

Environmental/Occupational Health Compliance Certification Program

Certification Workbook For Auto Body Repair Facilities

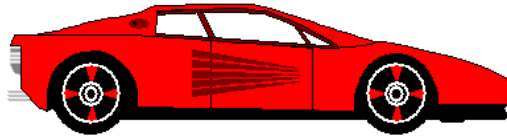


August 2017



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Auto Body Repair Certification Workbook August 2017

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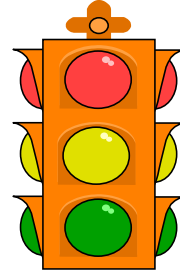
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Section 1.0 – Overview



In order to improve environmental protection at less cost to government and business, auto body repair facilities can self-certify to the Department of Environmental Management (DEM) that they are complying with the environmental and occupational health protection requirements that apply to their business. This common sense approach to regulation holds great promise for making it easier for the auto body repair industry to meet – and surpass – Rhode Island's environmental and occupational health regulations. This workbook provides the information needed to help you understand and comply with state and federal environmental and occupational health and safety regulations. It was developed in conjunction with a group of industry representatives and contains the materials needed to complete and submit the accompanying self-certification checklist. The package has two parts:

1. **Environmental and Occupational Health Compliance Certification Workbook for Auto Body Repair Facilities:** This workbook explains the environmental protection standards that apply to your facility and how to make sure you are complying with them. The workbook is designed to be used in conjunction with the accompanying self-certification checklist (Part II) and can also be used as a reference for your facility. The workbook also provides information regarding best management practices and pollution prevention techniques that can help your facility minimize human health risks and environmental impacts while saving money.
2. **Self-Certification Checklist and Accompanying Forms Booklet:** This checklist requires facility information (facility name, address, owner, etc.), and contains a series of compliance questions, which generally require "yes" or "no" answers about whether or not your facility is following the applicable environmental and occupational health and safety requirements. The checklist ends with a certification statement, which must be completed and signed by the facility owner. Three additional forms, which are only to be filled out if determined necessary, are provided as follows:

- **2017 Non-Applicability Statement:** This statement is to be submitted only if you are not required to self-certify. See Section 1.1 of the workbook to determine if you are eligible to file a Non-Applicability Statement. If you do not have to self-certify, then complete this form and submit it to DEM.
- **Return-to-Compliance Plan:** Complete the Return-to-Compliance Plan if your facility is not in compliance with a particular checklist item at the time of certification. The facility must detail its plans to address the particular items to bring them back into conformance with environmental, health and safety regulations within a specified period of time.
- **Return-to-Compliance Final Report:** If your facility submits **Return-to-Compliance Plan** forms with your completed **Compliance Certification Checklist**, you must also submit a **Return-to-Compliance Final Report** for each RTC that is submitted. This form is not submitted with your Compliance Certification Checklist, but is completed and submitted to RIDEM, for each RTC, when the compliance issue has been corrected, and it states what corrective action that you have taken.

The following presentation, and additional auto body information regarding this certification program is available at:

<http://www.dem.ri.gov/programs/customertech/auto-body/>.

- **"Pollution Prevention in the Auto Body Shop" PowerPoint Presentation:** This presentation, produced by DEM's Office of Customer & Technical Assistance, is intended to be used as a training tool for instructors and auto body shops to complement the "Health and Safety" and "Pollution Prevention" sections of this workbook. It can be obtained through the above internet address, or by calling OCTA at (401) 222-4700.

1.1 Who is Subject to Self-Certification?

Participation in the program is **voluntary**. However, any facility with operations involving collision repair; vehicle painting, paint stripping or sanding; body work; antique restoration; and student training, in any of the aforementioned areas should consider participating in the Self-Certification

Program to take advantage of the incentives detailed in Section 1.2. If a painting operation is included as part of a new or used car dealership or general auto repair shop, it is also considered a refinishing operation in the Self-Certification Program. All facilities that are licensed by the Department of Business Regulation as an auto body or collision repair facility are eligible to participate in the Self-Certification Program. (Note: All facilities involved in auto body or collision repair **must** be licensed by the Department of Business Regulation.)

All auto body or collision repair facilities operating in the State of Rhode Island **must** comply with the standards in this workbook, whether they participate in the program or not. Complete and return the certification checklist as instructed, if you intend to participate in the program.

If your facility does not meet the description of an auto body or collision repair facility (see description above), or if this package has been sent to you in error, please complete, sign and return to DEM the **2017 Non-Applicability Statement** located in the Checklist and Forms Booklet. If you have any questions regarding the status of your shop, please call us at 222-4700.

1.2 What Does Participation in the Self-Certification Program Entitle Your Shop To?

DEM: Compliance with environmental regulations is a requirement of all automotive refinishing facilities. Participation in the Self-Certification Program is voluntary, but entitles your shop to the following incentives:

- reduced inspection priority,
- the ability to correct violations without gravity-based penalties,
- making you better prepared for a random inspection,
- free technical assistance from DEM's Office of Customer and Technical Assistance,
- being placed on a public list of certified auto body repair facilities
- receiving a Certificate of Participation from DEM

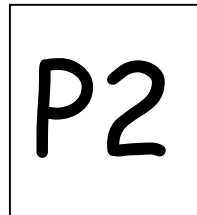
OSHA: Compliance with occupational health and safety laws is a requirement of all automotive refinishing facilities. Participation in the Self-Certification Program is voluntary, but entitles your shop to the following incentives:

- a comprehensive evaluation of your shop's compliance status,
- free technical assistance from RI Dept. of Health's OSHA Consultative Services.

Note: Participation in the Self-Certification Program does not guarantee that your shop will not be subject to a random inspection, or an inspection prompted by an employee or neighbor complaint. Both state and federal environmental and occupational health and safety agencies have the authority to perform such inspections. These inspections can result in enforcement actions against your facility. Participation in this program will identify deficiencies and prepare your facility in the event of an inspection. Keep copies of your checklists to assist you in demonstrating compliance with applicable state and federal regulations.

1.3 Pollution Prevention - The First Step to Compliance

The first step on the road to environmental compliance is to look for opportunities to use fewer hazardous materials and to generate less waste, thus stopping pollution at its source. Why manage wastes when you can eliminate them? Pollution prevention techniques can help you to reduce your compliance burdens, make your workplace cleaner and safer, increase your competitiveness and save you money. This section outlines some simple steps you can take to prevent pollution.



After reviewing these steps to reduce your use of toxic materials and generation of wastes as much as possible, move along in the workbook to find out how to properly manage your remaining wastes, air emissions, and wastewater discharges. If you need help with implementing pollution prevention techniques/technologies, feel free to contact DEM's Office of Customer and Technical Assistance (OCTA) at 222-4700.

All Auto body Shops Should:

- Make one person solely responsible for chemical purchases and inventory control. Consider environmental and safety requirements in purchase decisions.
- Eliminate the use of Methylene Chloride-based paint strippers.
- Consider purchasing a solvent recycler to allow your shop to reuse thinners and gun cleaners.
- Use an enclosed spray gun cleaner or comparable gun cleaning method to minimize air emissions when cleaning spray guns as required by State regulation.
- Use low volatile organic compound (VOC) coatings and cleaners as required by state and federal regulations.
- Examine your use of materials by operation. Are there new technologies that can replace your existing process and reduce toxics or waste? You may also be able to save money or provide a new customer service.
- Conduct an annual inventory to reduce the number of chemical products used in the shop.
- Track chemical use and wastes to identify opportunities to reduce waste and use less toxic alternatives.
- Implement best management practices for the storage and handling of stock and materials. Spoiled and obsolete materials should be removed. Use first-in, first-out management practices.
- Clean containers as much as practical. Recycle the used containers or return them to the supplier or a drum re-conditioner.
- Give employees simple incentives to keep their work areas clean and minimize chemical use. Promote good housekeeping.



1.4 Key Environmental Concepts

The standards contained in this workbook are designed to protect the environment from the following types of pollution:



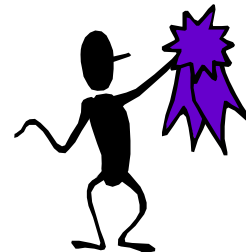
Hazardous Waste: Hazardous waste is material you intend to discard that is hazardous to public health and the environment when not handled properly. Examples of hazardous wastes commonly found in auto body shops include: solvent-based waste paints, used solvent thinners and gun cleaners, spent chemical paint strippers, and stripped paint waste. Materials which are *potentially* hazardous wastes in your shop include waste automotive fluids, oils, etc., and paint booth filters. Hazardous wastes have special storage, handling, labeling, emergency planning, and training requirements, which are detailed in Section 4 of the workbook.

Air Emissions: Air emissions occur when air contaminants are discharged to the surrounding environment. An air contaminant is any substance that has been released to air including sanding dusts, paint solvents, mists, odors, smoke, or combinations of these. One particular type of air contaminant common to auto body shops are volatile organic compounds (VOCs) that are generated when solvents, such as thinners and paints, evaporate into the air. VOCs play a major role in the formation of ground-level ozone (otherwise known as "smog"). Auto body shop responsibilities regarding air emissions are explained in Section 5.

Industrial Wastewater Discharge: Industrial wastewater is any wastewater resulting from an industrial or manufacturing process, trade or business. Discharge is the release of the industrial wastewater into the waters of the State through pipes, sewers, or other means. For auto body shops, industrial wastewater is generated from car washing, floor washing, and general cleanup. If your shop is connected to the sewer system, wastewater discharge requires permitting through a local sewer authority. Wastewater discharge to the subsurface (underground through a drywell, galley, or other means) requires permitting through DEM's Groundwater Discharge (GWD) Program. Wastewater discharge that goes directly to surface waters of the state requires permitting through DEM's RIPDES Program. These issues are explained in greater detail in Section 6.

Worker Health and Safety: The U.S. Occupational Safety and Health Administration (OSHA) regulates health and safety in the workplace. Issues such as chemical exposure, hazard communication, respiratory protection, lockout/tagout, hearing protection, personal protective equipment, forklift operation, confined space entry, and emergency action plans are all strictly regulated by OSHA. The Rhode Island Department of Health (DOH) provides compliance assistance in these areas. Should you need help, contact the DOH OSHA Consultation Program at 222-7777. These OSHA issues are discussed in Section 7.

Section 2.0 – Top Ten Tips for Environmental Success



1. **Pollution Prevention – Your first step to compliance.** P2 techniques should be used wherever possible to reduce wastes and emissions. Look for opportunities in your shop to employ pollution prevention techniques. (Sections 1.3 and 3.0 provide some practical guidance). If you need help with identifying or implementing pollution prevention techniques and technologies, feel free to contact OCTA at 222-4700.
2. **Actively and Aggressively Manage your Wastes.** Hazardous waste should never be handled like regular trash, nor should it be disposed of in the regular trash. As a generator, you are responsible for the waste's identification and disposal. Accumulate these wastes in appropriate containers for proper disposal. There are also storage, labeling, emergency planning, and employee training requirements that are described in Section 4. Also, non-hazardous materials such as cardboard, aluminum, paper, and scrap metal are recyclable. Feel free to contact OCTA for assistance with material identification, disposal, and recycling.
3. **Shop Towels and Waste Disposal.** You should reduce the amount of paints and solvents on your shop towels as much as possible. Shop towels *saturated* (dripping) with paints or solvents must be handled as hazardous waste. Towels with only minor contamination must be handled as hazardous waste *unless* they are sent off-site for laundering at a properly licensed commercial laundry.
4. **Hazardous Waste Management – To Manage is to Control.** Nothing can get you into trouble faster than a disorganized hazardous waste storage area. Label drums and keep them clean and closed at all times, unless actively filling. Maintain aisle space, post warning signs, and keep hazardous waste separated from non-hazardous waste and virgin materials. Storage areas have specific requirements regarding storage time limits, condition of containers, secondary containment and storage area inspection. These requirements can be found in Section 4.

5. **Prevent Trouble – Plan for Emergencies and Train Employees.** You must have emergency response procedures and equipment in place, along with a written plan, to ensure employee safety. Post emergency phone numbers at each phone near the work areas. Designate an emergency coordinator and instruct employees on whom to contact and what to do during a spill or evacuation. Employees that handle or are otherwise involved with hazardous waste must be trained (annually for LQGs) in the proper procedures for safe handling of these materials. Further information can be found in Section 4.
6. **Records, Records, Records.** You must keep your material purchase or usage records, hazardous waste manifests, Safety data sheets (SDSs), and other legally required records on file. The regulations generally require that you keep these records for at least three years, but it is good management practice to keep these records indefinitely.
7. **Solvents – Minimize or eliminate where you can.** Volatile Organic Compounds (VOCs) are regulated under DEM's Air Pollution Control Regulations. With regard to auto body shops, the burden to meet certain aspects of the regulation lies with the coating manufacturer, so make sure that you are using compliant coatings and cleaners. Auto body shops are also required to use spraying equipment that achieves a transfer efficiency of at least 65%. This translates to the use of High Volume/Low Pressure (HVLV) spraying equipment in auto body shops. Finally, the use of methylene chloride as a chemical paint stripper is strictly regulated. The Air Pollution Control and Occupational Health Regulations can be found in Sections 5 and 7, respectively.
8. **Know Where Your Wastewater Goes.** Wastewater from industrial processes such as auto refinishing is regulated according to work activity/area and discharge point. Should your facility have floor drains or trenches that collect waters from car washing, you should know where this wastewater goes. If washing occurs in the parking lot or other outside area, you should also know where it goes. (Does it enter a storm drain?) If your shop is connected to the sewer system, wastewater discharge requires permitting through a local sewer authority. Wastewater discharge to the subsurface (underground through a drywell, galley, or other means) requires permitting through DEM's Groundwater Discharge (GWD) Program. Wastewater discharge that goes directly to surface waters of the state requires permitting through DEM's RIPDES Program. These issues are explained in greater detail in Section 6.

- 9. Minimize Solvent, Isocyanate and Dust Exposure - Use Personal Protective Equipment.** Research has shown that paint solvents and isocyanates are dangerous to human health. Also, sanding dust contains toxic metals such as lead and chromium. High exposure to solvents, isocyanates or metals can cause adverse health effects. Most shops use disc sanders to remove paint/body filler compound from cars, which creates dust that may be ingested or inhaled. Also, chances are good that, unless the sander has a dust collection device, dust generated from the sander could travel beyond the property of your shop, which would be regulated by DEM's Air Pollution Control Regulations. Your workers must be properly protected when sanding and painting.
- 10. Internal Review - Continual Improvement.** Good environmental, health and safety management does not end with a one-time review of your shop. Periodic reviews of your chemical usage can identify trends and problems, which can help you to minimize wastes - even if you are a small business. Regular discussions with employees that review these issues can help begin a culture of environmental, health and safety awareness which can save you time and money and protect you from liability and possible fines down the road. Consider providing incentives for employees who minimize chemical use and use personal protective equipment while doing a quality-finishing job.

Section 3.0 - Pollution Prevention (P2): The Quickest and Easiest Way to Save Money and Ensure Compliance

Pollution prevention (P2) is the United States Environmental Protection Agency's (EPA) and the Rhode Island Department of Environmental Management's (DEM) preferred method for reducing environmental and human health risks. More specifically, P2 is the use of materials, processes, or practices that reduce or eliminate the creation of pollutants at their source. It includes reduction in the use of hazardous materials, and energy and water conservation. Literally hundreds of industry case studies from across the U.S. and abroad have shown that companies can increase productivity, save money and reduce workplace and environmental health risks by adopting a P2 approach in their facilities.

In the auto body industry, pollution prevention practices generally fall into one of three categories: product changes (such as raw material substitution), improved operating practices, and technology changes (process or equipment modifications, for example). Some of the more obvious pollution prevention techniques that are required by DEM regulation include the use of HVLP (High Volume Low Pressure) spray guns, enclosed spray gun cleaners (or equivalent devices), and low VOC (Volatile Organic Compound) coatings. Each of these P2 methods result in decreased raw material usage (saving \$\$) and/or reductions in the release of pollutants to the environment. Table 3-1 lists additional measures that will help you reduce your regulatory burden, maintain compliance, and save money. The Rhode Island Department of Environmental Management **strongly** encourages you to investigate the pollution prevention measures listed in this section and to apply common sense P2 practices where feasible. The following points highlight some of the measures listed in Table 3-1.

3.1 Storage of New and Used Materials

Be sure to keep all containers closed to prevent the release of chemical vapors. Section 30.4.3 of the Rhode Island Air Pollution Control Regulations requires that new and used solvents and paints, as well sludge and other waste fluids/materials, must be stored in closed containers.

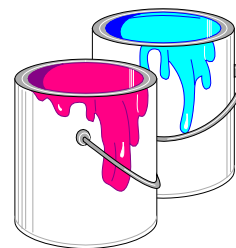


Table 3-1: Pollution Prevention Measures for Auto Body Shops

Product Changes	Improved Operating Practices	Technology Changes
<i>Use:</i>		<i>Use:</i>
Low VOC coatings	Keep solvent containers closed	HVLP spray guns
Water-based/low VOC vehicle cleaners	Protect raw materials from damage	Enclosed spray gun cleaners
Eliminate methylene chloride paint strippers	Supervise and limit access to raw material dispensing	Computerized scale for paint mixing
Waterborne primers & basecoats	Train workers to minimize overspray	Resistant spot welding in place of conventional welding
Yellow, orange, and red tints that do not contain lead or lead chromates	Use environmentally-friendly products	Paintless dent removal in place of conventional refinishing where possible
Water-based hand cleaners	Mix paints in-house	A solvent recycling system
Tinted primers to reduce basecoat usage	Use first-in, first-out inventory system	A compactor to compress cardboard for recycling
Cadmium-free solder	Segregate waste thinners	
	Reuse/return excess product to supplier	
	Give excess paint to other companies	
	Use commercial launderer for shop rag cleaning/reuse	

3.2 Methylene Chloride used in Paint Stripping Operations

In 2009, Rhode Island DEM surveyed Rhode Island Department of Business Regulations licensed auto body shops (approximately 300) and found that 1 out of 10 shops still used methylene chloride as a paint stripper at that time. Methylene chloride is a listed toxic air contaminant in Rhode Island. In addition, methylene chloride paint stripping waste must be managed as a state and federally regulated hazardous waste, thereby increasing your regulatory costs and compliance burden. Further, methylene chloride is regulated by the U.S. Occupational Safety and Health Administration (OSHA) for its ability to cause cancer and worsen heart problems.

The best way to avoid regulatory burdens associated with using methylene chloride is to **eliminate it from your shop altogether**. Instead, consider stripping paint from cars using a disc sander/grinder that has a dust-capturing capability associated with it or use an alternative stripper without methylene chloride (Note, however, that alternative chemical strippers may still be flammable and/or toxic).

