Section 2: Air Pollution

This Section will help you:

- Register your facility;
- Control dust from sanding and painting activities;
- Reduce fumes from paints and solvents;
- Identify efficient painting techniques;
- Properly clean spray guns and equipment;
- Repair and replace vehicle air conditioning systems;
- Meet requirements on record keeping and employee training; and
- Meet requirements to prevent or reduce air pollution.

2.1 Introduction to Air Pollution

When you think of air pollution, the first thing that generally comes to mind is smoke billowing from factory smokestacks. However, air pollution can be generated in many ways.

Air pollution from auto body shop operations mainly comes from three activities: surface preparation, surface coating, and cleanup. These activities generate four major types of air pollutants that might impact human health and the environment:

1. Volatile organic compounds (VOCs);
2. Hazardous air pollutants (HAPs);
3. Dust (particulates) from welding, sanding and painting; and
4. CFCs/HFCs from motor vehicle air conditioning refrigerants.

Volatile Organic Compounds

Most paints, surface preparation solutions, and solvents used for mixing paint and cleaning equipment contain VOCs and HAPs. VOCs are non-water liquids that evaporate. When VOCs evaporate into the air and combine with sunlight, they produce ground-level ozone (otherwise known as "smog"). Ground-level ozone can worsen asthma, damage lung tissue, and contribute to serious respiratory illness. Ozone can also damage agricultural crops.

Hazardous Air Pollutants

Air pollutants that have been determined to be quite harmful to humans have been designated by Congress as Hazardous Air Pollutants (HAPs). Some HAPs can cause immediate irritation and harm when touched, eaten, or inhaled. Others can cause long term damage, such as cancer, lung disease, skin conditions, neurological disease, and birth defects. Some chemicals that are HAPs are also regulated by OSHA and state agencies under occupational health and safety rules. The majority of HAPs are VOCs. Hazardous Air Pollutants that are not Volatile Organic Compounds are particulates.

Dust from Welding, Sanding and Painting

Dust, or particulates, come from welding, sanding and painting over-spray. Welding and sanding dust can contain toxic metals, such as lead, arsenic, cad-

mium and chromium, and are considered dangerous to workers and people in your community. These toxic metals are examples of particulates that are considered Hazardous Air Pollutants. Potential adverse health effects from dust might be aggravating diseases like asthma and bronchitis. Exposure can come from breathing the dust, getting the dust in food, or bringing the dust home on clothes, so others might be exposed.

CFCs/HFCs from Motor Vehicle Air Conditioning Refrigerants

Air conditioning refrigerants, such as R-12 (CFC-12, Freon®), and R-134a (HFC-134a), that are found in vehicle air conditioners contain regulated chemicals. The chemicals are chlorofluorocarbons (CFCs) and hydroflurocarbons (HFCs), and are directly regulated by the US Environmental Protection Agency. When CFCs or HFCs evaporate or vent from a shop, they rise into the upper atmosphere and destroy the ozone layer. The ozone layer protects the earth from ultraviolet (UV) radiation. The potential increase in the amount of UV radiation increases the risk of skin cancer and other damage to humans, plants and animals.

To minimize the environmental and health impacts of your business to your workers and community, your shop should take steps to keep these air pollutants (VOCs, HAPs, dust and CFCs/HFCs) under control.

When you are finished reading this section, you should be able to answer the following questions on the Self-Certification Checklist:

Based on the way your shop operates, would it be possible for your shop to do more than 50 auto body jobs per week? The answer to this question will tell you if your shop may be subject to additional regulatory requirements. **2.3** Do you take reasonable precautions to prevent any airborne sanding or painting dust (i.e., fugitive dust) from leaving the building? **2.6** Does your shop use a ventilated sander? **2.7** Does your shop only use coatings that comply with state and federal VOC content limitations and that are designed for automotive painting purposes? **2.8** Does your shop use methylene chloride-based paint strippers? **2.9** Are all refinishing operations carried out in an approved work area (spray booth and prep station)? **2.10** Do your painters and technicians use only painting techniques allowed by Virginia's regulation? **2.11** Does your shop clean the spray guns using only the methods allowed by Virginia's regulation?	Self-Certification Package Checklist Section 2 Air Pollution

Self-Certification Package Checklist Section 2 Air Pollution	**2.13** Does your shop store cloth and paper, or other absorbent applicators, moistened with coatings, solvents, or cleaning solvents in closed, nonabsorbent, nonleaking containers? **2.18** Does your shop use detergents, high-pressure water, or other non-VOC cleaning options to clean coating lines and containers when practical? **2.21-2.22** Does your shop maintain all required records? **2.24** Does your shop employ a manufacturer approved training program in the proper use and handling of coatings, solvents, and waste products to minimize air emissions? Do you always follow manufacturers' instructions for mixing coatings, to avoid over-diluting paints with solvents? **2.26** Have all your employees who handle refrigerants (like CFCs/HFCs) from air conditioners been trained and certified by an EPA-accredited program? **2.23** Is the equipment being used also approved/certified by EPA?

