diesel- and gasoline-powered vehicles are contained in 40 CFR parts 85 and 86. Degreasing, spray booths, surface coating, graphic arts, and volatile organic compounds (VOC) dry cleaning requirements are contained in 40 CFR part 60. Requirements for processes using one or more of the HAPS, including dry cleaning and degreasing with halogenated solvents, are contained in 40 CFR part 83. Persons involved in these activities should review the regulations and contact their EPA regional office for clarification.

Enforcement and Penalties

Violations of air pollution control regulations may involve civil or criminal penalties. Penalties for violations of any of the regulations are contained in Title VII of the Clean Air Act Amendments of 1990. Legal liability may also result from violations of applicable State air pollution regulations.

Questions marked with this symbol may require the help of an outside expert.

Air Pollution Control Permits		
	1	Are air pollution permits on file for the equipment or operations permitted under State regulations?
	2	Is a procedure in place to ensure air pollution control permits and certificates are applied for and received before the installation and operation of new equipment?

Requirements for Gasoline–Powered Engines		
	3	Is the removal of any emission control device from a gasoline-powered engine prohibited except during repairs or replacement activities? [Section 203 (a) of the Clean Air Act]
	4	When catalytic converters are replaced on automobiles, are they only replaced by the same type of converter as the original (i.e. oxidation, three-way, or three-way plus oxidation), and are they the same type of converter specified by the vehicle catalog? [Section 203(a)(3)(B) of the Clean Air Act]

VOC Surface Cleaners		
	5	Are all tanks that contain a VOC equipped with a lid to prevent evaporation or escape of vapors when the tank is not in use? (e.g., autobody shops, metalworking shops, etc) *Note: Questions 5-12 are based on EPA Reasonably Available Control Technology (RACT) guidelines for solvent cleaners (Reference 1).*
	6	Do all unheated open-top surface cleaners with openings between 6 and 25 square feet (autobody shops) 1. have a high liquid mark to prevent overfilling? 2. have a wand that produces mist or droplets or delivers spray below 15 pounds per square inch (psi)? 3. have a freeboard ratio of 0.5 or greater?
	7	Do all unheated open-top surface cleaners with openings >25 square feet comply with question 6 a and b and have either (1) a freeboard ratio of 0.75 or greater, or (2) a freeboard ratio of 0.5 or greater and separation from windows, exhaust systems, and other sources of drafts?
	8	Do all heated open-top and surface cleaners have the following? 1. a thermostat that automatically maintains temperature below the boiling point of the liquid, 2. a cover that is kept closed except when processing parts, 3. no agitating system that can cause splashing, and 4. a freeboard ratio >0.75.
	9	In addition to meeting the above conditions, do all conveyorized surface cleaners have 1. a condenser with heat removal capacity greater than the input into the bath, 2. a freeboard chiller or a vapor control system, 3. covers protecting the conveyor inlet, 4. outlet ports for reduction of losses when the cleaner is not in use, and 5. hanging flaps when the unit is in use?
	10	Do written standard operating procedures govern the proper use, inspection, and maintenance of all surface cleaners?
	11	Have all persons using this equipment been trained in the standard operating procedures?
	12	Are copies of the standard operating procedures located at the cleaner?

Surface Coating and Graphic Arts		
	13	Are all surface-coating operations done with controls to prevent emissions of VOCs? (paint spray booths, graphic arts shops) [RACT Reference 2, RACT Reference 3]

Dry Cleaning Operations		
	14	Are petroleum-using dry cleaning operations with a manufacturer's total dryer capacity equal to or greater than 84 pounds equipped with a cartridge filter? [40 CFR 60.620(a)]
	15	Are all solvent filtration systems operated so that cartridge filters are allowed to drain for 8 hours before removal? [40 CFR 60.623(b)]
	16	Are all leaking washers, dryers, filters, etc. that could result in VOC emissions corrected immediately? [40 CFR 60.623(c)]
	17	Is information about leak inspection and repair procedures clearly posted? [40 CFR 60.623(c)]

Dry Cleaning Operations Using Perchloroethylene (CAS #127-18-4)		
	18	Are all dry cleaning machines connected to a properly operated and maintained air pollution control device? [40 CFR 63.322(a)]
	19	Are all transfer dry cleaning units operated in a room or enclosure that vents all solvent vapors to an air pollution control device? [40 CFR 63.322(a)(3)]
	20	Are policies in place to prevent the venting or release of perchloroethylene vapors at any time? [40 CFR 63.322(a)(1)]
	21	Is a complete check for leaks performed weekly? [40 CFR 63.322(k)]
	22	Are condenser controls devices operated at less than 45°F? [40 CFR 63.323(a)(1)]
	23	Are the exhaust emissions from carbon adsorbers checked weekly? [40 CFR 63.323(a)(2)(b)]

Toxic Substances		
	24	Do all cold-cleaning machines using toxic substances have a 1-inch layer of water on the solvent surface, or a freeboard ratio of 0.75 or more? [40 CFR 63.462 (c)(1)]
	25	Are all waste solvents stored in closed containers with pressure relief systems? [40 CFR 63.462 (c)(4)]
	26	Are all spills cleaned up immediately, and are the wipe rags stored in covered containers? [40 CFR 463 (c)(5)]
	27	Do all heated-vapor machines have a device to shut off the sump heater if the solvent levels drop to the heater coils? [40 CFR 63.463(a)(4)]
	28	Are all heated-vapor machines provided with a pollution control device designed to keep emissions below 0.045 lbs/hour? [40 CFR 63.463(b)(2)]
	29	Are standard operating procedures written for all open-top surface cleaners that contain toxic substances? [40 CFR 63.467(a)(1)]
	30	Do all persons using this equipment receive training in and adhere to the standard operating procedures? [40 CFR 63.468(f)(1)]

Definitions

Ambient air quality standard: a limit on the concentration of a contaminant in the general outdoor atmosphere. The standard cannot be exceeded without (1) causing or tending to cause injury to human health, welfare, animal or plant life, or property, or (2) unreasonably interfering with the enjoyment of life and property, excluding all aspects of employer-employee relationship as to health and safety hazards.

Freeboard ratio: a ratio of the freeboard height to the tank width or narrower dimension at the tank lip.

Surface cleaner: a device to remove unwanted foreign matter from the surfaces of materials by using VOC solvents in the liquid or vapor state.

Suspended particulate matter: any solid or liquid matter dispersed in the outdoor atmosphere.

References

U.S. EPA [1976]. Control technology guideline: control of volatile organic emissions from existing stationary sources. Volume I: Control methods for surface coating operations. U.S. Environmental Protection Agency, EPA-450/2-76-028, (Group I).

U.S. EPA [1977]. Control technology guideline: control of volatile organic emissions from solvent metal cleaning. U.S. Environmental Protection Agency, EPA-450/2-77-022, (Group I).

U.S. EPA [1978]. Control technology guideline: control of volatile organic emissions from existing stationary sources. Volume VIII: Graphic arts–rotogravure and flexography. U. S. Environmental Protection agency, EPA-450/2-78-033, (Group II).