3.3 Solvent Recycling

If your company generates large quantities of spent spray gun cleaning solvent, then you may be losing \$\$ by not using a solvent recycling system. For example, if your shop were to generate 15 gallons per week (735 gal./yr) of waste solvent with a per gallon purchase and disposal cost of \$5 and \$9, respectively, then a \$3,700 solvent recycling system (with a 90% recovery rate) would save you more than \$5,000 in the 1st year alone. OCTA has helped many body shops evaluate their solvent use operations in an effort to save money and help the environment all at the same time. If you would like assistance in locating equipment manufacturers or in your purchasing decision, please call OCTA at 222-4700.

3.4 Solvent-less Cleanup

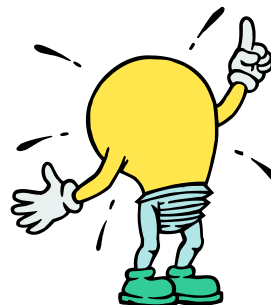
Do not use solvents to clean your hands or skin. Solvents can penetrate through your skin, enter your blood stream, and be distributed to organ systems throughout your body. Instead use a commercial soap solution made for paint cleanup purposes.



Also, avoid solvent emissions by eliminating solvents from spray booth cleanup operations. Instead, use disposable masking over interior paint booth surfaces in place of solvent-based cleaners for removing paint overspray/residue. Such masking materials include plastic and paper sheeting or peel/tacky coats. If this is not practical for your shop, scraping, along with the use of water-based or low VOC cleaners, is still better than using highly concentrated solvent-based cleaners.

3.5 Energy Conservation

Your shop can help to reduce air pollution and conserve energy by simply shutting off lights and electrical devices that are not being used. Such seemingly small actions will help to save on electricity produced back at the power plant (less energy generated = less air pollution emissions generated = energy conserved), as well as saving your shop money on its electric utility bill.



Using skylights and energy-efficient fluorescent lamps (that are readily available at lighting suppliers and feature longer life and cost savings over the use of less efficient lamps) are easy ways to help your shop save money and reduce air pollution. Other energy saving strategies includes:

- Building tune-ups (i.e. calibrating thermostats and lighting upgrades)
- Annual HVAC system tune-ups (heating and air conditioning systems)
- Load reductions (insulating roofs, windows and reducing drafts)
- Fan system upgrades
- Upgrading heating and cooling systems
- Weather-stripping doors and windows
- Use of energy-efficient fluorescent lamps rather than incandescent lamps
- During the winter months, keep doors closed except when vehicles are entering or exiting

National Grid can provide a free energy audit to businesses that includes a report of recommended energy efficiency improvements, as well as information about available incentives. The program will pay a share of the cost of installing approved energy efficient equipment in such areas as lighting upgrades, energy efficient time clocks, and photocells for outdoor lighting, occupancy sensors, and programmable thermostats. For more information or to schedule a free energy audit, call National Grid at (800) 332-3333, or visit their website at: <https://www.nationalgridus.com/RI-Business/Energy-Saving-Programs/Getting-Started>

Whenever it is possible for your shop to do so, use electrical products that display EPA's Energy Star logo on them. This logo identifies products that operate more efficiently by using less energy, save money, and help protect the environment.



Some of the equipment categories used in the auto body industry that offer Energy Star qualified products include boilers and furnaces, fans, programmable thermostats, air conditioners, computers, copiers, printers, fax machines, windows, doors, skylights, and exit signs.

3.6 Waste Recycling

DEM's commercial recycling regulations require that all businesses recycle items that are listed below:

- aluminum
- automobiles
- coated unbleached kraft beverage carriers
- corrugated cardboard
- glass food and beverage containers
- laser toner cartridges
- leaves and yard waste
- newspaper
- high density polyethylene (HDPE) plastic milk and water containers
- office paper
- polyethylene terephthalate (PET) plastic soft drink containers
- steel, and tin coated steel cans
- telephone directories
- used lubricating oil
- vehicle batteries
- white goods
- wood waste

Many of these materials may be found in auto body shops in varying quantities, and recycling those offers the opportunity to save money on solid waste disposal as well as helping the environment. The shop's solid waste hauler may also be able to offer recycling services for many of these items, or visit the Earth 911 Business Rhode Island website at <http://search.earth911.com/> to find other disposal options.

Used oil and vehicles batteries are recycled through vendors that specifically handle those materials. Used fluorescent lamps, because they contain mercury, cannot be disposed of as solid waste and must be managed as Universal Waste under the RI Universal Waste Rule, which is described in Rule 13.00 of the Rhode Island Rules and Regulations for Hazardous Waste Management. Figure 4-1 provides a summary of the Rhode Island Universal Waste Rule for Auto Body Shops. For information on management of these materials or vendors that handle their recycling/disposal, call OCTA at 222-4700, or visit the Recycling/Citizen's Guide topics page on DEM's website at <http://www.dem.ri.gov/programs/wastemanagement/facilities/recycling.php>.

3.7 Train Workers to Minimize Over-spray

Training of painters is a major requirement under the EPA "6H" regulation (<http://www.ecfr.gov/cgi-bin/text-idx?node=sp40.15.63.hhhhhh>). Make sure that your painters are fully trained in proper spraying techniques so as to minimize over-spray. Paint over-spray results in wasted product (\$\$) and emissions of air pollutants to the workplace and ultimately, to the outdoor environment.

3.8 More Simple Measures

In addition to keeping solvent/waste containers closed when not in use, several additional cost-saving practices that require no/little capital investment are possible. These include: protecting your raw materials from damage, contamination, or exposure to the elements; supervising and controlling the dispensing of raw materials; limiting access to raw materials; applying tinted primers to reduce basecoat usage; using a commercial laundering service to clean and recycle shop rags; using a trash compactor to compress cardboard and waste paper for offsite recycling; and using a first-in first-out inventory control program. Many Rhode Island auto body shops have also adopted other more advanced measures such as mixing paints in-house or using a computerized paint mixing scale. Also, be sure to choose environmentally friendly products, such as cadmium-free solder, whenever possible.

3.9 Paintless Dent Removal

In certain applications, paintless dent removal (PDR) can serve as a replacement for conventional refinishing, thereby eliminating potential exposure to pollutants generated during body repair and spray painting. As you may be aware, 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. If PDR sounds right for you, call your local distributor for more information.

3.10 Waterborne Primers, Basecoats, and Strippers

Quality waterborne primer and basecoat technology has arrived! A number of Rhode Island and Massachusetts companies have already substituted waterborne coatings for organic solvent-based paint systems. Though additional equipment (e.g., heat lamps) is needed, waterborne coating technology may be right for you. Waterborne coatings not only reduce environmental releases of regulated pollutants, but may also reduce workplace exposures. For technical information on waterborne coatings contact your local distributor. To arrange a tour of a Rhode Island facility that has made the switch, contact OCTA at 222-4700.

3.11 Compliance, Compliance, Compliance

Perhaps the single greatest thing that you can do to reduce toxic air emissions and save money is to comply with Rhode Island Air Pollution Control Regulation No. 30, "Control of Volatile Organic Compounds from Automotive Refinishing Operations." Very simply, as stated in the introduction to this section, this means that you are required by law to use 1) high volume low pressure (HVLP) spray gun technology, 2) an enclosed spray gun cleaner or equivalent technology, and 3) only low VOC compliant coatings as required by Rhode Island law. In addition, the EPA has issued National Emissions Standards for Hazardous Air Pollutants, which address methylene chloride-based paint stripping and surface coating operations at auto body shops. Compliance with these mandatory requirements can also help you maintain a healthy work environment while reducing toxic air emissions. Again, you are required to keep all containers closed to prevent the release of chemical vapors.

Section 4.0 - Hazardous Waste Management

As a business owner, you must manage your hazardous wastes in a safe and environmentally responsible manner. Federal and State regulations place the burden on you, as the generator, to properly dispose of the waste. The generator has "cradle-to-grave" responsibility, i.e., you retain responsibility even when other companies handle and dispose of your waste. By choosing products that are less hazardous, and minimizing the amount that you generate, you can reduce your cradle-to-grave liability. This section describes the rules and regulations for hazardous waste management specifically as they pertain to an auto body shop.



A common misconception regarding the hazardous waste regulations involves the definition of wastes vs. raw materials. Materials that you are using or intend to use are not considered a waste, and thus are not subject to the hazardous waste regulations. (Raw materials with health/safety hazards are regulated under OSHA Hazard Communication requirements, Spill Prevention requirements, and may even be subject to local regulations or fire codes.) As such, this raw material should be stored separately and not confused with waste materials. However, materials that are expired or unusable (off-specification) or that you do not intend to use may automatically become wastes, and must be managed as such. Chemical materials that you do not intend to use but are still in good condition may be sold as product to another company provided that you maintain receipts to document the name & address of the purchasing company, quantity & type of material and date of the transaction. Such materials are not considered waste.

4.1 Hazardous Waste Identification

The auto refinishing process generates spent materials that are considered hazardous wastes. Automotive refinishing wastes are determined to be hazardous wastes because:



1. They are either listed by the U.S. Environmental Protection Agency in 40 CFR 261 Subpart D (a listed waste).
2. They demonstrate a characteristic of a hazardous waste as detailed in 40 CFR 261 Subpart C (a characteristic waste). The four characteristics are ignitability, corrosivity, reactivity, and toxicity.

3. They meet the definition of a Rhode Island Hazardous Waste as listed in Section 3.0 of the Rhode Island Rules and Regulations for Hazardous Waste Management (the "Hazardous Waste Regulations"). The RI definitions are only used after the federal definitions have been checked.

EPA Identification Numbers and Authorized Agents

Generators must not generate, store, or offer for transportation, hazardous waste without having received an EPA identification number. Generators also must not offer their hazardous waste to commercial transporters or to treatment, storage, or disposal facilities that have not received an EPA identification number, and the Transporter must have a valid RI Hazardous Waste Transporter Permit as indicated by an official sticker on the vehicle. Forms and instructions can be found at: <http://www.dem.ri.gov/programs/benviron/waste/pdf/epaidno.pdf>. Please call 401-222-1360 with any questions about EPA ID numbers.

Anyone who generates hazardous waste must register with the Department and obtain an EPA ID number. Generators are regulated based on quantities generated per month as abbreviated below:

Generator Type	Quantity
Conditional Exempt Small Quantity Generator (CESQG)	220 lb/month or less
Small Quantity Generator (SQG)	≥220 to <2,200 lb/month
Large Quantity Generator (LQG)	2,200 lb/month or more

Please Note: If at any time, in any given month, the quantity or nature of waste generated or stored causes the generator status of an SQG or CESQG to change (to either LQG or SQG) the generator shall manage the waste according to the *more stringent* provisions and time frames for the increased quantity of waste. The generator shall also notify the Department of any change in generator status.

As a generator, you are required to determine whether your wastes fall into any of the above listed criteria for identification as a Hazardous Waste. You can do this by using your knowledge of the process and materials, including available information like Safety Data Sheets (SDSs), or by testing a representative waste sample. A licensed waste transporter, environmental lab, or OCTA can help you characterize your waste for proper disposal. If changes in your materials or process cause your

waste to change, then you are required to re-evaluate it to ensure proper handling and disposal. Some transporters and disposal facilities may also require you to re-evaluate your wastes each year. You must keep records of waste analyses to confirm your identification and characterization of wastes.

At an auto refinishing facility, the following commonly generated waste materials should be investigated for characterization as a hazardous waste:

- waste paint stripper and paint which has been stripped from vehicles,
- solvents such as waste gun cleaners and waste thinners,
- waste paint (unused or expired paint that you intend to discard),
- sludge or "bottoms" from a solvent recycling unit (still),
- automotive fluids,
- spent filters from the spray booth
- spilled material and media used to clean up spills.

The following table (Table 4-1) is provided to help you characterize your wastes. It also provides the proper waste codes that are required for drum labeling and for inclusion on the shipping manifest (both described in later sections).

Table 4-1: Hazardous Waste Identification Assistance

Waste	Is it Hazardous? Listed or Characteristic?	Why?	Waste Code
Waste Methylene Chloride Paint Stripper (Discarded Product)	Yes, a listed waste	The discarded material is a commercial chemical product listed for toxicity	Listed: U080
Waste Methylene Chloride Paint Sludge Stripped from Vehicles	Yes, a listed waste	The solvent blend contained, before use, ten percent or more of solvents such as methylene chloride, xylene, toluene, and acetone.	Listed: F002, F003, F005

Waste	Is it Hazardous? Listed or Characteristic?	Why?	Waste Code
Waste Gun Cleaning Solvent	Yes, a listed & characteristic (ignitable) waste	The solvent blend contained, before use, ten percent or more of solvents such as xylene, toluene, and acetone. The mixture also has a flash point below 140°F	Listed: F003, F005 Char: D001
Waste Paint Thinner	Yes, a listed & characteristic (ignitable) waste	The solvent blend contained, before use, ten percent or more of solvents such as xylene, toluene, and acetone. The mixture also has a flash point below 140°F	Listed: F003, F005 Char: D001
Sludge or "Bottoms" from Solvent Recycler or "Still", which Recycles Gun Cleaner or Thinner	Yes, a listed & possibly characteristic (ignitable) waste	Still bottoms from a still where the solvent blend contained, before use, ten percent or more of solvents such as xylene, toluene, and acetone. The mixture <i>may</i> also have a flash point below 140° F	Listed: F003, F005 Char: D001
Waste or Expired oil- (solvent-) Based Paint	Yes, a characteristic waste, and it <i>may</i> be a RI Haz. Waste	Waste paints will exhibit the characteristic of ignitability as defined in the Federal Regulations if they have a flash point below 140° F, and would carry the waste code D001.	D001
Waste Paint Booth Filters & Masking tape/paper	It <i>may</i> be a characteristic waste	Paint booth filters should be tested to determine whether they contain trace metals or organics that would cause it to fail the toxicity characteristic.	Waste code depends on the trace materials found through testing
Waste Sanding Dust	Typically not a haz. waste. Paint dust from older vehicles, however, may be a characteristic hazardous waste.	Facility owners may want to periodically test sanding dust to determine whether it contains metals that would cause it to fail the toxicity characteristic.	Waste code depends on the metals found through testing
Used Motor Oil	No, if recycled or burned as fuel. Yes, if sent for disposal as a RI Haz. Waste.	Used oil may have levels of lead and/or benzene that fail the toxicity characteristic. Used oil may be managed as a recyclable material in accordance with Hazardous Waste Regulation 15.00. Used oil that is not sent offsite for disposal must be handled as a RI Haz. Waste.	R014 if sent offsite for recycling or burned onsite, R010 if sent for disposal as a RI Haz. Waste

Waste	Is it Hazardous? Listed or Characteristic?	Why?	Waste Code
Absorbent Materials, such as Speedy-Dry, Contaminated with Haz. Waste	They could be hazardous.	Absorbents soaked with materials that are considered hazardous waste also are hazardous waste.	Waste code depends on materials absorbed
Shop Towels/Rags Contaminated with Haz. Waste	They could be hazardous.	Absorbents soaked with materials that are considered hazardous waste also are hazardous waste. But, in the case of rags/towels, if they are not soaked (dripping) and they meet the following conditions, they are not considered hazardous waste: 1.) They must be laundered at a facility that has a CWA discharge permit, 2.) They must be stored in containers away from a source of ignition, 3.) No other waste can be mixed with rags.	Waste code depends on materials absorbed
Fluorescent and Mercury-Bearing Light Bulbs	Universal Waste <u>(cannot be managed as a solid waste)</u>	Bulbs can fail the toxicity characteristic for mercury, but they can be handled as a universal waste. ¹ Unless the bulbs are broken; in that case they must be handled as Hazardous Waste	Not needed D009
PCB-Containing Light Ballasts	Hazardous Waste	Ballasts may be designated a PCB Waste and handled as a hazardous waste	R007
Tires	No	Tires are not considered hazardous waste, but no more than 400 tires can be stored on-site at any time.	Not needed

¹ Universal wastes are not regulated as hazardous waste when managed under HW Rule 13. Universal waste may be accumulated on-site for up to one year from the date the universal waste is generated. Containers must be properly labeled with the words "Universal Waste," the accumulation start date, and identification of the contents. These wastes must be sent to a facility equipped to handle Universal Waste. Figure 4-1 provides a summary of the Rhode Island Universal Waste Rule for Auto Body Shops.

Figure 4-1: Rhode Island Universal Waste Rule for Auto Body Shops

March 2017

Universal wastes are generated by the commercial/industrial sector and other non-household entities. The Universal Waste Rule eases the regulatory burden on entities that generate these wastes by streamlining the administrative requirements. For example, the rule extends the amount of time that entities can accumulate universal wastes on-site by up to a year or more, as explained below. It also allows entities to transport such wastes with a common carrier, instead of a hazardous waste transporter, and no longer requires entities to prepare a manifest.

What are the Universal Wastes that may be generated at auto body shops?

Please Note: **A waste of any of the types listed below that has at least one hazardous waste characteristic, per 40 CFR 261 Subpart C, must be managed as a universal waste if it is not managed as a hazardous waste (unless otherwise exempt as noted below).**

- **Batteries** - Any battery, which is considered a hazardous waste, must be managed as a universal waste. This includes discarded primary (non-rechargeable) and secondary (rechargeable) batteries that contain elements such as cadmium, lead, or mercury, which would render them federally or state-hazardous. Examples are nickel-cadmium (Ni-Cad), sealed lead-acid, mercury-oxide (button cell), or older alkaline (manufactured prior to 1993) batteries. Spent lead acid

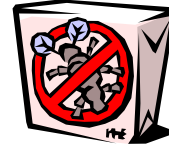


batteries may alternatively be managed as a recyclable material in accordance with the requirements of 40 CFR 266 Subpart G. However, waste lead-acid batteries (such as automotive batteries) not managed, or eligible for management, under 40 CFR 266, Subpart G, are subject to the Universal Waste Rule requirements. Lead-acid batteries that are stored at facilities that reclaim them are subject to federal and state regulations.

Many commonly generated waste batteries, such as dry cell zinc-carbon, silver oxide, and post-1993 alkaline (long-life) batteries, typically do not contain appreciable amounts of the hazardous elements of concern, and hence would not be required to be managed as universal waste. Consumer products such as those that contain difficult-to-remove rechargeable batteries may also be managed along with universal waste batteries. In the interest of diverting these items from less desirable disposal destinies such as incineration or disposal in solid waste landfills, the state encourages the disposal of all batteries as universal waste.



- Mercury-Containing Equipment- includes any product or component, which contains elemental mercury that is necessary for its operation and is housed within an outer metal, glass, or plastic casing. These devices include, but are not limited to thermometers, thermostats, barometers, electric switches and electric relays.
- Lamps- includes, but is not limited to, fluorescent lamps, neon lamps, high intensity discharge (HID) lamps (including mercury vapor, metal halide and high pressure sodium lamps). This includes lamps that contain small amounts of mercury below the TCLP threshold (green tip lamps).



Small vs. Large Quantity Handlers of Universal Waste:

As with hazardous waste, those who generate or handle universal waste are regulated based on quantity generated. These thresholds apply to *generators* and all other *handlers* of universal waste.