2.2 Determining Whether Your Shop Is a Major or Minor Source of Air Emissions

Within the Northern Virginia area there is the Northern Virginia Volatile Organic Compound Emissions Control Area. All auto body and collision repair shops that are within this emissions control area (see below) are required to register as explained in Section 2.3.

Northern Virginia Volatile Organic Compound Emissions Control Area:

- Alexandria City
- Arlington County
- Fairfax City
- Fairfax County
- Falls Church City
- Loudoun County
- Manassas City
- Prince William County
- Manassas Park City
- Stafford County

In addition to the registration, a permit may be needed if your shop is classified as a "major" source. The permit requirements that you would have to meet would be based upon the amount of VOCs and HAPs that your shop generates.

If your shop is classified as a "minor" source of VOCs and HAPs, an Auto Body/ Collision Repair Air Registration is all that is required (front of workbook).

How to tell if your shop is a major or minor source:

- If your shop is unable to do more than 50 auto body jobs per week, your shop is considered to be a minor source.
- If you are able to do more than 50 jobs per week (even if you don't actually do this many jobs), your shop may be a major source.
- To determine whether your shop is a major source, read Appendix 1. If you are still unsure call the DEQ Northern Regional Office Air Permit Manager, Terry Darton, at (703) 583-3845.

2.3 Registering Your Shop in Virginia

Those auto body shops that have not previously registered should complete and submit the registration form found in the front of this workbook, within 30 days of receiving this workbook, regardless of any plans to participate in the self-certification program. Submit the completed registration form to:

VA DEQ Northern Regional Office
Attn: Regional Air Permit Manager
13901 Crown Court
Woodbridge, VA 22193

2.4 Controlling Dust and Odor from Sanding and Painting

If your shop uses hand sanding or mechanical sanders to remove paint and body filler from cars, chances are good that dust (particulates) generated from sanding can travel outside your shop. Refinishing operations as well as welding can also create dust and odors that can be harmful or offensive to your customers, workers and neighbors.

Requirements for Controlling Dust from Sanding and Painting Operations

You must take reasonable precautions to prevent sanding dust from leaving your shop.

- **Do** utilize adequate containment methods, such as a ventilated sander, dust collection system, or sanding enclosures, etc.
- **Don't** create nuisance outside your shop with an odor from your auto body and painting operations.
- **Don't** allow any fugitive dust to leave the shop.

In addition to the requirements above, try to implement the following best management practices (BMPs). They are good ideas to help reduce and control fugitive dust from sanding and painting activities.

Good Ideas for Controlling Dust

Points covered on the self-certification checklist are shown in bold.

- Use a dust collection system for controlling dust from mechanical sanders.
  - **Use a ventilated sander (dustless vacuum) system**. Vacuum units are the best dust-controlling devices — they can control up to 90%

of dust generated from sanding operations.

- Use room ventilation and filtration equipment, in addition to dust collection systems, to keep dust from escaping the shop.
- Keep sanding operations separate from the rest of your shop. Close shop doors and windows (if your shop has proper ventilation systems), to keep dust from blowing out of your shop.
- Ensure that your workers wear overalls, gloves, goggles, and respirators to reduce the amount of dust exposure.
- Repair minor dents or dings by the paint-less dent removal (PDR) technique. PDR is a purely mechanical process that uses special tools to restore sheet metal back to its original form by removing small dents, creases, and surface imperfections without the need for repainting.
- Inspect sanding equipment often. Make sure all collection systems, such as vacuum sanding units, are operating properly with no leaks or blockages in the system.

2.5 Reducing Fumes, VOCs, and HAPs from Paints and Solvents

Surface preparation for auto body work involves the use of solvents for wiping the auto body surface and for removing old paint prior to applying coatings. The solvents often contain HAPs and VOCs. Paints and thinners also contain HAPs and VOCs that evaporate into the air. Because solvents, paint strippers, paints, and thinners can cause dangerous air pollution, state and federal regulations require that you take steps to minimize risks to your workers and the community.