Small Quantity Handler (40 CFR 273 Subpart B):

A handler who accumulates less than 20,000 kilograms (44,000 lbs.) of used electronic devices, calculated collectively at any time, *and* who accumulates less than 5000 kilograms (11,000 lbs.) of all other universal wastes calculated collectively at any time. A small quantity handler of universal waste is not required to notify DEM and EPA of its universal waste handling activities. A small quantity handler of universal waste is not required to keep records of shipments of universal waste.

Large Quantity Handler (40 CFR 273 Subpart C):

A handler who accumulates 20,000 kilograms (44,000 lbs.) or more of used electronics, calculated collectively at any time, *or* who accumulates 5000 kilograms (11,000 lbs.) or more of all other universal wastes calculated collectively at any time. A large quantity handler of universal waste must submit written notification of universal waste management to DEM and obtain an EPA identification number prior to accumulating these amounts. Note that if the entity already has an EPA identification number, this notification is not required. A large quantity handler must also keep a record of each shipment of universal waste *to and from* the facility (Recordkeeping details are specified in 40 CFR 273.39). A log, invoice manifest, bill of lading, or other shipping document is acceptable. These records must be kept for three years.

Both small and large quantity handlers of universal waste may accumulate universal waste on-site for up to one year from the date the universal waste is generated. But, handlers may accumulate universal waste for longer periods of time, provided that such storage is solely

for the purpose of accumulation to facilitate proper recovery, treatment or disposal, and the handler can prove this purpose. If the handler accumulates waste, he must demonstrate accumulation time by:

- Placing the universal waste in a container and marking or labeling the container with the earliest date that any universal waste in the container became a waste or was received;
- Marking or labeling the individual item of universal waste (e.g., each battery or mercury containing equipment) with the date it became a waste or was received;
- Maintaining an inventory system on-site that identifies the date the universal waste being accumulated became a waste or was received;
- Maintaining an inventory system on-site that identifies the earliest date that any universal waste in a group of universal waste items or a group of containers of universal waste became a waste or was received;
- Placing the universal waste in a specific accumulation area and identifying the earliest date that any universal waste in the area became a waste or was received; or
- Any other method, which clearly demonstrates the length of time that the universal waste has been accumulated from the date, it becomes a waste or is received.

Requirements for All Handlers of Universal Waste:

Requirements are found in Rule 13 of the RI Rules and Regulations for Hazardous Waste Management, and in 40 CFR 273. (Note that the RI Regulations frequently refer to the Code of Federal Regulations for Protection of Environment (40 CFR) which can be obtained free of charge through the Internet at <https://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol28/xml/CFR-2012-title40-vol28-part273.xml>.)

Both large and small quantity handlers of universal waste:

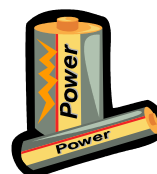
- must not dispose of a universal waste in the regular solid waste stream,
- must not dilute or treat universal waste,
- must not intentionally break or crush universal waste,
- must take steps to prevent releases to the environment,
- must label each universal waste item or each container of universal waste items with the words "Universal Waste" and the identity of the waste, e.g. "Waste Mercury Containing Equipment." (Note that with pesticides, affix the old product label to the container, or if not available, affix the appropriate US DOT Label found in 49 CFR 172.)
- must identify the accumulation start date on the container or the item itself,
- must train employees on proper waste handling and emergency procedures,
- must respond to spills/breakage and manage the released material as hazardous waste if it has hazardous waste characteristics,
- must manage unintentional breakage of significant numbers of universal waste items as hazardous waste,

- must satisfy US DOT packaging, labeling, marking, placarding, and shipping paper requirements per 40 CFR 273.18 or 40 CFR 273.38 for any universal waste that is a US DOT hazardous material prior to off-site shipment,
- may accumulate universal wastes on-site for up to one year,
- may accumulate universal waste for *more* than one year for the sole purpose of facilitating proper recovery, treatment, or disposal,
- may self-transport universal wastes to other universal waste handlers or to an authorized destination facility provided that handler complies with universal waste transporter requirements.

Specific Actions Allowed for Both Small and Large Quantity Handlers:

The handler may conduct the following activities with regard to the following waste items:

Batteries: A handler of universal waste must manage universal waste batteries in a way that prevents release of any universal waste or component of a universal waste to the environment. A handler must contain any waste battery that shows evidence of leakage, spillage or damage.



However, a handler of universal waste may conduct the following activities as long as the casing of each individual battery cell is not breached and remains intact and closed (except that cells may be opened to remove electrolyte but must be immediately closed after removal):

- Sorting batteries by type;
- Mixing battery types in one container;
- Discharging batteries so as to remove the electric charge;
- Regenerating used batteries;
- Disassembling batteries or battery packs into individual batteries or cells;
- Removing batteries from consumer products; or
- Removing electrolyte from batteries.

Note that if the electrolyte is removed, the handler must determine whether or not it exhibits a characteristic of hazardous waste and must manage it as such if it does.

Mercury-Containing Equipment: A handler of universal waste must manage universal waste mercury containing equipment in a way that prevents releases of any universal waste or component of universal waste to the environment. A handler of universal waste must contain any



universal waste mercury-containing device that shows evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions in a container. The container must be closed, structurally sound, and compatible with the contents of the mercury-containing equipment, and must lack evidence of leakage, spillage, or damage that

could cause leakage under reasonably foreseeable conditions. A handler of universal waste may:

- Mix different types of universal waste mercury-containing equipment, or universal waste mercury-containing equipment and universal waste thermostats in one container; or
- Remove mercury-containing ampoules from universal waste mercury-containing equipment provided that the handler complies with the requirements listed in the "thermostats" section.

Lamps: A handler of universal waste must manage universal waste mercury-containing lamps in a way that prevents releases of any universal waste or component of a universal waste to the environment, as follows:

- A handler of universal waste must contain any universal waste mercury-containing lamp that shows evidence of leakage, spillage, or damage that could cause leakage under reasonable foreseeable conditions in a container. The container must be closed, structurally sound, compatible with the contents of the mercury-containing lamps, and must lack evidence of leakage, spillage, or damage that could cause leakage under reasonably foreseeable conditions.
- A handler of universal waste must contain unbroken mercury-containing lamps in packaging that will minimize breakage during normal handling conditions.
- A handler of universal waste must contain mercury-containing lamps in packaging that will minimize releases of lamp fragments and residues.



Transporter Requirements: Handlers are allowed to self-transport universal waste, but there are specific requirements for transporters. These are detailed in 40 CFR 273 Subpart D and in Rule 13 of the Rhode Island Hazardous Waste Regulations.

The Office of Customer and Technical Assistance advises that prior to implementation of any suggestion or recommendation, the company should consult with proper Federal, State, and Local regulatory agencies. This fact sheet does not replace the Rhode Island Rules and Regulations for Hazardous Waste. The RI Regulations are the basis for compliance and enforcement.

Questions and/or Comments can be directed to:

Rhode Island Department of Environmental Management
Office of Customer and Technical Assistance
235 Promenade Street
Providence, RI 02908-5767 (401) 222-4700

4.2 Used Oil

Like fuel, used engine oil is one of the common fluids removed from motor vehicles. Proper management of recovered oil is subject to a range of different regulations depending on individual situations.



Current used oil regulations were adopted September 30, 2016, as Rule 15. Used Oil Management Standards and can be found at:

<http://www.dem.ri.gov/pubs/regs/regs/waste/hwregs16.pdf>.

These regulations governing used oil management are not as restrictive as those related to hazardous waste, but the new rules have to be understood and complied with to avoid any regulatory problems. Under the new regulations, those who generate used oil only and do not generate hazardous waste would not be required to register with RIDEM (maintain an EPA Identification Number).

i. ***Is used oil stored in tanks or containers that are in good condition with proper spill control measures and secondary containment?***

Used oil must be stored in containers that are in good condition, free of severe rusting, corrosion or structural defect and liquid tight with no visible leaks. Containers must be kept closed, except when adding or removing used oil. You should maintain spill control equipment onsite in case the containers leak; unexpected spills or leaks occur and contaminate the ground nearby. Place containers stored outdoors on an impermeable surface such as concrete or asphalt. Additionally, containers that are stored outside must be placed under a roofed structure and protected from precipitation and flooding. Also, Section 10 (Above Ground Storage Facilities) of the Oil Pollution Control Regulations applies to above ground oil storage tank facilities with a combined capacity of over five hundred (500) gallons. More information can be found online at the following link:

<http://www.dem.ri.gov/pubs/regs/regs/compinsp/oilpollu.pdf>

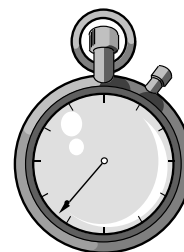
ii. ***Do you label the containers as "Used Oil"?*** It is a requirement to clearly mark any containers that store used oil with the words "Used Oil". (Please note that Rule 15.4B2 requires above ground storage tanks to be permanently marked with "Used Oil")

- iii. ***Do you mix used oil with other non-oil wastes?*** It is a poor management practice to mix waste oil with other non-oil wastes. Generators may mix used oil and hazardous waste for the purpose of burning the used oil onsite for energy recovery provided that the hazardous waste is hazardous only because it exhibits ignitability characteristics. Otherwise, mixing of hazardous waste with used oil is strictly ***prohibited***. If you accidentally mix used oil with other wastes, you are responsible for determining if the waste mixture is a hazardous waste and managing the mixture accordingly.
- iv. ***If used oil filters are removed, are they properly managed by draining and proper recycling?*** To comply with used oil regulations, the used oil should be drained for recycling by either hot draining the filter and puncturing the anti-siphon valve, or by cold draining it using a mechanical press or device. The filters must be processed for scrap metal reclamation and you must maintain documentation of the recycling of the filters.
- v. ***Do you burn oil to heat your building?*** If the burner's BTU capacity exceeds 1 million BTU/hour, RIDEM Air Pollution Control Regulation # 20 (Burning of Alternative Fuels) applies, and written approval from RIDEM is required. Under the used oil regulations, facilities such as auto body repair facilities are allowed to burn waste oil generated on-site in burners with less than 500,000 BTU/hour capacity without a permit or registration. But for burners with BTU capacities between 500,000 and 1,000,000 BTU/hour, registration with RIDEM will be required. Call RIDEM/OCTA at (401) 222-6822 if you have any questions.

4.3 Small Quantity Generator (SQG) Hazardous Waste Accumulation / Storage Time Limit

As an auto body shop owner who is a small quantity or conditionally exempt small quantity generator (CESQG), you have three options when accumulating hazardous waste at your site:

1. **180-day storage (365-day for CESQGs)**
2. **Satellite Accumulation**
3. **Both types**



Each requires the generator to properly identify, label and ship the waste according to the provisions detailed in the following sections of the workbook. However, there are significantly different requirements for storage area inspections, secondary containment, contingency (emergency) planning, and personnel training. You should determine the best accumulation method for your facility based on your rate of waste generation and ability to comply with the requirements described below.

1. 180-Day Storage Requirements

A small quantity generator may accumulate hazardous waste on-site for less than one hundred eighty (180) days, or in satellite accumulation areas as described in section 2 below, according to the provisions listed below provided that the waste is placed in containers and these containers are managed according to HW Rule 5.14B - Hazardous Waste Accumulation in Containers. This rule lists eleven criteria for proper container management and these are detailed in Section 4.4 - Hazardous Waste Storage - Containers. As an auto body shop, you can create a "180-day accumulation storage area" where full 55-gallon drums of waste can be stored. These drums must be shipped off-site using a licensed waste transporter within 180 days. The existence of a 180-day storage area requires that the generator comply with the requirements of the regulations described in Section 4.4 - Hazardous Waste Storage-Containers, Section 4.5 - Hazardous Waste Storage-Containment, Section 4.6 - Container Labeling Requirements, Section 4.7 - Offering Waste for Shipment, Section 4.8 - Emergency Preparedness and Prevention/Contingency Plans, Section 4.9 - Annual Personnel Training, and Section 4.10 - Recordkeeping and Reporting. Therefore, if you choose to use a 180-day storage area, be sure to read all of Section 4 of this workbook, as the requirements for compliance are more extensive than those for satellite accumulation.

Please Note: Rule 5.15 states that Conditionally Exempt Small Quantity Generators (CESQG- facility defined in Rule 3) may store for a period not to exceed 365 days.

2. "Satellite" or Workstation Accumulation

Your shop may also use satellite accumulation of wastes. The State and Federal Hazardous Waste Regulations (specifically Rule 5.9) allow a generator to accumulate **only up to 55 gallons** of hazardous waste **at a single point of generation** with **no storage time limit**, provided that the container is:

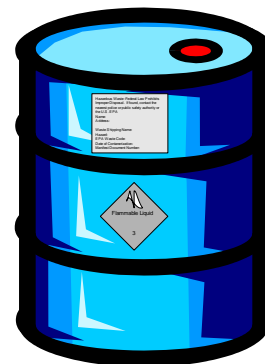
1. At or near the point of generation where the waste initially accumulates;
2. Under control of the operator of the process generating the waste;
3. In good condition, generators must transfer waste from a container in poor condition to one that is in good condition;
4. Kept closed except when adding or removing waste;
5. Handled or stored so as not to cause a rupture or leak;
6. Stored in a container that is compatible with the waste;
7. Labeled with the words "***Hazardous Waste***", and the chemical or common name of the waste.

When filled, the generator must mark the container with the date and either ship the waste offsite to a licensed facility, or:

1. Move the 55-gallon container to a designated 180-day hazardous waste storage area within 3 days. The full container then becomes subject to the 180-day time limit for proper disposition (i.e. the 180-day "clock" begins ticking) and must also meet the complete labeling requirements described in Section 4.6 - Container Labeling. Also, the generator must comply with all the requirements detailed in Section 4 of this workbook.
2. **If you generate waste at such a small rate that satellite accumulation alone will be adequate for your needs, and you do not have a 180-day storage area in your facility, you are only subject to the requirements described in Section 4.7 - Offering Waste for Shipment and Section 4.10 Recordkeeping and Reporting.** However, your satellite accumulation containers must never be allowed to exceed 55 gallons at each generation point. Any excess must be put in a 180-day storage area, which would make your shop immediately subject to all the requirements of Section 4. If you choose to store your hazardous waste in satellite accumulation containers only, you must keep a close eye on the amount of waste in the containers, and you should consider arranging for waste shipment prior to reaching 55 gallons.

4.4 Hazardous Waste Storage - Containers

As described in the previous section, a SQG auto body shop may accumulate hazardous waste on-site for less than 180 days (365 days for CESQGs) provided that the waste is placed in containers and these containers are managed according to HW Rule 5.14B which lists criteria for proper container management. These criteria are listed below with specific references to actions that shops can take to remain in compliance.



1. Labeling and condition of containers. The side of a container that is holding hazardous waste must be marked with the date upon which the waste first began to accumulate.

If a container holding hazardous waste is not in good condition, or if it begins to leak, the owner or operator must transfer the hazardous waste from this container to a container that is in good condition, or manage the waste in some other way that complies with the requirements of this part.

Auto body shops should review the condition of their containers and ensure that the facility and employees are capable of containing a leak. Spill kits are readily available and should be considered. Salvage drums (drums which can be used to house an entire leaking drum) are an additional safety feature to consider for your site.

2. Compatibility of waste with container. The owner or operator must use a container made of or lined with materials that will not react with, and are otherwise compatible with, the hazardous waste to be stored, so that the ability of the container to contain the waste is not impaired.

Steel and plastic drums are generally found in auto body shops. Plastic drums are not compatible with solvents found in paints, thinners, gun cleaners, and strippers, so make sure that you are using steel drums approved by the U.S. Department of Transportation (DOT) for these fluids. Also, since these fluids are ignitable, you should be sure these drums are electrically grounded.

3. Management of containers. (a) A container holding hazardous waste must always be closed during storage, except when it is necessary to add or remove waste. (b) A container holding hazardous waste must not be opened, handled, or stored in a manner that may rupture the container or cause it to leak.

Facilities should ensure that containers are closed except when it is necessary to add or remove waste. Items such as funnels with lids, or simply securing the drum cap (bung), etc. can be used. Facilities should consider posting instructions in the area. Also, drums of material are sometimes observed stored in areas outside the facility or in far corners of the property. Outdoor storage is generally not recommended. Auto body shops should consider moving containers inside. If left outdoors, shops need to protect the storage area from the movement of cars/trucks within the yard. The base of the storage area must also be impervious (no floor drains of any kind) and bermed (see Section 4.5). A storage shed or a fenced and covered area should be considered. Commercially available hazardous waste storage lockers are another option.

4. Inspections. The owner or operator must inspect areas where containers are stored, at least weekly, looking for leaks and for deterioration caused by corrosion or other factors. (Comment: See HW Rule 5.14F for remedial action required if deterioration or leaks are detected.)

Auto body shops must perform a weekly inspection of the storage area looking for leaks or deterioration of hazardous waste containers. This program must be documented. Consider hanging a clipboard on the wall with the checklist and inspection log. On the following page is a sample checklist of items that may be used while performing the inspection. This requirement does not apply to satellite accumulation areas as defined in HW Rule 5.9.

Sample Hazardous Waste Storage Area Inspection Checklist

Weekly Inspection Checklist and Record for _____

Name/Title of Inspector: _____ Date and Time of Inspection: _____

Area(s) Inspected: _____ Number of Full Containers: _____

Are All Containers Closed? _____

Condition of Containers: _____

(Do containers show signs of leakage? Is there deterioration due to rust? Have containers been damaged?)

Condition/Integrity of Containment Area (LQG requirement): _____

(Will the area effectively contain a spill or leakage? Have berms or other containment device deteriorated or been damaged?)

Is there sufficient aisle space between rows of drums (At least three feet)? _____

Are ground-wires in place for ignitable wastes? _____

(Note condition of wires as well.)

Is there evidence of spilled material? _____

If there was a spill, list remedial action taken: _____

(Example: Spill was cleaned and leaking drum was replaced.)

Are drum-labeling requirements satisfied? _____

(Each 90/180/365-day accumulation container in the hazardous waste storage area must be labeled with the following information.)

EPA Label

HAZARDOUS WASTE

The Generator's Name and Address: _____

Chemical or common name of the waste: _____

EPA Identification Number: _____

Accumulation Start Date: _____

Additional remarks or actions to be taken: _____

Record this inspection in an inspection log and keep these records for at least three (3) years from the date of inspection.

5. Special requirements for ignitable or reactive waste. Containers holding ignitable or reactive waste must be located at least 50 feet from the facility's property line.

- a. **General requirements for ignitable, reactive, or incompatible wastes.** (a) The generator must take precautions to prevent accidental ignition or reaction of ignitable or reactive waste. This waste must be separated and protected from sources of ignition or reaction including but not limited to: Open flames, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, or mechanical), spontaneous ignition (e.g., from heat-producing chemical reactions), and radiant heat. While ignitable or re-active waste is being handled, the owner or operator must confine smoking and open flame to specially designated locations. "No Smoking" signs must be conspicuously placed wherever there is a hazard from ignitable or reactive waste.
- b. Auto body shops generate ignitable waste and thus should locate the 90/180/365-day storage area to comply with the above requirements. Auto body shops should separate the storage area from open flames, sparks, and other sources of ignition. Shops should also post "No Smoking" signs in the storage area. Drums containing ignitable wastes must also be electrically grounded.

6. Special requirements for incompatible wastes. (a) Incompatible wastes, or incompatible wastes and materials, must not be placed in the same container unless the generator complies with the requirements of HW Rule 5.13B.8 (LQGs), 5.14B.8 (SQGs) or 5.15B.6 (CESQG) as applicable. (b) Hazardous waste must not be placed in an unwashed container that previously held an incompatible waste or material, unless HW Rule 5.13B.8 (LQGs), 5.14B.8 (SQGs) or 5.15B.6 (CESQG) is complied with. (c) A storage container holding a hazardous waste that is incompatible with any waste or other materials stored nearby in other containers, piles, open tanks, or surface impoundments must be separated from the other materials or protected from them by means of a dike, berm, wall, or other device.

[Comment: The purpose of this is to prevent fires, explosions, gaseous emissions, leaching, or other discharge of hazardous waste or hazardous waste constituents

which could result from the mixing of incompatible wastes or materials if containers break or leak.]

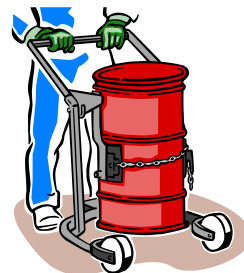
Potentially incompatible materials at auto body shops are car batteries and ignitable materials. They should be stored separately to comply with this requirement. Otherwise, many of the wastes listed in Table 4-1 are ignitable materials and can be stored together in the same area.

7. Air emission standards for LQGs. The owner or operator shall manage all hazardous waste placed in a container in accordance with the applicable requirements of subparts AA, BB, and CC of this part. This requirement applies to large-quantity generators. Auto body shops should ensure that waste is stored in DOT-approved containers and that these containers remain closed and sealed tightly when not being filled. These standards are currently administered by the USEPA in the state of Rhode Island.

Note: Prior to shipping hazardous waste offsite, a hazardous waste generator must package the waste in accordance with DOT requirements. They can be found in 49 CFR 173, 178, and 179. These regulations are not reviewed in detail here. But, there are many training seminars available which detail the specific requirements. Basically, shops must ensure that they are using DOT-approved containers in good condition that the containers are compatible with the material being shipped.

4.5 Hazardous Waste Storage - Tanks

In addition to the container requirements listed in the previous section 4.4, LQGs must provide a secondary containment system for containers holding liquid hazardous wastes which is capable of containing a leak or spill. This containment system for containers and tanks must be designed and operated as follows:



LQG requirements for accumulation of liquid hazardous waste:

1. A base must underlie the containers which is free of cracks or gaps and is sufficiently impervious to contain leaks, spills, and accumulated precipitation until the collected material is detected and removed;

2. The base must be sloped or the containment system must be otherwise designed and operated to drain and remove liquids resulting from leaks, spills, or precipitation, unless the containers are elevated (on wooden pallets, for example) or are otherwise protected from contact with accumulated liquids;
3. The containment system must have sufficient capacity to contain 10% of the volume of all containers, or the volume of the largest container, whichever is greater. Containers that do not contain free liquids need not be considered in this determination;
4. Run-on [for outdoor storage areas] into the containment system must be prevented unless the collection system has sufficient excess capacity in addition to that required in #3 above to contain any run-on which might enter the system; and
5. Spilled or leaked waste and accumulated precipitation must be removed from the sump or collection area in as timely a manner as is necessary to prevent overflow of the collection system. If the collected material is a hazardous waste, it must be managed as a hazardous waste in accordance with all applicable requirements.
6. Floor drains that discharge to the subsurface, sewer system, or direct to a waterway are strictly prohibited in these areas.

SQG requirements for accumulation of liquid hazardous waste in tanks:

SQGs must provide secondary containment for tanks as described above unless the generator inspects the tank systems once each operating day and maintains a written record of each inspection. The inspection shall include at least the following:

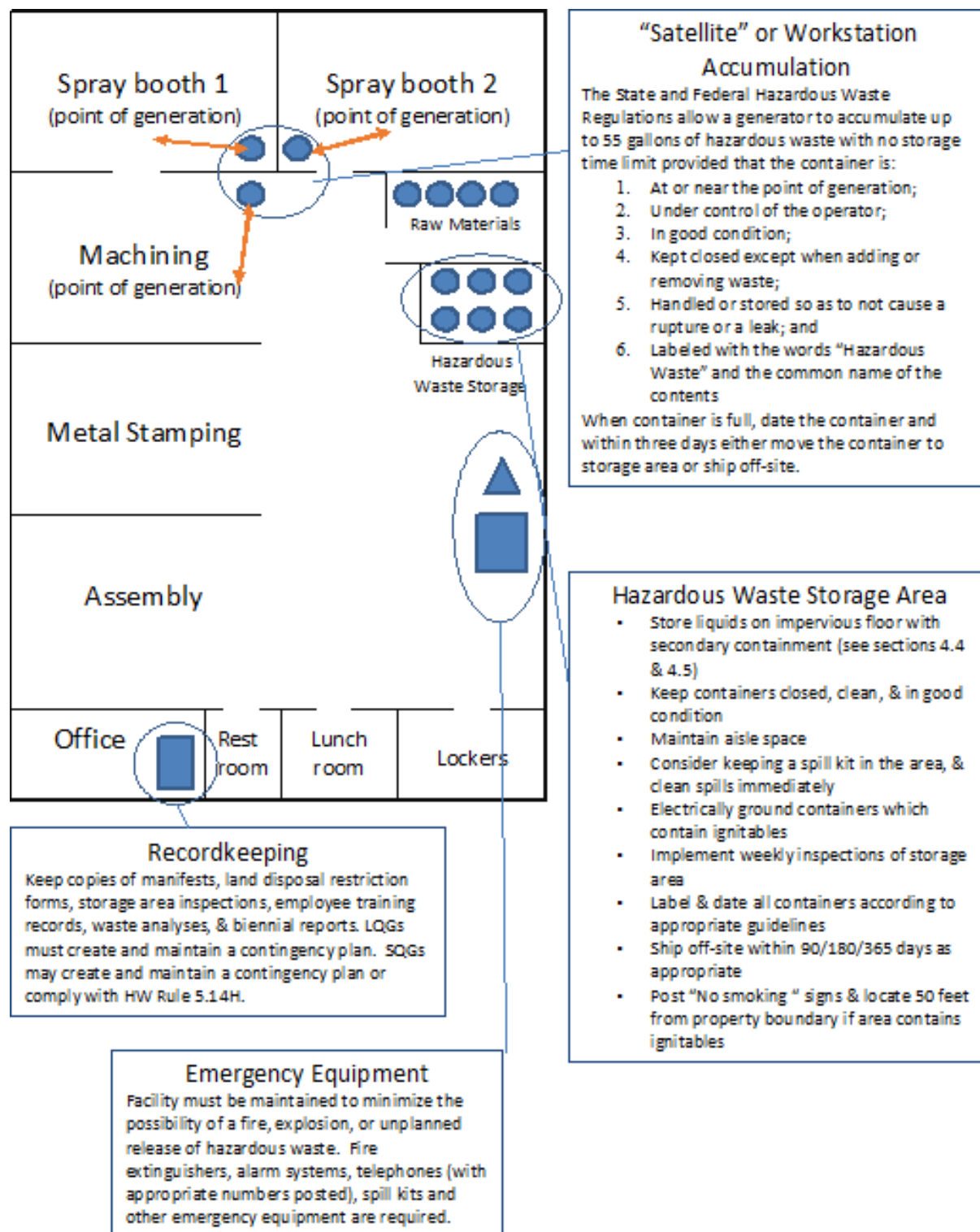
1. Overfill/spill control equipment (e.g., waste feed cutoff systems, bypass systems, and drainage systems) to ensure they are in working order.
2. Visual inspection of the aboveground sections of a tank for signs of corrosion or release of waste.

3. The construction materials and area immediately surrounding the tank system's discharge confinement structures, if any, looking for signs of corrosion and for signs of a release of hazardous waste.
4. Any and all monitoring equipment that is part of the tank system to ensure that it is operating properly.
5. The level of the waste in the tank to ensure that at least 2 feet of freeboard.

Please note: CESGGs are not permitted to store hazardous waste in tanks.

LQG auto body shops that generate liquid hazardous waste should immediately construct and/or purchase a containment system in accordance with the requirements listed above. Note that commercial storage lockers are available for container storage which should comply with these requirements. Figure 4-2 on the following page provides a summary of Hazardous Waste Storage requirements.

Figure 4-2: Summary of Hazardous Waste Storage Requirements



4.6 Container Labeling Requirements

Each container in the hazardous waste storage area must be labeled with the following information:

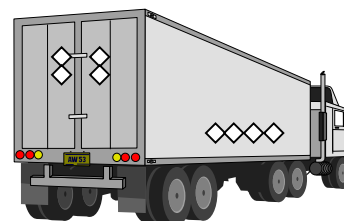
1. The words: "*HAZARDOUS WASTE*"
2. The generator's name, address and EPA Identification Number.
3. The chemical or common name of the waste.
4. Accumulation start date. (The date that the 90/180/365-day "clock" begins ticking.) The accumulation start date is the date that hazardous waste first begins accumulating in a container, exclusive of satellite accumulation.



Labels are readily available from lab safety catalogs or from your waste transporter. DOT hazard labels depend on the material in the container. The Class 3 "Flammable Liquid" label will be used for many of the materials shipped from body shops.

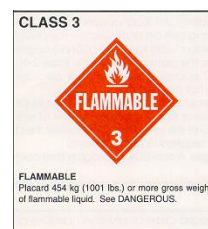
Each "Satellite" Accumulation container must be labeled with the words *Hazardous Waste* along with the chemical or common name of the waste. However, if the container is ultimately moved to the storage area to become the shipping container, then it must have all of the items listed above.

4.7 Offering Hazardous Waste for Shipment-Licensed Transporters, EPA ID Numbers, and Waste Manifests



You will need a licensed hazardous waste transporter to remove your hazardous waste. Your transporter may provide you with a manifest for each shipment, which may be preprinted, except for your signature. If you do not complete the manifest yourself, make sure that you check it carefully for accuracy with regard to your EPA ID number, amount and type of wastes. A list of licensed RI Waste Transporters can be found at www.dem.ri.gov.

The hazardous waste generator is also responsible to ensure that the vehicle transporting its hazardous waste is licensed in RI and has the correct placards. Placards are similar in shape and color to the hazard labels, but are larger and must be on all four sides of the vehicle. If the vehicle does not have the correct placards, it is the generator's responsibility to placard the truck correctly, though this generally is usually not necessary with competent waste transporters. Prior to offering containers holding hazardous waste to a transporter for offsite shipment the Generator must label the containers with the following information:



Placard

USDOT Shipping Label

HAZARDOUS WASTE– Federal Law Prohibits Improper Disposal. If found, contact the nearest police or public safety authority or the U.S. Environmental Protection Agency.

The Generator's Name and Address: _____

Generic Waste Shipping Name: _____

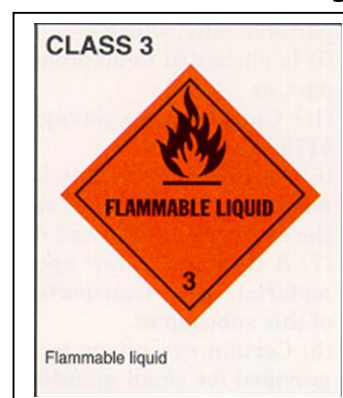
Hazard: _____

EPA Waste Code: _____

Date of Containerization: _____

Manifest Document Number: _____

DOT Hazard Marking



Hazardous Waste Manifests

A manifest is a document designed to track your hazardous waste shipment. As stated previously, it is the generator's responsibility to make sure that the manifest is accurate, even if the transporter fills it out for you. Information on manifests can be found at <https://www.epa.gov/hwgenerators/hazardous-waste-manifest-system>. You should keep the copies of the manifests that you give to the transporter and receive from the disposal facility for three years. All hazardous waste in Rhode Island must be shipped on a manifest form. However, for used automotive oil and universal waste, the transporter may be using a bill of lading or other document, in which case, the generator does not have to send anything to DEM.

What is a Manifest Tracking Number (MTN)?

A manifest tracking number (MTN) is an alphanumeric identification number (i.e., a unique three-letter suffix preceded by nine numerical digits), which is pre-printed in Item 4 of the manifest.

Land Disposal Restrictions (LDRs)

Hazardous wastes cannot be disposed of in a landfill unless strict treatment standards are met. Liquid wastes are banned from land disposal, so substances generated at auto body shops, such as ignitables, are incinerated to meet the restrictions. LDRs have paperwork requirements, so you must also review, sign, and keep a copy of a document known as a Landfill Disposal Restriction Form, even if it is filled out by your waste handler. If your waste is to be land-disposed, you should make sure you staple your copy of this form to the manifest. The USEPA currently administers this Rule in the State of Rhode Island.

4.8 Emergency Preparedness and Prevention/Contingency Plans for LQGs & SQGs (CESQG requirements identified below)



Equipment Required

Your facility must be maintained in order to minimize the possibility of a fire, explosion, or unplanned release of hazardous waste constituents (**CESQG requirement**). Your facility must have the following:

1. An internal communications or alarm system capable of providing immediate emergency instruction (voice or signal) to facility personnel.
2. A device, such as a telephone (immediately available at the scene of operations) or a hand-held two-way radio, capable of summoning emergency assistance from local police and fire departments.



3. Portable fire extinguishers, fire control equipment (including special extinguishing equipment, such as that using foam, inert gas, or dry chemicals), spill control equipment, and decontamination equipment.



4. Water at adequate volume and pressure to supply water hose streams, or foam producing equipment, or automatic sprinklers, or water spray systems. (Adequate water pressure can be determined during the annual sprinkler test required by OSHA and local fire departments.)



5. All facility communications or alarm systems, fire protection equipment, spill control equipment, and decontamination equipment, where required, must be tested and maintained as necessary to assure its proper operation in time of emergency.
6. Whenever hazardous waste is being poured, mixed, spread, or otherwise handled, all personnel involved in the operation must have immediate access to an internal alarm or emergency communication device, either directly or through visual or voice contact with another employee.
7. The owner or operator must maintain aisle space to allow the unobstructed movement of personnel, fire protection equipment, spill control equipment, and decontamination equipment to any area of facility operation in an emergency, unless aisle space is not needed for any of these purposes.
8. The owner or operator must attempt to make arrangements to familiarize local police, fire departments, and emergency response teams with the layout of the facility, properties of hazardous waste handled at the facility and associated hazards, places where facility personnel would normally be working, and possible evacuation routes. (Note: Where more than one police and fire department might respond to an emergency, agreements designating primary emergency authority to a specific police and a specific fire department, and agreements with any others to provide support to the primary emergency authority should be obtained). **(CESQG requirement)**.
9. The owner or operator must attempt to make arrangements to familiarize local hospitals with the properties of hazardous waste handled at the facility and

the types of injuries or illnesses which could result from fires, explosions, or releases at the facility.

10. With regard to #8 and #9, where State or local authorities decline to enter into such arrangements, the owner or operator must document the refusal in the operating record of the facility.

Written Contingency Plan [Large Quantity Generators (LQGs) Only]

Large Quantity Generators (LQGs) of hazardous waste must have a formal written contingency plan that contains all of the information required in HW Rule 5.13J. A contingency plan guidance document with fill in sections has been included in Appendix A.

4.9 Annual Personnel Training- (required for LQGs & SQGs- not required for CESQGs)



Personnel dealing with hazardous waste at the facility of a large or small generator must successfully complete a program of classroom instruction or on-the-job training that teaches them hazardous waste management procedures relevant to the positions in which they are employed. (CESQGs are not required to provide hazardous waste training. SQGs who manage their hazardous waste in satellite accumulation only are not required to provide training to personnel provided that they maintain compliance with Rule 5.9.)

The program must be directed by a person already trained in hazardous waste management procedures, and must include instruction which teaches employees dealing with hazardous waste the following:

- A definition of regulated hazardous waste and a list of hazardous wastes typically generated or stored by the facility.
- Management procedures that are required to be followed in order to properly handle and store hazardous waste on-site.
- A description of any applicable regulatory exemptions that are utilized by the company for storing and/or managing hazardous waste generated at the facility.
- A description of container and tank labeling and dating requirements as appropriate.
- A description of accumulation (storage) time limits.

- Waste pre-transport requirements, including proper use of Uniform Hazardous Waste Manifests.
- Proper implementation of the facility's hazardous waste contingency plan, if applicable, including response to fires or explosions and response to groundwater contamination incidents.
- Spill prevention and response including procedures for using, inspecting, repairing, and replacing emergency equipment and monitoring equipment, operation of any continuous feed cut-off systems, communication or alarm systems, location and use of emergency response equipment and procedures for the complete shutdown of facility operations.
- Proper evacuation procedures and routes.

Facility personnel must successfully complete the program within six months of the date of their employment or assignment to the facility, or to a new position at the facility, whichever is later. Employees must not work in unsupervised positions until they have completed the training requirements. In addition, LQGs must provide facility personnel with an annual review of the initial training. LQGs must also maintain the following documents and records at the facility:

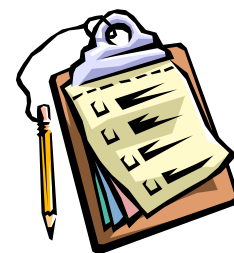
1. The job title for each position at the facility related to hazardous waste management and the name of the employee filling each job;
2. A written job description for each position;
3. A written description of the type and amount of both introductory and continuing training that will be given to each person filling a position;
4. Records that document that the training or job experience required has been given to, and completed by, facility personnel.

Training records on current personnel must be kept until closure of the facility. Training records on former employees must be kept for at least three years from the date the employee last worked at the facility. Personnel training records may accompany personnel transferred within the same company.

4.10 Recordkeeping and Reporting

Auto body shops need to maintain the following records:

1. A generator must keep a copy of each signed manifest for three years, including a signed copy from the designated facility that received the waste. This signed copy must be



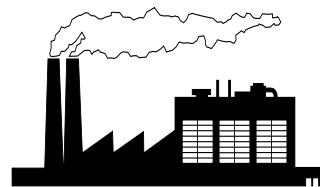
retained as a record for at least three years from the date the waste was accepted by the initial transporter.

2. A generator must keep records of any test results, waste analyses, or other determinations made in accordance with its identification of hazardous waste for at least three years from the date that the waste was last sent to an on-site or off-site treatment, storage, or disposal facility.
3. A generator who does not receive a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 35 days of the date the waste was accepted by the initial transporter must contact the transporter and/or the owner or operator of the designated facility to determine the status of the hazardous waste. If the generator has not received a copy of the manifest with the handwritten signature of the owner or operator of the designated facility within 35 days of the date the waste was accepted by the initial transporter, the generator must file an Exception Report with the RI DEM. The Exception Report must include:
 - a. A legible copy of the manifest for which the generator does not have confirmation of delivery;
 - b. A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the hazardous waste and the results of those efforts.