Requirements for Reducing Fumes from Paints and Solvents

You must take measures to minimize fumes generated from use of paints and solvents.

- Store fresh and used coatings, thinners, and solvents in non-absorbent, non-leaking containers with closed lids and labeled.
- Keep containers for fresh and used coatings, thinners, and solvents closed (lids on and labeled) at all times except when filling or emptying.
- Store cloth and paper, or other absorbent applicators, moistened with coatings, solvents, or cleaning solvents in closed, non-absorbent, non-leaking containers.
- Mix paints ONLY according to manufacturers' instructions. Avoid over-diluting.
- If you use cold solvent cleaners, only purchase solvents with a vapor pressure of 1 mmHg at 68°F. Check with your solvent supplier to find out the vapor pressure of the solvents you buy. You can also find vapor pressure information on the products' Material Safety Data Sheets (MSDS), but be sure that the vapor pressure given is for 68°F.
- Only purchase coatings that comply with VOC content limits found in the table found on following page. This table can also be found in Virginia's Regulation 9VAC 5-40-6990.A.

9 VAC 5-40-6990. Standard for volatile organic compounds.
Table 4-48 A.

Allowable Content of VOCs in Paints and Coatings (as applied)

Weight of VOC per Volume of Coating (minus water and non-VOC solvents)

Coating Type	Limits	
	Pounds per gallon	Grams per liter
Automotive pretreatment primer ..... See Formula #1	6.5	780
Automotive primer-surfacer ..... See Formula #1	4.8	575
Automotive primer-sealer ..... See Formula #1	4.6	550
Automotive topcoat:		
single stage-topcoat (See Formula #1)	5.0	600
2 stage basecoat/clearcoat (See Formula #2)	5.0	600
3 or 4-stage basecoat/clearcoat (See Formula #2) ...	5.2	625
Automotive Multi-colored Topcoat ..... See Formula #2	5.7	680
Automotive specialty	7.0	840

To document that your paints and coatings meet the regulatory VOC thresholds found above, you may have to calculate the VOC content of the paints and coatings you use. Page 2-7 provides the formula and instructions to calculate VOCs for individual coatings (as found in the regulation). Page 2-8 provides the formula and instructions to calculate VOCs for a multi-stage topcoat (as found in the regulation).

The Paint and Coating Center online calculator at may be used. Be sure to use VOC Calculator #1 or Calculator #2 (www.paintcenter.org/newvoccalc.cfm).

The simplest way is to have your paint manufacturer/supplier provide a listing of the products that you purchase by the product number and the VOC content of that product.

Formula # 1 to calculate VOCs for individual coatings:

$$VOC = \frac{(Wv - Ww - Wec)}{(V - Vw - Vec)}$$

where:

VOC	=	VOC content in grams per liter (g/l) of coating less water and non-VOC solvents;
Wv	=	Weight of total volatiles, in grams;
Ww	=	Weight of water, in grams;
Wec	=	Weight of exempt compounds, in grams;
V	=	Volume of coating, in liters;
Vw	=	Volume of water, in liters; and
Vec	=	Volume of exempt compounds, in liters.

To convert from grams per liter (g/l) to pounds per gallon (lb/gal), multiply the result (VOC content) by 0.008345 or by 8.345×10^{-3} if you have a scientific calculator.

Instructions for Formula # 1

1. Check the list of constituents of the coating.
   In most cases, this should be available on the container label, or in an accompanying Material Safety Data Sheet (MSDS) sheet. If not, contact the manufacturer. The list should show the amount of each constituent.

2. Find the amount (in grams) of "volatiles" in the coating, from the label or MSDS sheet.
   If the volatiles content is only given as a percentage, multiply the mass (weight) of the total coating by the percentage that is volatile. (One pound equals 453.6 grams.)

3. From the given total volatiles amount subtract the amount of volatiles considered to be exempt compounds.
   Exempt compounds are listed in the table on page 2-9. If none of the compounds listed in the table are named on the label or MSDS sheet, assume they are not in the compound. The manufacturer may simply state the total amount of "exempt" compounds. It is possible that you will not be subtracting any exempt compounds.