Copies of Exception Reports must be kept for three years.

Section 5.0 - Air Pollution Control

When we think of air pollution, the first thing that generally comes to mind is smoke billowing from factory smokestacks. However, air pollution can be generated from many types of industrial processes, even without the visual presence of billowing smoke. Auto body shops play a role in generating air pollution. Although such pollution does not take the form of billowing smoke, these emissions may nonetheless be detrimental to the health of the shop worker and the environment.



Air pollution from auto body shop operations is generated from 3 main activities; surface preparation, surface coating, and cleanup. Each of these activities can be performed by various methods, and each carries its share of environmental requirements.

5.1 Surface Preparation - Fugitive Dust

Surface preparation and resurfacing operations conducted on vehicles is a type of activity that would be regulated under Rhode Island Air Pollution Control Regulation # 5, "Fugitive Dust" (Section 5.1 (d)).



If your shop uses disc sanders to remove paint and body filler from cars, chances are good that, unless the sander has a dust collection device, dust generated from the sander could travel beyond the property of your shop, which is prohibited by DEM. Section 5.2 of the Fugitive Dust regulation says, "no person shall permit any materials (such as sanding dust) to be transported in any way so as to cause (the dust) to travel beyond the property line without taking adequate precautions to prevent the dust from becoming airborne." Shop fans that exhaust to the outside may be a primary means for sanding dust to travel off the property line. Also, leaving the doors of your shop opened to the outside (commonly done during the warmer weather) presents another opportunity for sanding dust to travel outside your shop.



Vacuum holes for sander. Note the vacuum hose attached to sanding unit. Sanding dust is collected in a container nearby, or in a central location.

Research has shown that sanding dust contains toxic metals, such as lead, arsenic, cadmium and chromium. Excessive exposure to toxic metals can cause adverse health effects. It is therefore very important that sanding dust be controlled. By using a disc sander in combination with a dust collection unit, your body shop can significantly reduce potential occupational and environmental health risks associated with sanding dust generated during resurfacing operations.

When used properly, vacuum units (also referred to as “dustless vacs” or “ventilated sanders”) can control up to 90% of sanding dust generated from the disc sanding operation. A vacuum sanding unit features a sanding disc that is perforated with a series of holes. As sanding dust is generated, it is vacuumed through the holes. The dust moves through a hose that is attached to the sanding unit; it then travels to a collection unit where it is stored until it can be characterized for proper disposal. (See Table 4-1 in Section 4.1 for assistance with characterizing your sanding dust.)

5.2 Surface Preparation/Cleanup – Control of Volatile Organic Compounds (VOCs) and Toxic Air Contaminants

VOCs are hydrocarbon-based compounds, such as solvents, thinners, or alcohol-based materials that evaporate easily into the air. When VOCs are emitted into the air and combine with sunlight, they produce ozone, (otherwise known as “smog”). A majority of auto body paints contain VOCs, as well as do solvents used for mixing paint and cleaning equipment. Toxic Air Contaminants are specifically listed in the Rhode Island Air Pollution Control Regulations and have been confirmed to cause acute or chronic health effects. (Methylene chloride, commonly found in paint strippers is a listed Toxic Air Contaminant.) As such, facilities are not allowed to emit more than a threshold quantity of a Toxic Air Contaminant without a permit and possibly a control device. Specific actions that auto body shops must take to comply with VOC and Toxic Air Contaminant Regulations are listed below:



5.2.1 Required Compliant Coatings

Air Pollution Control Regulation No. 30, “Control of Volatile Organic Compounds from Automotive Refinishing Operations”, regulates auto body coatings, their

application, and recordkeeping. Auto body shops *must* use coatings, which comply with the VOC limitations listed in Reg. 30, and individuals who sell or offer for sale any automobile coating, or surface preparation product *must* ensure that their coatings comply with the limits. There are two groups of vehicles covered. Group I vehicles include passenger cars, large/heavy duty truck cabs and chassis, light and medium duty trucks and vans, and motorcycles. Group II vehicles include public transit buses and mobile equipment. For each vehicle group, Reg. 30 lists the emission limitations and they are reproduced in Table 5-1 below:



Table 5-1: Emission Limitations for Auto body Coatings

Type of Coating	Emission Limitation	
	Group I Vehicles	Group II Vehicles
	lb VOC/gallon of coating minus water	lb VOC/gallon of coating minus water
Pretreatment	6.5	6.5
Primer/Primer-Surfacer	4.8	2.8
Primer Sealer	4.6	3.5
Topcoat	5.0	3.5
Three or Four Stage Coating	5.2	N/A
Specialty Coating	7.0	7.0
Extreme Performance Coating	N/A	6.2

To check your coatings, compare the product labels or "Certified Product Data Sheet" (provided by the coating manufacturer which furnishes the VOC content for recordkeeping) with Table 5-1 or contact DEM's Office of Customer and Technical Assistance for help. In most cases, the burden to meet these limitations lies with the coating manufacturer. Note that there are some instances where facilities can use alternative coatings. In these cases, a shop must install a control system approved by the Department which reduces VOC emissions from the facility by 95% or greater.

5.2.2 Required Equipment High Volume / Low Pressure (HVLP) Spray Guns

The Automobile Refinishing Regulation requires that auto body shops use either electrostatic spray technology or HVLP spray gun technology. Shops can



use other methods, but they must achieve a transfer efficiency of at least 65%, and the method must be approved by DEM in advance. The most preferred way of attaining this level of transfer efficiency is by using HVLP. Other advantages exist in using HVLP spray guns. They help to reduce paint overspray, which in turn can result in less paint wasted, cleanup cost savings and less frequent spray booth filter changes.

Enclosed Spray Gun Cleaners

Enclosed spray gun cleaners prevent solvent from escaping to the environment. They separate the sludge waste and recirculate the solvent for reuse. Cleaning spray guns in enclosed gun cleaners also helps to extend the life span of the gun itself.

DEM requires all body shops to clean their spray guns in a device where:

1. Solvent must be recirculated during the cleaning process so that the solvent is used until it no longer cleans guns satisfactorily; and
2. Spent solvent must be collected so it is available for disposal; and
3. The device must be vapor tight during cleaning, rinsing and draining operations (or must achieve equivalent emissions reductions approved by DEM).

If you need to soak the exterior of the guns to remove built-up paints, it also must be done in an enclosed system.

Containers

Thinner, paints, or any other volatile material, including rags, must be stored in closed containers *at all times*, unless adding or removing material. Note that this applies to waste materials as well.

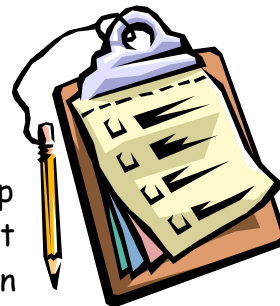
Spray Booth Cleaning

Over time, shops may wish to clean the interior of spray booth surfaces. Consider using recyclable masking (plastic or paper sheeting) over interior paint booth surfaces in place of solvent-based cleaners for removing paint residue. If this is not practical, surface scraping or the use of alternative low VOC cleaners should be considered.



5.2.3 Recordkeeping

Section 30.5.1 of the Automobile Refinishing Operations regulation requires that shops collect and record all of the following information and maintain this information at their shop for 3 years (Please note that some of these records must be kept for a period of five years per Federal requirements, as listed in Section 5.4.4):



1. The name, product number and manufacturer of all coatings, surface preparation products, and other solvents used in your shop;
2. The amount of each of these coatings used in your shop, and;
3. The Certified Product Data sheet that lists the amount of VOCs contained in the product. Such information may be acquired from the product ingredient label or the product's Safety Data Sheet (SDS).

The reasoning behind this regulation is to assure DEM or EPA officials that your shop is using compliant coatings in amounts that fall below permitting thresholds.

5.2.4 Permitting Thresholds for Toxic Air Contaminants

Methylene Chloride used in Paint Stripping Operations

Methylene chloride is listed as a toxic air contaminant. Personal air monitoring has shown that methylene chloride can exceed OSHA health standards when used to strip paint in body shops. The best way to avoid dealing with the regulatory burdens associated with using methylene chloride is to ***eliminate it from your shop altogether***. Instead, consider stripping paint from cars using a disc sander that has a dust-capturing capability associated with it or use an alternative stripper without methylene chloride. (Please note that alternatives are sometimes flammable, and low-odor alternatives can be just as dangerous because they still contain solvent.) The emissions threshold for methylene chloride is 200 pounds per year. Methylene chloride waste must also be disposed of as a hazardous waste, and therefore managed as such under the requirements of DEM's Rules and Regulations for Hazardous Waste Management.

Other Emissions Thresholds for Permitting

Substances that are commonly found in auto body shops and their minimum-use thresholds are listed in Table 5-2. The full list of substances is found in Table III of Air Pollution Control Regulation No. 22, "Air Toxics." If you emit any of these substances in an amount over the listed threshold, you must contact DEM's Office of Air Resources to obtain a permit. As shown in Table 5-2, the emission threshold for metals commonly found in sanding dust is very low and/or close to zero. Control technologies (such as ventilated equipment) that prevent the release of fugitive dust, therefore, are important considerations in auto body repair.

Table 5-2: Minimum Quantities of Air Toxics

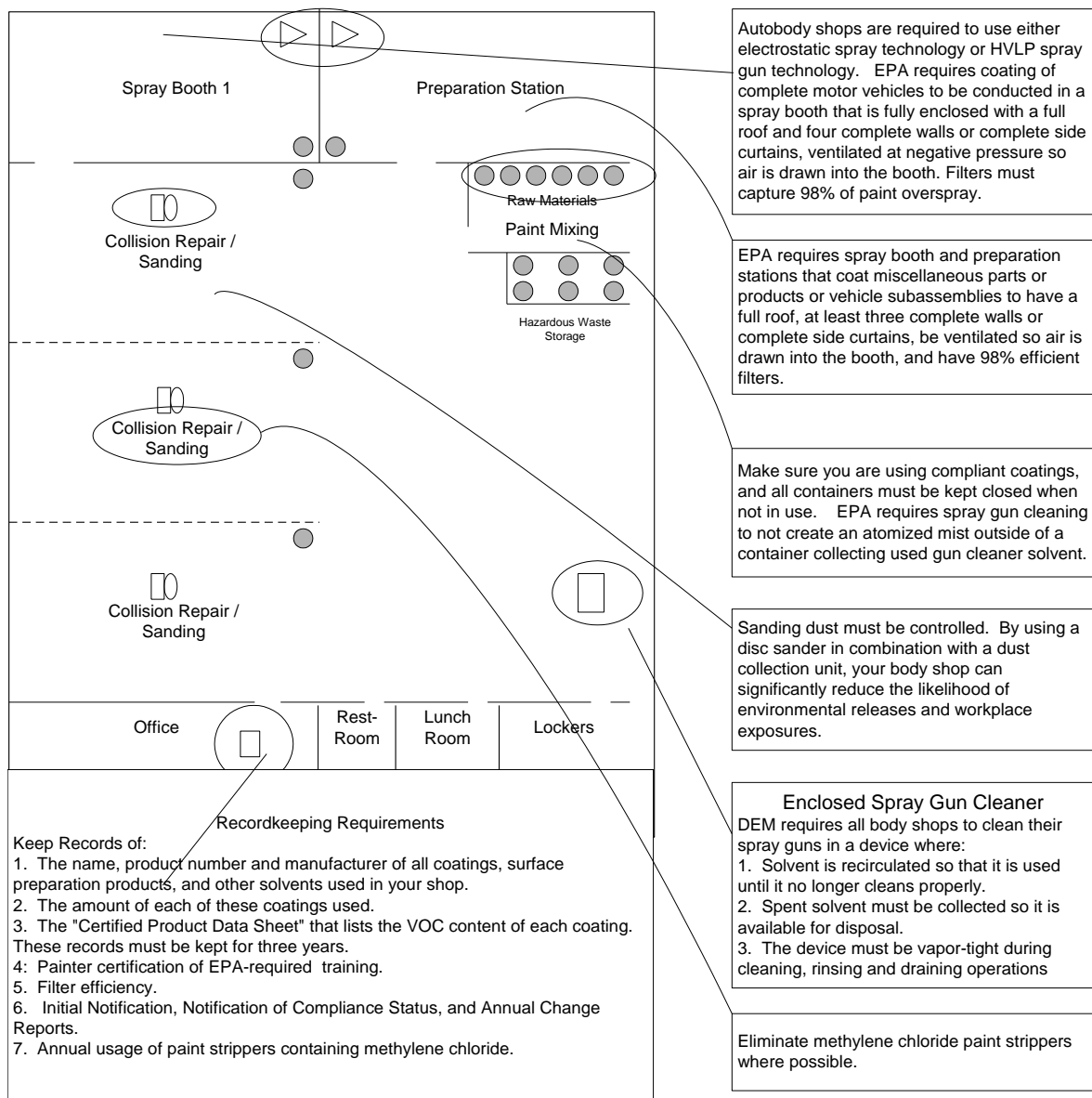
Air Contaminant	Emission Threshold (lb/year)
Antimony & Antimony Compounds	0.6
Arsenic & Arsenic Compounds	0.02
Cadmium & Cadmium Compounds	0.07
Chromium III & Compounds	20,000
Chromium VI & Compounds	0.009
Manganese & Manganese Compounds	0.2
Methylene Chloride (Dichloromethane)	200
Nickel & Nickel Compounds	0.4
Styrene	3,000
Toluene	1,000
Xylene	3,000

5.3 Odors

Air Pollution Control Regulation No. 17, "Odors," states, "[n]o person shall emit... any air contaminant(s) which creates an objectionable odor beyond the property line [...]." If your shop is in a populated area, odor complaints can be lodged against your shop. Should DEM receive a complaint, you may receive a visit from an environmental inspector who will determine if the odor is objectionable. You then

may be required to modify or install control equipment such as: air dilution equipment, increasing stack height, modification of exhaust fans, installation of carbon adsorption, or thermal destruction technologies.

Figure 5-1: Summary of Rhode Island Air Pollution Control Requirements



5.4 Federal Requirements

The U.S. Environmental Protection Agency (EPA) has issued national regulations to control air emissions from paint stripping and miscellaneous surface coating operations (40 CFR Part 63, Subpart HHHHHH, often termed the "6H" regulation). Copies of the regulation and other informational materials can be found at the following EPA Internet address:



<http://www.epa.gov/ttn/atw/area/arearules.html>. The federal requirements are based upon the operation performed; paint stripping, auto body refinishing and surface coating. Existing sources must be fully compliant with the requirements set forth in 40CFR 63, Subpart HHHHHH by January 10, 2011, and upon startup for new sources.

5.4.1 Paint Stripping Operations

Paint stripping operations using methylene chloride (MeCl) for the removal of dried paint are required to implement the following management practices that minimize emissions of MeCl:

1. Evaluate each application to ensure there is a need for paint stripping (e.g., evaluate whether it is possible to re-coat the piece without removing the existing coating).
2. Evaluate each application where a paint stripper containing MeCl is used to ensure that there is no alternative paint stripping technology that can be used. Examples of alternative technology include non- or low-MeCl-containing chemical strippers, mechanical stripping, blasting including dry or wet media, or thermal or cryogenic decomposition.
3. When using paint strippers that contain MeCl, optimize application conditions to reduce MeCl evaporation (e.g., if the stripper must be heated, make sure that the temperature is kept as low as possible to reduce evaporation).
4. Reduce exposure of all paint strippers containing MeCl to the air.
5. Practice proper storage and disposal of paint strippers containing MeCl (e.g., store stripper in closed, air-tight containers).
6. Maintain records of annual usage of paint strippers containing MeCl.

For each paint stripping operation with greater than 1 ton MeCl annual usage, develop and implement a written MeCl minimization plan to minimize the use and emissions of MeCl. The MeCl minimization plan must address, at a minimum, the

management practices specified in a) through f) of this section, as applicable, for your operations. Each operation must post a placard or sign outlining the MeCl minimization plan in each area where paint stripping operations occur. No written implementation plan is needed if usage is less than 1 ton MeCl; however, sources must still comply with the management practices to minimize emissions of MeCl.

5.4.2 Auto Body Refinishing and Surface Coating Operations

The federal "6H" regulation has both similarities and differences to existing Rhode Island regulations - you must comply with both. The 6H regulation has requirements for what controls must be employed when spraying is conducted (when a spray booth, preparation station, or mobile enclosure must be used, and the capture efficiency of the filter technology of these systems); the type of spray guns or spray application methods that can be used (HVLP spray guns or their equivalent are required); and how spray guns must be cleaned. It also includes new training, recordkeeping, and notification requirements.

Spray booths/stations used to refinish complete motor vehicles or mobile equipment must be fully enclosed with a full roof, and four complete walls or complete side curtains, and must be ventilated at negative pressure so that air is drawn into any openings in the booth walls or preparation station curtains. However, if a spray booth is fully enclosed and has seals on all doors and other openings and has an automatic pressure balancing system, it may be operated at up to, but not more than, 0.05 inches water gauge positive pressure. Spray booths/stations used to coat miscellaneous parts or products or vehicle subassemblies must have a full roof, at least three complete walls or side curtains, and ventilated so that air is drawn into the booth. The walls and roof of a booth may have openings, if needed, to allow for conveyors and parts to pass through the booth during the coating process.

Spot repairs done by mobile automobile refinishers at a customer's location must be done in a mobile ventilated enclosure that encloses and if necessary, seals against the surface around the area being coated such that paint overspray is retained within the enclosure and directed to filter to capture paint overspray. Install/operate filter technologies on all spray booths/stations/ enclosures to achieve at least 98% capture efficiency.

Spray-applied coatings must be applied with a high volume, low pressure (HVLP) spray gun, electrostatic application, airless or air-assisted airless spray gun, or an

equivalent technology approved by the EPA Administrator. All spray gun cleaning must be done so that an atomized mist or spray of gun cleaning solvent, and paint residue, is not created outside of a container that collects used gun cleaning solvent. (While the 6H rule permits several methods of gun cleaning, you must comply with the more stringent Rhode Island requirement for using an enclosed spray gun cleaner).

5.4.3 Painter Training

Training of painters is a major requirement under the 6H regulation. All painters must be certified that they have completed training in the proper spray application of surface coatings and the proper setup and maintenance of spray equipment, and environmental compliance.

The training program must include, at a minimum, the following items:

1. A list of all current personnel by name and job description who are required to be trained under the regulation.
2. Hands-on and classroom instruction in the following topics:
 - a. Spray gun equipment selection, set up, and operation, including measuring coating viscosity, selecting the proper fluid tip or nozzle, and achieving the proper spray pattern, air pressure and volume, and fluid delivery rate.
 - b. Spray technique for different types of coatings to improve transfer efficiency and minimize coating usage and overspray, including maintaining the correct spray gun distance and angle to the part, using proper banding and overlap, and reducing lead and lag spraying at the beginning and the end of each stroke.
 - c. Routine spray booth and filter maintenance, including filter selection and installation.
 - d. Environmental compliance with the requirements of the Federal Regulation.
3. A description of the methods to be used at the completion of initial or refresher training to demonstrate, document, and provide certification of successful completion of the required training.
4. Train and certify all personnel who spray apply surface coatings by January 10, 2011 for existing sources or no later than 180 days after hiring for new sources.

5. Personnel must receive refresher training and be re-certified every five years.

5.4.4 Recordkeeping

Records must be kept in a printed or electronic form that is readily accessible for a period of at least five years after the date of each record.



The following records must be kept on-site for at least two years after their date, and may be kept off-site after that two year period:

- 1) Copies of Notifications submitted to EPA.
- 2) Painter training certifications.
- 3) Spray booth filter efficiency documentation.
- 4) Spray gun transfer efficiency.
- 5) MeCl content information of paint strippers, such as Safety Data Sheets or other documentation provided by the manufacturer of the paint stripper.
- 6) Annual usage of MeCl for paint stripping, and written MeCl minimization plan if annual usage > 1 ton per year and annual reviews and any updates made to the minimization plan.
- 7) Deviation from the regulation's requirements and corrective action documentation.

5.4.5 Reporting Requirements

You must submit an Initial Notification under the 6H regulation to EPA Region 1 and RIDEM (no later than January 11, 2010 for existing sources, and for new sources no later than 180 days after initial startup. The initial notification must contain all requirements listed in 40CFR 63.1175(a).

Existing sources were required to send a Notification of Compliance Status to EPA and RI DEM on or before March 11, 2011. Sample Initial Notification and Notification of Compliance Status forms may be downloaded from EPA's website at <https://www.epa.gov/collision-repair-campaign>. You do not have to use these forms;

you can submit the information in your own format. The address for EPA Region 1 in Boston is included on these forms.

You must submit an Annual Notification of Changes Form to EPA Region 1 prior to March 1 of each calendar year, if the information contained in your Initial Notification, Notification of Compliance Status, or a previous Annual Notification of Changes Form has changed. This form must include the information specified in 40 CFR 63.1176(a).

Section 6.0 - Water Pollution Control

Aside from the typical shop procedures of frame straightening, grinding, sanding, and spray painting, a car that has undergone auto body repair is usually washed before it is returned to the customer. In fact, a car is usually washed before any bodywork is performed on it. Another typical procedure in an auto body shop that requires water usage is wet sanding, where floors are hosed down on a regular basis. With the generation of wastewater in an auto body shop is the inevitable question of how to dispose of it all. Depending upon the mechanism by which your wastewater enters the environment, you may be subject to differing sets of requirements.



6.1 Best Management Practices to Minimize Water Pollution

There are some simple measures your shop can take to minimize water pollution.

- Collect all unused paints for reuse or proper disposal.
- Keep paints, cleaners, and any chemicals or materials that can cause runoff (indoors or otherwise) protected from rainwater.
- Provide secondary containment for all chemicals including paints, thinners, strippers, cleaners, and automotive fluids.
- Use dry cleaning methods, such as sweeping and vacuuming, when cleaning the shop, since these materials can contain regulated pollutants. Do not wash these materials into floor drains or the sewer system.
- Minimize wet sanding practices, and use dustless vacuum sanders.
- Pre-clean equipment by wiping excess materials off prior to washing.
- Consider using a wastewater collection system to collect and recycle wash water for car washing.
- Be prepared to contain and collect any automotive fluids such as oil, antifreeze, power steering, transmission, and differential fluid. Use drip pans or absorbents to collect fluids. Do not wash these fluids to floor drains.

6.2 Floor Drains – Where does your wastewater flow?

You must first find out where your floor drains discharge. Check your building's records, check with a plumber, or check with an environmental consultant to determine where your wastewater goes. Figure 6-1 provides a breakdown of the many different routes that your wastewater can take. There are distinct regulatory requirements depending upon your situation. They are described according to the numbered item in the figure.

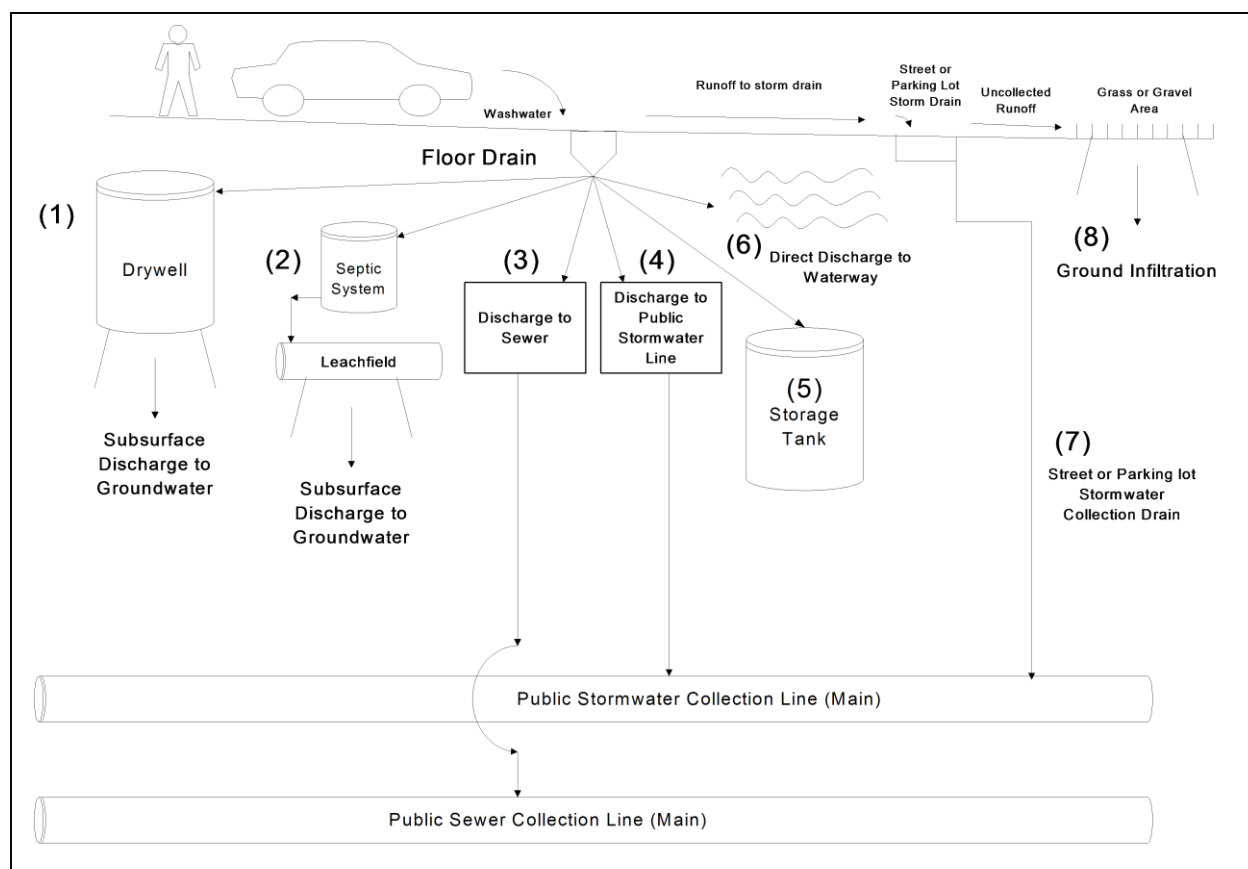


Figure 6-1: Potential Wastewater Discharge Points

6.2.1 Subsurface Discharge to Groundwater

Floor drains and sinks in auto body facilities that discharge to or below the ground surface via a drywell, galley, or other means, are prohibited, unless they are located in an area used exclusively for vehicle washing. Floor drains in areas not

used exclusively for vehicle washing that discharge to or below the ground surface must be properly closed under the DEM's Groundwater Discharge (GWD) Program.

Floor drains in areas used for vehicle washing must be segregated from areas where auto body repair work or other maintenance is performed. Vehicle washing is limited to the surface of the vehicle. Engine compartment and undercarriage cleaning is prohibited. All soaps and cleaners being used in the vehicle washing area must be biodegradable and free of toxic chemicals and solvents. Wastewater from vehicle washing that is discharged below the ground surface must meet regulatory discharge standards and requires an approval from DEM's GWD Program.

Contact DEM's GWD Program at 222-6820 for more information on the proper way to close or obtain approval for continued use of a groundwater discharge system. **Do not seal floor drains without first contacting DEM's GWD Program for proper closure procedures.**

6.2.2 Onsite Wastewater Treatment Systems (OWTS) or Septic Systems

OWTS (septic systems) are specifically designed to handle only sanitary wastes from sinks, showers and toilets in a restroom. Floor drain and sink discharges from auto body shop areas to an OWTS are prohibited. Additionally, process chemicals must **not** be poured or flushed down sinks or toilets. Should your shop have floor drains and/or sinks that lead to an OWTS, proper closure is required through DEM's GWD Program. Contact DEM's GWD Program at 222-6820 for more information on this topic. **Do not seal floor drains without first contacting DEM's GWD Program for proper closure procedures.**

6.2.3 Sewer Discharges

Sewer systems may receive both sanitary and process wastewater from households and businesses. Depending on your location, your sewer discharge may be required to be permitted by the local sewer authority. (For example, in the greater Providence area, this agency is known as the Narragansett Bay Commission; check with your city/town or contact OCTA if you need help determining your sewer permitting authority.)

Sewer discharge permits for floor drains in auto body shops normally contain provisions for discharge limitations for certain pollutants such as oil and grease,

metals, and possibly volatile organic compounds. The permits can also mandate that wastewater collection equipment such as an oil and solids or grit separator be installed.

6.2.4 Direct Discharge to a Surface Water Body

Floor drains and sinks in auto body facilities that discharge directly to a waterway are prohibited. Auto body shops should verify that existing floor drains are connected to either the local sewer system or a DEM approved tight tank system. (Sewer connections are subject to local permitting.) Contact OCTA for more information on this topic.

6.2.5 Wastewater is collected in a tank with no discharge ("Tight Tank")

Should your wastewater be collected in a tight tank, it may be subject to both Underground Storage Tank requirements and Hazardous Waste requirements. Depending on the chemical composition of your wastewater, it may be considered a hazardous waste. Refer to Section 4.1 of the workbook for assistance with hazardous waste identification. If you determine that your wastewater is a hazardous waste and it is stored in an underground "tight" tank, then it must be permitted through DEM's Underground Storage Tank Program.

6.3 Stormwater

Storm drains, by law, are not to be used for wastewater discharges from auto body shop activities, due to contaminants (such as toxic metals or other pollutants) that may be contained in the wastewater. Your wastewater must not be allowed to run off your site, discharge on-site, or be directly piped to stormwater collection drains.



Storm drains that are designed to discharge to the subsurface (through a drywell, galley, or other means) are Groundwater Discharge (GWD) systems and are prohibited from use for the disposal of wastewater discharges from auto body shop activities. All non-stormwater discharges to these drains should be stopped immediately. Contact DEM's GWD Program at 222-6820 for more information on

this topic.

Consider connecting to your local sewer system for disposal of wastewater. Wastewater created in the auto body shop from activities (such as car or floor washing) that has the potential to discharge to a floor, storm or other drain that discharges to a municipal sewer system, must be approved and permitted by the city or town's wastewater treatment authority. Should your area not have a municipal sewer system, consider installation of a tight tank to contain wastewater either for re-use or disposal. Contact DEM's Underground Storage Tank Program, should you wish to install an underground tank, at 222-2797.

6.4 What to expect from a sewer discharge permit

When applying for a sewer discharge permit, expect to provide the following:

- plans and schematics of the building and operation,
- a spill control plan,
- a solvent management plan,
- plans for a wastewater pretreatment system (a pretreatment system collects and treats wastewater prior to sewer discharge.)

Pretreatment may be necessary for the removal of solids and grit and may also include the installation of an oil and grease separator. In addition, a wastewater discharge permit may prohibit the discharge of, and require installation of spill control measures to prevent the discharge of the following materials to the sewer system:

- Solvents
- Antifreeze Solutions
- Degreasing Solutions
- Sludges
- Waste Oils
- Potentially Corrosive Solutions (high or low pH)

Each sewer-permitting agency has a list of parameters (e.g., metals, fat-derived compounds, Biochemical Oxygen Demand (BOD), Volatile Organic Compounds (VOCs), Total Petroleum Hydrocarbons (TPH), etc.) and discharge limitations that must be complied with at all times. Some of the other conditions of the wastewater discharge

permit that must be adhered to include: periodic sampling, monitoring and inspection, and recordkeeping.

In a nutshell, *a*) vehicle wash water and rinse water, and *b*) wastewater from maintenance floor washing in the car washing stage of the auto body repair can be discharged to the sewer system or a holding tank under the authority of your local sewer-permitting agency.

Section 7.0 -Health and Safety in the Auto Body Shop

Workers in auto body shops are potentially exposed to a variety of chemical and physical hazards. Chemical hazards may include volatile organic solvents from paints, fillers, and cleaners; silica from sandblasting operations; dusts from sanding; and metal fumes from welding and cutting. Physical hazards include repetitive stress and other ergonomic injuries, noise, lifts, cutting tools, and oil and grease on walking surfaces.



7.1 Workplace Health & Safety Consultation

Fortunately in Rhode Island, there is a place that your shop can turn to for free and confidential assistance to help your shop reduce the risk of occupational accidents and adverse health effects. The Rhode Island Department of Health's (DOH) Workplace Consultative Services Program offers on-site safety and health programs in cooperation with the U.S. Department of Labor. This cooperative effort offers free expert assistance on safety and health issues, including:

1. **On-site:** Industrial hygienists can visit your auto body shop to help you identify occupational safety and health issues before they become costly problems. You decide which operations you want DOH experts to review, from a particular hazard to a full safety and health assessment.
2. **Off-site:** Safety and health professionals are available by telephone or through scheduled office visits to assist you with the interpretation of regulatory requirements, specific approaches to hazard evaluation, and other health and safety questions.
3. **Testing:** OSHA consultants are equipped with sampling and direct reading instruments to determine whether air contaminants could be a concern for you and your employees. A fully equipped and accredited laboratory provides analytical support.
4. **Information Resources:** Training videos and informational materials about many common workplace hazards are available free of charge. Employers also

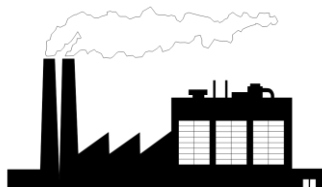
have access to an extensive library of up-to-date references on occupational safety and health programs.

5. **Training Classes:** Safe Site offers free on-site safety and health training programs at your auto body shop on a wide range of topical issues, including Hazard Communication, Personal Protective Equipment, and Respiratory Protection.

This section of the workbook focuses on health and safety issues affecting all auto body shops, including Hazard Communication, Personal Protective Equipment, and Respiratory Protection, as well as Lockout/Tagout and Emergency Action Plans. It also includes a checklist of safety equipment and procedures that your shop should be employing in day-to-day operations.

Most Frequent Violations Cited by OSHA in Auto body Shops

- | | |
|--|---|
| 1) Respiratory Protection | 6) Spray Finishing w/Flammable Combustibles |
| 2) Hazard Communication | 7) Abrasive Wheel Machinery |
| 3) General Requirements for Electrical | 8) Portable Fire Extinguishers |
| 4) Electrical, Wiring Methods | 9) Personal Protective Equipment |
| 5) Flammable and Combustible Liquids | 10) Lead |




7.2 The Job Safety and Health Protection Poster

All auto body shops must obtain a U.S. Occupational Safety and Health Administration (OSHA) poster, known as the Job Safety and Health Protection poster. It must be displayed in an area where all employees can see it. It should contain emergency telephone numbers, including both local fire and police departments. Other required posting include wages, hours and working conditions, along with safety requirements and worker's compensation and disability notifications. The OSHA Poster can be obtained at the Federal OSHA Office Building on 380 Westminster Street, Providence, RI 02903, by calling 528-4669, or by downloading or ordering through the OSHA website at <http://www.osha.gov/>.

You Have a Right to a Safe and Healthful Workplace.

IT'S THE LAW!

- You have the right to notify your employer or OSHA about workplace hazards. You may ask OSHA to keep your name confidential.
- You have the right to request an OSHA inspection if you believe that there are unsafe and unhealthful conditions in your workplace. You or your representative may participate in the inspection.
- You can file a complaint with OSHA within 30 days of discrimination by your employer for making safety and health complaints or for exercising your rights under the OSH Act.
- You have a right to see OSHA citations issued to your employer. Your employer must post the citations at or near the place of the alleged violation.
- Your employer must correct workplace hazards by the date indicated on the citation and must certify that these hazards have been reduced or eliminated.
- You have the right to copies of your medical records or records of your exposure to toxic and harmful substances or conditions.
- Your employer must post this notice in your workplace.



The Occupational Safety and Health Act of 1970 (OSH Act), PL. 91-596, assures safe and healthful working conditions for working men and women throughout the Nation. The Occupational Safety and Health Administration, in the U.S. Department of Labor, has the primary responsibility for administering the OSH Act. The rights listed here may vary depending on the particular circumstances. To file a complaint, report an emergency, or seek OSHA advice, assistance, or products, call 1-800-321-OSHA or your nearest OSHA office: Atlanta (404) 562-2300 • Boston (617) 565-9860 • Chicago (312) 353-2220 • Dallas (214) 767-4731 • Denver (303) 844-1600 • Kansas City (816) 426-5861 • New York (212) 337-2378 • Philadelphia (215) 861-4900 • San Francisco (415) 975-4310 • Seattle (206) 553-5930. Teletypewriter (TTY) number is 1-877-889-5627. To file a complaint online or obtain more information on OSHA federal and state programs, visit OSHA's website at www.osha.gov. If your workplace is in a state operating under an OSHA-approved plan, your employer must post the required state equivalent of this poster.

1-800-321-OSHA
www.osha.gov

U.S. Department of Labor • Occupational Safety and Health Administration • OSHA 3165

7.3 The OSHA 300 Log

The OSHA 300 Log is a detailed summary sheet of occupational injuries and illnesses that occur at body shop facilities. Employers with 10 or more employees at any point during a calendar year must record information related to an occupational injury or illness on the new OSHA Form 300. Employers are required to record work-related injuries or illnesses if they result in one of the following: death; days away from work; restricted work or transfer to another job; medical treatment beyond first aid; loss of consciousness; or diagnosis of a significant injury/illness by a physician or other licensed health care professional.

Employers can consult OSHA's Internet site, www.osha.gov, or contact RI's OSHA Consultation Project at (401) 222-7777 for additional guidance regarding the requirements for documenting, posting and maintaining the OSHA Form 300. The 300 Log must be kept for a period of five years. Copies of the OSHA log form can be obtained at the Federal OSHA Office Building on 380 Westminster Street, Providence RI, 02903, or by calling (401) 528-4669.