4. Subtract the amount of water shown as being in the coating. Water is a volatile, but not a VOC.

5. Label the amount (in grams) of volatiles remaining after Steps 3 and 4 the "mass of VOC."

6. Find the total volume (in liters) of the coating, from the label or by other means. (One gallon equals 3.79 liters.)

7. From the volume of the coating subtract the volume of exempt compounds.

8. Subtract the volume that is water.

9. Label the volume (in liters) of coating after Steps 7 and 8 the "applicable volume of coating."

10. Divide the "mass of VOC" from Step 5 by the "applicable volume of coating" from Step 9 to determine the VOC content for compliance and record keeping purposes.

Formula # 2 to calculate VOCs for a multi-stage topcoat:

$$VOCmulti = \frac{VOCbc + \sum_{I=0}^{M} VOCmci + 2(VOCcc)}{M+3}$$

where:

VOCmulti	=	VOC content of multistage topcoat, g/l
VOCbc	=	VOC content of basecoat, g/l
VOCmci	=	VOC content of midcoat(s), g/l
VOCcc	=	VOC content of clearcoat, g/l
M	=	number of midcoats

To convert from grams per liter (g/l) to pounds per gallon (lb/gal), multiply the result (VOC content) by 8.345 x 10-3.

Instructions for Formula #2:

To calculate the VOC content of a multi-stage topcoat for recordkeeping and for compliance with the limit on grams per liter of VOC for a "2-stage" or "3 or 4-stage basecoat/clearcoat" shown in table on the previous page, do the following:

1. Add together the VOC contents in grams per liter (g/l) of each midcoat, and label that total "Midcoat VOC."
   Note how many different midcoats are used. Skip this step if it is a "2-stage" topcoat, because there are no midcoats.

2. Add 3 to the number of midcoats, and label the total "Number of Coats," even if you actually apply a different total number of coats for the job.

3. Multiply the VOC content in grams per liter (g/l) of the clear coat by 2, and label the result "Clear Coat VOC."

4. Add together the Midcoat VOC plus the Clear Coat VOC plus the VOC content in grams per liter (g/l) of the Base Coat. Label the total of these three numbers "Total VOC."

5. Divide the "Total VOC" by the "Number of Coats" to get the VOC content of the multi-stage topcoat finish.

Note: You do not consider the amount of each coating used in this calculation, only the amount of VOC per liter of coating used.

Exempt Compounds for VOC Calculations (from VA Regulation 9 VAC 5-10-20)	
Methane	Difluoromethane (HFC-32)
Ethane	Ethylfluoride (HFC-161)
Methylene chloride (dichloromethane)	1,1,1,3,3,3-hexafluoropropane (HFC-236fa)
1,1,1-trichloroethane (methyl chloroform)	1,1,2,2,3-pentafluoropropane (HFC-245ca)
1,1,2-trichloro-1,2,2-trifluoroethane (CFC-113)	1,1,2,3,3-pentafluoropropane (HFC-245ea)
Trichlorofluoromethane (CFC-11)	1,1,1,2,3-pentafluoropropane (HFC-245eb)
Dichlorodifluoromethane (CFC-12)	1,1,1,3,3-pentafluoropropane (HFC-245fa)
Chlorodifluoromethane (H CFC-22)	1,1,1,2,3,3-hexafluoropropane (HFC-236ea)
Trifluoromethane (H FC-23)	1,1,1,3,3-pentafluorobutane (HFC-365mfc)
1,2-dichloro 1,1,2,2,-tetrafluoroethane (CFC-114)	Chlorofluoromethane (HCFC-31)
Chloropentafluoroethane (CFC-115)	1 chloro-1-fluoroethane (HCFC-151a)
1,1,1-trifluoro 2,2-dichloroethane (HCFC-123)	1,2-dichloro-1,1,2-trifluoroethane (HCFC-123a)
1,1,1,2-tetrafluoroethane (HFC-134a)	1,1,1,2,2,3,3,4,4-nonafluoro-4-methoxy-butane (C4F9OCH3 or HFE-7100)
1,1-dichloro 1-fluoroethane (HCFC-141b)	2-(difluoromethoxymethyl)-1,1,1,2,3,3,3-hepta-fluoropropane ($(CF_3)_2CFCF_2$ OCH_3)
1-chloro 1,1-difluoroethane (HCFC-142b)	1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane (C_4F_9 OC_2H_5 or HFE-7200)
2-chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	2-(ethoxydifluoromethyl)-1,1,1,2,3,3,3-hepta-fluoropropane ($(CF_3)_2CFCF_2OC_2H_5$)
Pentafluoroethane (HFC-125)	Methyl acetate
1,1,2,2-tetrafluoroethane (HFC-134)	1,1,1,2,2,3,3-heptafluoro-3-methoxy-propane (n-$C_3F_7OCH_3$) (HFE-7000)
1,1,1-trifluoroethane (HFC-143a)	3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl) hexane (HFE-7500)
1,1-difluoroethane (HFC-152a)	1,1,1,2,3,3,3-heptafluoropropane (HFC 227ea)
Parachlorobenzotrifluoride (PCBTF)	methyl formate ($HCOOCH_3$);
Cyclic, branched, or linear completely methylated siloxanes	Perfluorocarbon compounds which fall into these classes: 1. Cyclic, branched, or linear, completely fluorinated alkanes; 2. Cyclic, branched, or linear, completely fluorinated ethers with no unsaturations; 3. Cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations; and 4. Sulfur containing perfluorocarbons with no unsaturations and with sulfur bonds only to carbon and fluorine.
Acetone	
Perchloroethylene (tetrachloroethylene)	
3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	
1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	
1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC 43-10mee)	