7.4 The Hazard Communication Standard

In 1983, OSHA adopted the regulation entitled "Hazard Communication" in order to ensure that employees know about chemical hazards in their work environment. This knowledge should help in reducing the incidence of chemical source illnesses and injuries.

This guide serves as an outline for auto body shop owners to develop their site-specific Hazard Communication Program. This guide is not considered to be a substitute for an actual Hazard Communication Program and does not guarantee compliance in any subsequent OSHA inspection.



Recently OSHA has adopted a more universally recognized program called Global Harmonization as the flagship for dealing with hazardous chemicals. Most of the old requirements for training, storage, labeling, etc. are still the same. However, chemical labels have changed to be more universally recognized (training is required at all facilities as of December 2013 on the new standards), Material Safety Data Sheets are no longer referred to as "MSDSs", as they are now just Safety Data

Sheets (SDSs), and other changes are in place with "phase" in periods extending until 2016.

7.4.1 The five major components of the Hazard Communication Standard includes:

- 1) Safety Data Sheets (SDS)
- 2) Container Labeling
- 3) Must have a written Hazard Communication (HazCom) Plan/Program
- 4) Employee Training
- 5) Materials Inventory

Initial steps your facility can take to address the roles and responsibilities of the Hazard Communication Standard include:

- A) Conduct a walkthrough of the workplace and identify and list all materials that may be hazardous: including product names, locations and work areas where products are used. Include hazardous chemicals that are generated in the workplace, but are not necessarily in a container, e.g. welding fumes.
- B) Ensure that all hazardous chemicals that are purchased are included on this list.
- C) Establish a file on hazardous chemicals and include a copy of the latest Safety Data Sheet (SDS) and any other pertinent information.
- D) Develop procedures to keep lists current, including updated SDSs.

7.4.2 Safety Data Sheets

An important component of the Hazard Communication Standard is the Safety Data Sheet section. The SDS provides detailed information, prepared by the manufacturer or importer of a chemical that describes the physical and chemical properties, hazards, and routes of exposure and control measures for that particular substance. Employers must maintain a complete and accurate inventory of SDSs for each hazardous chemical in the body shop. When new products are used, employers must update their SDS files and request updated copies from the manufacturer with the next shipment.



- 1) If a shop owner doesn't have an SDS for a hazardous substance in his shop; he should request a copy from the chemical manufacturer, auto body distributor or importer.
- 2) Shop owners must make sure that all SDSs are complete. Each SDS must contain the physical and chemical properties of a substance, as well as the physical and health hazards, routes of exposure, symptoms of exposure, precautions for safe handling, and emergency and first aid procedures.
- 3) The auto body shop owner must make SDSs accessible to all employees. Auto body shop employees must know the location of the SDS files.

7.4.3 Container Labeling

The manufacturer or distributor is responsible for labeling shipped containers, but the auto body shop employer must also ensure that all containers of hazardous substances in the workplace are labeled, tagged or marked including the identity of the hazardous chemical and appropriate hazard warnings.



- The only exception to this requirement is when an employee dispenses a substance for immediate use.
- If a container is not labeled, obtain a label or label information and prepare a label for in-house use. Employers are responsible for ensuring that all containers in the workplace are properly labeled, tagged or marked.
- Include company policies for container labeling as part of the Written Hazard Communication Program and instruct and train employees on the policies for container labeling.
- Pre-made labels are acceptable as long as they contain the required information and effectively communicate chemical identities, hazards and precautions.

7.4.4 Written Hazard Communication Plan/Program

A documented and effective program is a key component of the Hazard Communication standard. It is the employer's responsibility to develop and implement a **written** program and make it available to employees. The program must clearly outline company policies for the following:

- A. Container labeling and other forms of warnings.
- B. Maintenance and update of Safety Data Sheets.
- C. Employee training based on the list of chemicals, SDSs and labeling information.
- D. Methods for communicating hazards and protective measures to employees and outside contractors.

An auto body shop owner must tailor a written program to meet the specific exposures and needs of the workplace. It is important to fully and completely describe the company's efforts to meet the intent of the Hazard Communication regulation. A sample of a written program is included in Appendix B.

7.4.5 Employee Training

The standard requires each auto body shop owner to inform and train employees at the time of their initial assignment and whenever a new hazard is introduced into the work area. While the outline of topics to be presented is the same for all employers, the actual information presented must be based upon the specific hazard information conveyed by labels and SDSs for the auto body shop.



The following topics should be covered in all training programs:

1. The provisions of the Hazard Communication Standard, 29 CFR 1910.1200.
2. Any operations in employees' work areas where hazardous chemicals are present.
3. The location and availability of the shop's written hazard communication program, including the list of hazardous chemicals and SDSs.
4. Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area.
5. The physical and health hazards of chemicals in the work area.
6. The measures employees can take to protect themselves from these hazards, including information on work practices, emergency procedures and personal protective equipment.
7. The details of the employer's written hazard communication program, including an explanation of the labeling system used, SDSs, and how employees can obtain and use the appropriate hazard information on labels and SDSs.

It is important to review and update training on a regular basis. The training sessions should be documented and evaluated to ensure that employees know how to handle chemicals that they are using and are following safe work procedures.

7.4.6 Materials Inventory

Good materials inventory can be crucial to minimizing the danger factor in the event of an emergency situation in your shop. The importance of keeping and updating an inventory of your shop's hazardous materials is a key component of the hazard communication standard that cannot be overstated. Simply stated, materials inventory boils down to careful recordkeeping of hazardous materials, such as paints, primers, and thinners, which are received and stored on your shop's premises. Having a handle as to what materials you store, as well as where and how you store them, can prove valuable to emergency personnel who may be called in to respond to an unsafe chemical scenario occurring in your shop.



Just as important as keeping an accurate materials inventory is the proper storage of such materials. Make sure that hazardous materials are used in a first-in/first-out manner, and avoid stockpiling expired materials; these could pose an unnecessary risk during an emergency situation. Also, never store hazardous materials that are incompatible with each other; for instance, do not store fuels next to chlorinated products, where the potential for spontaneous combustion or an explosion could occur. It is also important to store hazardous materials in an area where the potential for a spill, as well as the risk to employees, is minimized.

7.5 Personal Protective Equipment (PPE)

The Personal Protective Equipment Standard came into being because too many injuries were occurring that could have been avoided with the proper use of PPE. The PPE Standard was implemented in order to reduce eye, head, face, and hand injuries.



Under the PPE Standard, **EMPLOYERS** are required to:

- 1) **Perform an initial and annual hazard assessment**, as well as annual retraining, to determine if the use of PPE is required. It must also be documented in writing that a Hazard Assessment of the shop has been completed. An example of a Workplace Hazard Assessment Certification is included in Appendix C.
- 2) **Select and provide - *at no cost to the employee* - PPE** that protects employees from the hazards identified by the auto body shop manager.

EMPLOYEES must be informed:

- 1) how and why PPE was selected and when each type of PPE is to be utilized
- 2) how to wear, take off and adjust PPE
- 3) regarding the useful life of PPE and any inherent limitations
- 4) how to maintain, clean and dispose of PPE

Employees must receive training to ensure that they understand when to use the necessary PPE. As an auto body shop owner, you are responsible for enforcing the proper use of PPE. Appendix C contains an example Training Certification Statement. Where needed, auto body shop owners should supply face, eye, and foot protection that meet American National Standards Institute (ANSI) standards. Along with determining that no engineering controls can further reduce the hazards in a shop, the owner is required to select PPE that offers more than a minimum level of protection for auto body shop technicians.

This section of the PPE will be categorized into the most common tasks that take place in an auto body shop. These tasks include:

- 1) Vehicle Cleaning & Washing
- 2) Structural Body Repair
- 3) Cutting, Welding and Dismantling of the Vehicle
- 4) Sanding and Grinding
- 5) Paint Mixing and Post Repair Cleanup
- 6) Spray Painting (Priming, Coating, Clear coating)

7.5.1 Vehicle Cleaning and Washing

Typically, the first step in the auto refinishing repair process is the cleaning and washing of the vehicle. Technicians should wear goggles to protect their eyes, or may even require a face shield if using pressure washers generating in excess of 1,300 psi. Technicians should also wear goggles and appropriate chemical-resistant gloves when applying solvent-based pre-cleaners to body panels. Although solvent concentrations in today's pre-cleaners have been reduced, there still exists the possibility of exposure to technicians' eyes and skin.

FACE-FIT™ GOGGLES



7.5.2 Structural Body Repair

Technicians involved with Structural Body Repair, including frame machines, must take proper precautions to combat potential injuries. It is recommended that technicians regularly check their frame straightening machines for signs of wear to prevent the possibility of a chain snapping. Special care should be taken when working around fuel lines in order to prevent leaks or explosions. Additionally, hydraulic pressure hoses should be checked for any signs of excessive wear, while gauges are to be properly adjusted. Technicians should wear ANSI approved impact resistant eye protection with side shields and cut resistant gloves when working with sharp edges.

Polycarbonate Tuff Specs™
Encon
SAFETY PRODUCTS



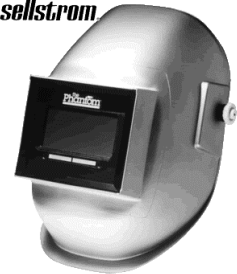
ARMOR-FLEX CUT-RESISTENT
GLOVES



7.5.3 Cutting, Welding, and Dismantling of Vehicles

Technicians need to wear face shields with the appropriate lenses when welding or using acetylene torches. Technicians must also wear a leather apron and arm length leather gloves to prevent burns. Gas cylinders must be properly chained and checked for leaks. All welding and torch related tasks should be terminated at least 1 hour before closing to allow sufficient cool-down and prevent overnight fires. An easily accessible ABC rated fire extinguisher should be provided within proximity of any welding or torch-related activities.

WELDING HELMETS
sellstrom



HEAT RESISTANT LEATHER



When welding, technicians should be aware of the potential for flammable fluid leaks in the immediate area. Smoking is also prohibited while welding or performing any electrical cutting. Appropriate respirators should be worn during welding, as fumes are toxic. As an extra precaution, technicians should vent welding fumes through properly designed local exhaust ventilation (such as, for example, a fan that draws fumes away from the breathing zone). Technicians should wear ANSI-approved impact resistant eye protection along with special cut-resistant gloves when removing sharp materials from the vehicle. Hearing protection may also be required when using air chisels.



NRR Value - 22 Decibels

LEONARD
CUTTING
LEATHER WELDING
GLOVES



ANTI-VIBRATION IMPACT GLOVES



7.5.4 Sanding, Grinding and Chemical Paint Stripping

Technicians involved in the sanding and grinding of vehicles can be exposed to toxic dust. Sanding samples that were collected and analyzed by RI DEM and the URI Center for Pollution Prevention, revealed varying concentrations of metals including lead, cadmium, chromium and arsenic. Technicians could be exposed to these metals through inhalation or incidental ingestion. To reduce the dispersion of dust throughout the workplace when sanding, shop owners can utilize dustless vac technology.



Technicians should not keep food or drink of any kind within the shop area as minute dust particles travel freely throughout the shop and can contaminate food. Technicians should make sure to employ good hygiene practices by washing hands thoroughly before eating, and eat only in a specified area outside the confines of the shop (such as a break room).



Chemical paint strippers (methylene chloride) are sometimes used by technicians to strip old paint from vehicles. Because OSHA's Permissible Exposure Limit (PEL) on the use of methylene chloride is very stringent, and the resulting paint sludge generated is a regulated hazardous waste, it is recommended that technicians use mechanical paint stripping instead. If methylene chloride (a known human carcinogen) must be used, technicians should take the proper precautions by wearing chemical resistant gloves, and appropriate eye and respiratory protection.

PVA COATED ORGANIC
SOLVENT GLOVES Ansell
Edmont
Industrial



Essentially, where methylene chloride is used in the workplace, OSHA requires employers to monitor employee exposures to determine if such exposures exceed the PEL of 25 parts per million (ppm). Under the standard, employers are required to conduct initial monitoring of airborne methylene chloride concentrations and to conduct periodic monitoring for all tasks where employee exposures to methylene chloride could have detrimental effects. The SDSs will provide you with additional information you need to properly protect yourself.

7.5.5 Paint Mixing and Post Repair Clean-up

When mixing paint in the paint mixing room, prior to painting, technicians must take the proper precautions, as outlined in the SDS provided by the paint manufacturers. When mixing paint, technicians should wear appropriate PPE. During mixing, painters can sometimes spill paint onto their hands or other parts of their skin and should therefore wear gloves and a paint suit. Goggles can protect the eyes if paints/solvents accidentally splash during the mixing process.



414 Coverall with Attached Hood & Boots

Respirators may also be needed when mixing paints, especially if hardeners containing isocyanates are present. Typically, a component of the clear coat and some primers contain isocyanates. During clean up, painters must reach inside the spray gun cleaner. Therefore, appropriate PPE should be worn during clean up or if an on-site solvent recovery unit is being used.



7.5.6 Spray Painting (Priming, Coating, Clear-coating)

Painters engage in a three-step process when painting a vehicle: priming, basecoat application, and clear coat application. Painters should wear paint suits and gloves, when painting vehicles. The best level of respiratory protection during spray painting is a full-face hood air supplied respirator. Electrical or non-explosion proof equipment should not be located within 20 feet of a spray painting area. "No Smoking" signs should be posted above the spray booth and a fire extinguisher should be hung in an area outside the spray booth.



THINK	THINK
THERE IS NO SUBSTITUTE FOR SAFETY	SAFETY IS EVERYONE'S JOB

7.6 Respiratory Protection Program

The OSHA Respiratory Protection Standard requires shop owners to:

- a. select the proper respirator;
- b. provide medical evaluations for all employees who would wear a respirator beyond a dust mask type;
- c. properly fit test employees;
- d. identify and document the use of the respirators;
- e. train employees in the proper use, care and sanitation of respirators;
- f. implement a written plan/program on respirator usage;
- g. provide a cartridge change schedule for chemical/solvent respirators.



Auto body workers may be exposed to a variety of chemicals on a daily basis. To prevent serious illness that can result from breathing or inhaling solvents (as well as isocyanates and metals), workers must wear the right respirators for the particular task that they are working on. The body shop owner is required to make these available to them. Acute exposures to chemicals commonly found in auto body shops can cause coughing, dizziness, light-headedness or possibly unconsciousness. However, long-term chronic exposures may lead to lung and nervous system disorders, and possibly other diseases. A sample written respiratory protection plan/program is provided in Appendix D.

A Respiratory Protection Program requires that a qualified shop employee oversee the program, and the body shop owner must provide respirators, training, and medical evaluations at no cost to the employee.

Depending upon the hazard, there are a range of respirators are available for consideration:

- **Filtering respirators** are used to reduce exposure to dusts generated while sanding a vehicle. They are not to be used for gases, solvents, or vapors.
- **Chemical cartridge respirators** are used to reduce the concentration of contaminants in the workers' breathing zone. Chemical cartridges are most often used during the priming process, although if primers present a potential overexposure to isocyanates, an air-supplied respirator may be needed. For welding, technicians should weld only in areas where adequate ventilation (such as exhaust fans) is available, so as not to expose themselves or fellow employees. Welders should also use a welding helmet with a shield and an appropriate respirator to protect the worker against harmful fumes.
- **Air-supplied respirators** are typically used when applying chemicals with poor warning (i.e., odorless) characteristics or when concentrations exceed those that can be handled by cartridge respirators.



Dust masks and chemical cartridge respirators fall under the category of air-purifying respirators. Such respirators contain filters that are able to trap particles that are larger than the holes in the filter material or are capable of adsorbing chemicals. There is a range of cartridges commercially available that are able to adsorb specific chemicals. ***It is imperative that shop owners choose the right cartridge for the specific job that their employees are working on!*** For instance, a dust mask will not protect a worker who is priming with a coating that contains isocyanates.



The auto body shop owner must select a respirator certified by the National Institute for Occupational Safety and Health (NIOSH), which must be used in compliance with the conditions of its certification. In selecting respirators for his employees, the program administrator must identify and evaluate the breathing hazards in the body shop.

For protection against gases and vapors, the employer must provide:

- an air-supplying respirator, or
- an air-purifying respirator (APR), provided that:

- the respirator is equipped with an end-of-service-life indicator (ESLI), such as a color-change expiration gauge for cartridges, certified by NIOSH for the contaminant; and
- if there is no ESLI appropriate for the conditions of the employer's workplace, the employer must establish a change schedule (such as weekly) for canisters and cartridges that will ensure that they are changed before the end of their service life.

For protection against particulates, the employer must provide:

- an air-supplying respirator, or
- an air-purifying respirator equipped with high efficiency particulate air (HEPA) filters certified by NIOSH or with filters certified by NIOSH for particulates, or
- cartridge replacements for employees wearing APR's for tasks that generate particulates (dust and particles). Cartridges must be changed on their respirators when they first begin to experience difficulty breathing (i.e., resistance) while wearing their masks.

Note: Dust respirators must be fit tested if they are used in areas above the Permissible Exposure Limit (PEL) for dust. If it is not evident how to fit test, they will need to make arrangements with the manufacturer to be fit tested.

7.6.1 Fit Testing

Fit testing pertains to the proper wearing of a respirator so that contaminants generated in the work area are not able to enter through the nose or mouth, which could thus interfere with breathing. It is crucial that a respirator fit the worker correctly, thereby forming a tight seal between the face and the respirator itself. Fit testing is required:

- after the initial medical evaluation;
- prior to initial use;
- whenever a different respirator face-piece is used;



Banana oil fit testing ampoules

- at least annually thereafter.

The fit test shall be administered using an OSHA-accepted qualitative fit test (QLFT) or a quantitative (QNFT) protocol.

7.6.2 Use of Respirators

Employees, who have facial hair at the point of seal contact or any condition that interferes with the face-to-facepiece seal or valve function, as they cannot pass a fit test per OSHA regulations, must not wear tight-fitting respirators. Personal protective equipment (such as goggles) must be worn in such a manner that does not interfere with the respirator's seal to the face of the user. Employees must perform a user seal check each time they put on a tight-fitting respirator; information on how to perform such can be obtained from the respirator manufacturer. Procedures for respirator use in areas of high concentrations of contaminants (such as a spray booth) must be clearly stated to the employee working in such conditions.

7.6.3 Training

The auto body shop owner is required to provide training to all technicians who use respirators prior to their first use. The training should include the following topics:

- 1) The auto body shop's Respiratory Protection Program
- 2) The OSHA Respiratory Protection Standard
- 3) Respiratory hazards that technicians are exposed to and their health effects
- 4) Proper selection and use of respirators
- 5) Limitations of respirators
- 6) Respirator donning and user seal (fit) checks
- 7) Fit testing
- 8) Emergency use procedures
- 9) Maintenance and storage
- 10) Medical signs and symptoms limiting the effective use of respirators
- 11) Cartridge change schedule for chemical or vapor cartridge respirators



Employees should be retrained annually or as needed (e.g., if they change job functions and need a different type of respirator). Body shop technicians should be able to demonstrate their understanding of the topics covered in the training through hands-on exercises and a written test. Respirator training should be documented by the auto body shop owner and should include the type, model, and size of the respirator for which each employee has been trained and fit tested.