Good Ideas for Reducing Fumes from Paints and Solvents

Points covered on the self-certification checklist are shown in bold.

- Use the lowest VOC coatings available.
- Use coatings that contain no heavy metals, or have the lowest metal contents available.
- Use water-based primers. Keep informed about developments in water-based top coats.
- Carry out all refinishing operations in a spray booth and prep area, to contain paint emissions and over-spray.
- Perform all solvent cleaning, paint stripping, and paint mixing in a ventilated spray booth, or prep station, to minimize release of dangerous fumes.
- Ensure that ventilation of spray booths and prep stations is exhausted vertically at least six feet above the highest point of the shop's roof.
- Use detergent, or citrus based cleaners instead of solvents to prepare surfaces.
- When spraying, use appropriate personal protective equipment such as an air mask (spraying, eye protection, gloves, etc.).
- **Don't use methylene chloride-based paint strippers.** Methylene chloride is considered a toxic air contaminant. Paint-stripper waste containing this chemical must be handled as hazardous waste.

2.6 Efficient Painting Techniques

Efficient painting techniques can help you reduce air emissions, save money, and improve worker health and safety.

Requirements for Painting

You must use painting techniques that are approved by DEQ to minimize the amount of painting products evaporating into the air.

Use only the following coating application techniques:

- Any non-atomized application technique (e.g., flow/curtain coating, dip coating, roller coating, brush coating, cotton-tipped swab application coating, electrodeposition coating, etc.)
- High Volume Low Pressure (HVLP) spraying
- Electrostatic spray
- Airless spray
- Other coating application methods that achieve emission reductions equivalent to or greater than those achieved by HVLP or electrostatic spray application methods. DEQ must approve.

Use application techniques exempt from regulatory requirements:

- Airbrush application methods for graphics, stenciling, identification markings
- An application of coatings sold in nonrefillable aerosol containers
- Application of automotive touch-up repair finishes materials

Don't use other painting techniques or systems not listed above.

In addition to the requirements, the following best management practices (BMPs) are good ideas for more efficient application of paints.

Good Ideas for Efficient Painting

Points covered on the self-certification checklist are shown in bold.

- **Paint everything in a spray booth using proper air pressures**.
- Provide training to operators of the HVLP equipment on the proper use and pressure settings of the equipment to minimize over-spray.
- Follow the manufacturer's instructions for using any refinishing equipment and coatings to avoid paint waste.
- Frequently inspect the spray booth filters to ensure that the system does not become clogged and ineffective.
- Follow the directions on product labels when mixing paints and solvents to minimize the amount of waste generated.
- Mix only the amount required for the particular painting/coating job. Use digital scales.
- Look into innovative painting methods and equipment such as the laser-based spray painting technology. It increases the efficiency of applying the paint through uniform thickness application. This will save you money by reducing your paint costs potentially by more than 25%. Contact DEQ's SBAP (804-698-4394) for more information.

2.7 Cleaning Spray Guns and Equipment

Be sure to properly clean all spray guns and the spray booth after each coating application. This ensures proper operation and removes leftover coating products from the coating cup, lines, and nozzle. If you use products for cleaning spray guns and spray booths that contain hydrocarbon-based solvents, the cleaning waste must be managed as hazardous waste (see Section 3).

Requirements for Cleaning Spray Guns and Equipment

You must clean spray guns properly using the approved methods specified under the Virginia Air regulation.

Use only the following methods to clean spray guns:

- An enclosed spray gun cleaning system that is kept closed when not in use. Enclosed spray gun cleaning machines use less solvent than traditional methods and reduce spent solvent disposal costs.
- An unatomized discharge of solvent into a paint waste container that is kept closed when not in use.
- Disassemble the spray gun, and clean in a vat that is kept closed when not in use.
- Atomized spray into a paint waste container that is fitted with a device designed to capture atomized solvent emissions.

Your coatings and spray gun vendors may be able to provide advice and suggestions.

In addition to the requirements, the following best management practices (BMPs) are good ideas for cleaning spray guns and equipment.

Good Ideas for Cleaning Spray Guns and Equipment

Points covered on the self-certification checklist are shown in bold.

- **Use detergents, high-pressure water, or other non-VOC cleaning options to clean coating lines and containers when practical**.
- Use a spray gun cleaning system that re-circulates the cleaning solvent and collects the solvent for proper disposal. Only replace and dispose of the recycled cleaning solvent when the solvent cannot clean guns satisfactorily. You can determine when you need to replace the solvent by examining if there are stains on the spray guns after cleaning, or if the recycled solvent is not clear.
- Reuse excess coating.
- Use disposable coverings (i.e. sprayable booth coatings, plastic film, masking paper) over the interior of paint booth surface in place of solvent-based cleaners for removing paint over-spray and residue. (must be disposed of properly).
- If use of disposable masking paper is not practical, clean the interior of paint booth surface by scraping along with water-based or low-VOC cleaners.
- Use a shop rag recycler.
- **Don't** use paper towels for cleaning up paints, solvents or thinners. The paper towels may be considered hazardous waste.
- **Don't** use solvents to clean hands. Solvents can penetrate through worker's skin, enter the blood stream, and ultimately cause health problems.

2.8 Repairing, Servicing and Replacing Vehicle Air Conditioning Systems

Because of the ozone-depleting nature of air conditioner refrigerants, federal law requires shops that repair, service, or replace air conditioning systems to capture and recycle all refrigerants.

Requirements for Servicing, Repairing and Replacing AC Systems

You must be certified to recover and recycle refrigerants, and prevent the release of CFCs/HFCs and similar compounds into the atmosphere when you repair, service, or replace a vehicle air conditioning system.

- Make sure your employees who handle refrigerants have been trained and certified by an EPA-accredited program. A list of approved certification organizations can be obtained by calling EPA Stratospheric Ozone Hotline at 1-800-296-1996.
- Allow only EPA-certified technicians to remove refrigerants.
- Use only your EPA-certified technician to purchase refrigerants, unless your shop is an EPA authorized reclaiming facility.

- Recycle refrigerant for reuse on-site, or send recovered refrigerant to an EPA-approved reclaimer.
- Use only EPA-approved/certified recycling/recovery equipment, and label the equipment properly. A list of the EPA-approved/certified equipment can be obtained by calling the Ozone Hotline.
- Keep a copy of the EPA certification of your equipment and your EPA certification to operate recovery and recycling devices.
- Maintain records of off-site reclamation, including volume and final destination.

- Keep all records of refrigerant purchase, sales, on-site recycling, and reclamation for three years.
- **Don't** evaporate or vent refrigerants to the atmosphere.

2.9 Recordkeeping and Training

Many coatings, surface-preparation products and other solvents used in your shop are toxic chemicals. The Virginia air regulation requires your employees have completed training approved by the manufacturer of the products. This training must cover the proper use and handling of the coatings, solvents and waste products to minimize the emission of air contaminants. Additionally, your shop needs to keep good purchase and usage records of these products. The records are required and will help you determine your shop's compliance.

Requirements for Recordkeeping and Training

Training Requirements

- Ensure that your workers receive training on what they can do to reduce air emissions.
- Maintain training records. Use the manufacturer-approved training program in the proper use and handling of coatings, solvents, and waste products.

Recordkeeping Requirements

Maintain the following records at the shop for a period of at least 5 years:

- The name, identification number and manufacturer of each coating, reducer, catalyst, surface preparation product, and cleanup solvent used at the shop.
- The volume of each coating, reducer, surface preparation product, and cleanup solvent used at the shop each month.
- Certified Product Data Sheets showing the VOC content, in pounds of VOC per gallon of material of each coating and surface preparation product used at the shop.

These records can be used to demonstrate to DEQ/EPA officials that your shop is using compliant coatings in amounts that comply with regulatory thresholds.

Good Ideas for Recordkeeping

- Use your paint supplier to help you with your recordkeeping.