7.6.4 Program Evaluation

The auto body shop owner should also conduct periodic evaluations of the shop to ensure that the provisions of the Respiratory Protection Program are being implemented. The evaluations should include regular consultations with employees who use respirators, site inspections, air monitoring, and a review of records. If any problems are identified, they should be kept in a logbook and addressed by the body shop owner.

7.6.5 Documentation and Recordkeeping

A written copy of the Respiratory Protection Program and the OSHA standard must be kept on file and be available for all employees to review. The body shop owner is also required to maintain copies of training and fit test records. These records should also be updated as new employees are hired and trained, including fit testing for new employees. The body shop owner must maintain copies of the medical records for all employees covered under the respirator program. The completed medical questionnaire and the physicians documented findings are confidential.



7.6.6 Work Area Surveillance

The use of a respirator shall be the last choice of protection against an airborne contaminant. Engineering controls, such as fume hoods and local exhaust hoods, must be considered first. If the contaminant cannot be removed from the work area, substituting for a less hazardous chemical, rotating employee duties in order to limit chemical exposures may be considered. All other options must be explored before a respirator is chosen for protection.

7.6.7 Medical Evaluations

The use of a respirator places unusual stress on the wearer. Because of this, employees covered by this program must be evaluated by a physician and receive the physician's clearance to wear a respirator. The purpose of the evaluation is to:

- screen employees for pre-existing conditions that preclude respirator use;
- confirm that the individual can handle the additional stress caused by the respirator, and;
- re-evaluate the wearer periodically for changes in health and abilities.

These evaluations must be made by a competent physician or licensed health care professional (PLHCP) that possesses knowledge of pulmonary disease and respiratory protection.

7.6.8 Periodic Evaluation

Periodic evaluations are required in the following situations:

1. an employee reports medical signs or symptoms that are related to the ability to use a respirator,
2. the physician, supervisor or the respirator program administrator informs the employer that an employee needs to be reevaluated,
3. information from the respiratory protection program, (observations made during the fit test), indicates a need for the employee to be reevaluated,
4. a change occurs in workplace conditions that may result in a substantial increase in the physiological burden placed on an employee (i.e. physical work effort, temperature), or
5. at any time as determined by the attending physician.

7.6.9 Inspection and Maintenance

Each employee issued a respirator must inspect the respirator prior to each use to ensure that it is in good condition. This inspection must include a check of the tightness of the connections and the condition of the face-piece, headbands, valves, and cartridges. The mask itself must be inspected for signs of deterioration. Respirators that are defective or that have defective



parts must be taken out of service immediately. If during an inspection, an employee discovers a defect in the respirator, he should bring this to the attention of the body shop owner. The program administrator will also make periodic inspection of equipment.

When a respirator is taken out of service, for an extended period of time, the respirator should be tagged **"out of service"** and the employee should be given a replacement of similar make, model and size. Replacement parts must be approved for the specific respirator being repaired. Respirators used infrequently must be inspected monthly for defects, and these inspections must be logged.

7.6.10 Cleaning, Sanitizing, and Storage

Each respirator, other than disposable ones, must be cleaned and sanitized after use by the respirator wearer. This must be done in accordance with the manufacturer's recommendations. In the absence of such instructions, remove the filters and straps and wash the face piece in a mild soap solution with disinfectant. After washing, rinse the respirator thoroughly in fresh water. Drying should take place at room temperature in a room free of contaminants.



When not in use, respirators must be placed in individual sealable containers to protect them from contamination. Storage must be in designated storage areas in such a manner that the respirator will not be distorted or damaged. Storage areas to avoid include workbenches, toolboxes, or hanging from hooks out in the open workroom.

7.6.11 Voluntary Use of Filtering Face-pieces (Dust Masks)

If the employer chooses to provide dust masks for comfort purposes a full respirator program is not required, but there is a requirement for training. Where it has been determined that no breathing hazard exists, but the employee wants to use a filtering face-piece, they should follow all instructions provided by the manufacturer. The mask should be stored in a clean environment, as well as maintained and disposed of per the manufacturer's instructions.



7.7 Lockout/Tagout

OSHA developed the Lockout/Tagout Rule in response to injuries and deaths sustained when workers thought that equipment was shut down for maintenance was unexpectedly activated. The Lockout/Tagout Rule applies to all employers regardless of size.



Lockout/Tagout is the common name for a process of "Control of Hazardous Energy" as established by OSHA. The standard requires auto body shop employers to develop and implement procedures for the isolation of machines or equipment from energy sources. The purpose of lockout/tagout is to prevent injury to persons during the repair, maintenance, inspection, and adjustment of equipment by controlling all energy sources used, stored, or produced by the equipment.

To **lockout** a machine or piece of equipment, all energy sources are turned off or disconnected, stored energy is released or restrained, and a lock is applied either directly to the disconnects of each energy source or through a lockout device affixed to each energy control device, so that re-energization cannot occur.



To **tagout** a machine or piece of equipment, all energy sources are turned off or disconnected, stored energy is released or restrained, and a warning tag such as "Do Not Operate" is applied to the disconnects of each energy source, so that re-energization cannot occur.

For each piece of equipment where energizing or start-up could cause injury, a procedure must be developed to ensure that equipment cannot be started up during maintenance. It is recommended that for each piece of equipment, the source of power be isolated and physically be locked or tagged, warning against accidental start-up. Anytime equipment is to be shut down, all employees must be notified. An authorized employee is the only one that can remove the lockout or tags. A Lockout/Tagout procedure, which clearly outlines the scope, purpose, authorization and technique, must be devised and implemented by the Auto Body Shop Manager. In addition, all employees must be trained to recognize Lockout/Tagout procedures and devices. If outside service technicians or personnel are servicing equipment, the auto body shop manager must exchange information with them regarding their Lockout/Tagout procedures.

7.7.1 Responsibility

Each auto body shop shall develop and implement a lockout/tagout procedure for deactivating its processes and powered equipment. Appropriate employees shall be instructed in the safety significance of the lockout/tagout procedure and shall be informed of employees who are authorized to lockout or tagout. Each new or transferred affected employee and other employees whose work operations are or may be in the area shall be instructed in the purpose and use of the lockout/tagout procedure and how to notify. The procedure shall ensure that before any work on these systems begins, all processes and energy sources have been:

- Deactivated
- Secured by positive means
- Tested to ensure deactivation

7.7.2 Basic rules for using lockout or tagout system procedures

All equipment shall be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy-isolating device where it is locked or tagged out.

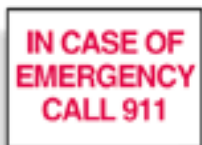
7.7.3 Periodic Inspection

The shop shall conduct an inspection of the energy control procedure at least annually to ensure the procedure and requirements of this policy are being followed and shall provide documentation sufficient to support the shop's audit by the body shop owner or safety personnel.



7.8 Emergency Action Plan

Emergency Action Plans outline potential problems that shops may encounter, and the actions that the emergency coordinator and all other employees must take. Procedures should be known for medical emergencies, small and large fires, explosions, chemical spills, floods, water main breaks, equipment failure, earthquakes, storms etc. The procedures for responding to an emergency should be well understood by all employees. Protective equipment should be available, and employees should know



FIRST AID WALL CHART



what to do and when to evacuate the shop. Employers with more than 10 employees are required to write an Emergency Action Plan. It is recommended however, that all shop owners write up an Emergency Action Plan regardless of the size of the shop.

Regular reminders about emergency equipment and evacuation plans should be part of all training programs. The shop evacuation routes should be posted along with emergency phone numbers and the

physical location of specific hazards in the area. Procedures for responding to emergencies should be understood before an emergency situation takes place. Protective equipment should be in place and employees should know how to act, who to notify and when to evacuate the shop in the event of an emergency.

Shop owners should make sure all employees know and understand company procedures in the event of an emergency. Shop evacuation maps should be posted along with emergency phone numbers and location of emergency equipment.

All Shops should:

- 1) Keep emergency telephone numbers near the phone.
- 2) Post shop evacuation plan in designated area.
- 3) Read SDSs carefully and determine which chemicals are most dangerous in the event of a fire.
- 4) Fill out and post a copy of the Emergency Procedures Form for each area of the shop.
- 5) Have fire extinguishers, spill clean-up supplies, PPE, and eyewash stations available. Eyewash stations should be located no more than a 10-second travel time from all work stations and should provide at least 15 minutes of continuous water flow. (**Note:** Portable eyewash bottles are *not* considered to be an OSHA-approved eyewash station device and can only be used as an intermediate step.)
- 6) Ensure that exit doors are properly marked.
- 7) Train employees regularly.



Auto Body Shop Evacuation Plan:

- Draw a map of your shop and insert it in your Emergency Contingency Plan.
- Post copy of map at several locations throughout shop and make sure employees know where emergency equipment is located and where the evacuation routes are located.

The map of the Auto Body Shop should include:

- ✓ Water, gas and electric shutoffs.
- ✓ Drains to sanitary and storm drains, collection tanks and sumps.
- ✓ SDS location
- ✓ Firefighting equipment
- ✓ Hazardous waste storage areas.
- ✓ Underground and aboveground storage tanks.
- ✓ Evacuation routes and meeting place.
- ✓ Fire hydrants.



Section Review: Recommended Auto Body Shop Safety Procedures

- Always wear proper eye, ear, and skin protection when welding, grinding, or sanding.
- Always wear proper dust and paint respirators as needed. Shops will supply the respirators, and OSHA requires that they be used.
- No smoking is allowed in posted areas.
- No eating should be permitted in production areas.
- Report any safety violations or hazardous conditions to your supervisor immediately.
- Inspect any electrical equipment before use. Do not use if in need of repair. Report any defective equipment to your supervisor.
- Always wear protective gloves around sharp or ragged edges. Use appropriate gloves around hazardous materials.
- Report all accidents, injuries or illness to your supervisor immediately.
- Attendance to all training, including "Right to Know" safety meetings, is mandatory.
- In case of an emergency, leave work areas through the most accessible exit leading away from the problem source.
- Know and follow the emergency evacuation plan.
- Read Safety Data Sheets (SDS) and/or Product Data Sheets (or product labels directions and precautions) thoroughly before using paint or other chemical products.
- Inspect emergency equipment (such as fire extinguishers, safety showers or eye wash stations, spill kits, etc.) regularly.

Appendix A

RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT OFFICE OF COMPLIANCE AND INSPECTION

HAZARDOUS WASTE CONTINGENCY PLAN GUIDANCE FOR LARGE QUANTITY GENERATORS (LQGs)

Please Note: This document is provided to assist the generator in the development of a facility contingency plan. DO NOT fill in the blanks on this document and assume the plan will automatically cover all of the regulatory requirements for a contingency plan contained in 40 CFR 265. All Large Quantity Generators (LQG) of Hazardous Waste are responsible for developing and maintaining a complete plan that meets the requirements of the applicable sections of the regulations.

HW Rule 5.13J of the Rhode Island Rules and Regulations for Hazardous Waste Management requires that all (LQG) of hazardous waste prepare a formal written plan outlining specific steps that company personnel will take in response to spills, fires, and explosions or any unplanned release involving hazardous wastes or hazardous waste constituents which could threaten human health or the environment. This rule references 40 CFR 265 Subparts C and D of the Code of Federal Regulations (enclosed). This guidance was developed by the Department to assist companies in developing a good, thorough, and easy-to-read plan for use during an emergency involving hazardous waste. Although contingency plans are site-specific and can be of various levels of detail, this information may be useful as a general guide. Please note that the contingency plan guidance is not necessarily all-inclusive, and that the Department requires that the preparer address all of the items in HW Rule 5.13J. See Rule 5.14H1 for Small Quantity Generators (SQG) and Rule 5.15H for Conditionally Exempt Small Quantity Generators (CESQG).

Please contact the Office of Compliance & Inspection at (401) 222-1360 if you have specific questions regarding the hazardous waste contingency plan or any other questions related to hazardous waste management.

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4. Emergency Procedures
5. Emergency Equipment
6. Evacuation Routes
7. Facility Site Diagram
8. Arrangements with Local Authorities

EMERGENCY COORDINATORS

The emergency coordinators listed in this section are authorized to act as on-scene coordinators and to commit the necessary resources during an emergency. At all times, there is at least one coordinator (primary or alternate) either on the company premises or on-call. The coordinators must be familiar with all aspects of the contingency plan, all operations and activities at the company, the locations and characteristics of wastes handled, the location of all company records, and the physical layout of the company. The emergency coordinator will take all reasonable measures to ensure that fires, explosions, and/or releases do not occur, recur, or spread to other areas in the company. These measures shall include, where applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

The coordinators are as follows:

Primary Coordinator:

Name: _____

Address: _____

Phone number (work/ home): _____

Alternate Coordinator:

Name: _____

Address: _____

Phone number (work / home): _____

Note: Qualifications of the emergency coordinators should be included in a separate enclosure.

EMERGENCY PROCEDURES

During an emergency, the emergency coordinator shall perform the necessary actions to insure a timely and appropriate response. The coordinator shall choose the order and applicability of the following actions, based upon the situation and the hazardous waste or hazardous waste constituents involved:

1. Identify and assess the situation (source, health, and environmental impact),
2. Activate alarm to notify all company personnel,
3. Evacuate the company, if necessary,
4. Determine action to be taken (e.g. containment, absorption),
5. Oversee the cleanup throughout its entirety.
6. Within 15 days after the incident, emergency coordinator must submit a written report on the incident to the DEM and the EPA Regional Administrator.

Note: Emergency procedures should be a step-by-step, site-specific plan that would be implemented in the event of an emergency. A detailed description of actions to be taken by company personnel during an emergency should be included.

EMERGENCY EQUIPMENT

The following equipment should be found in good condition at the company. Include the physical description and capabilities of each item:

EQUIPMENT PHYSICAL DESCRIPTION AND CAPABILITIES

Alarm system

Communication Systems

Fire Extinguishers

Sprinkler Systems

Spill Control

Personnel Protection

Other

Note: Location of emergency equipment should be indicated in on-site diagrams.

EVACUATION ROUTES

In the event an emergency arise involving hazardous waste where an evacuation of company personnel becomes necessary, the following evacuation plan would be implemented. Include a description of the signal that would be given to begin evacuation and both primary and secondary evacuation routes personnel would utilize.

Note: Indicate evacuation routes on facility site plan.

FACILITY SITE DIAGRAM

Note: Indicate location of emergency equipment, hazardous waste storage area(s), and both primary and secondary evacuation routes.

ARRANGEMENTS

The following local authorities have been sent copies of the contingency plan:

Police _____

Fire _____

Hospital _____

Response Contractor _____

Other _____

Note: Identify the primary emergency authority where more than one police or fire department may respond. Describe arrangements agreed to and provide documentation of local authority notifications.

I have read and understand the Contingency Plan and Emergency Procedures.

Employee's Name (Print)	Signature	Date
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Appendix B

RHODE ISLAND DEPARTMENT OF HEALTH

Sample Written Hazard Communication Program

Introduction

The Hazard Communication Standard requires you to develop a written hazard communication program. The following is a sample hazard communication program that you may use as a guide in developing your program.

Our Hazard Communication Program (SAMPLE)

General Company Policy

The purpose of this notice is to inform you that our company is complying with the OSHA Hazard Communication Standard, Title 29 Code of Federal Regulations 1910.1200, by compiling a hazardous chemicals list, by using SDSs, by ensuring that containers are labeled, and by providing you with training.

This program applies to all work operations in our company where you may be exposed to hazardous substances under normal working conditions or during an emergency situation.

The safety and health (S&H) manager, Robert Jones, is the program coordinator acting as the representative of the plant manager, who has overall responsibility for the program. Mr. Robert Jones will review and update the program, as necessary. Copies of the written program may be obtained from Mr. Jones in Room SD-10.

Under this program, you will be informed of the contents of the Hazard Communication Standard, the hazardous properties of chemicals with which you work, safe handling procedures, and measures to take to protect yourselves from these chemicals. You will also be informed of the hazards associated with non-routine tasks, such as the cleaning of reactor vessels, and the hazards associated with chemicals in unlabeled pipes.

List of Hazardous Chemicals

The safety and health manager will make a list of all hazardous chemicals and related work practices used in the facility, and will update the list as necessary. Our list of chemicals identifies all of the chemicals used in our ten work process areas. A separate list is available in each work area and is posted there. Each list also identifies the corresponding SDS for each chemical. A master list of these chemicals will be maintained by, and is available from Mr. Jones in Room SD-10.

Safety Data Sheets (SDSs)

SDSs provide you with specific information on the chemicals you use. The safety and health manager, Mr. Jones, will maintain a binder in his office with an SDS on every substance on the list of hazardous chemicals. The SDS will be a fully completed OSHA Form 174 or equivalent. The plant manager, Jeff O'Brien, will ensure that each work site maintains an SDS for hazardous materials in that area. SDSs will be made readily available to you at your work stations during your shifts.

The safety and health manager, Mr. Jones, is responsible for acquiring and updating SDSs. He will contact the chemical manufacturer or vendor if additional research is necessary or if an SDS has not been supplied with an initial shipment. The safety and health manager must clear all new procurements for the company. A master list of SDSs is available from Mr. Jones in Room SD-10.

Labels and Other Forms of Warning

The safety and health manager will ensure that all hazardous chemicals in the plant are properly labeled and updated, as necessary. Labels should list at least the chemical identity, appropriate hazard warnings, and the name and address of the manufacturer, importer or other responsible party. Mr. Jones will refer to the corresponding SDS to assist you in verifying label information. Containers that are shipped from the plant will be checked by the supervisor of shipping and receiving to make sure all containers are properly labeled.

If there are a number of stationary containers within a work area that have similar contents and hazards, signs will be posted on them to convey the hazard information. On our stationary process equipment, regular process sheets, batch tickets, blend tickets, and similar written materials will be substituted for container labels when

they contain the same information as labels. These written materials will be made readily available to you during your work shift.

If you transfer chemicals from a labeled container to a portable container that is intended only for your immediate use, no labels are required on the portable container. Pipes or piping systems will not be labeled, but their contents will be described in training sessions.

Non-Routine Tasks

When you are required to perform hazardous non-routine tasks (e.g., cleaning tanks, entering confined spaces, etc.), a special training session will be conducted to inform you regarding the hazardous chemicals to which you might be exposed including the proper precautions to take to reduce or avoid exposure.

Training

Everyone who works with or is potentially exposed to hazardous chemicals will receive initial training on the Hazard Communication Standard and the safe use of those hazardous chemicals by the safety and health manager. A program that uses both audiovisual materials and classroom type training has been prepared for this purpose. Whenever a new hazard is introduced, additional training will be provided. Regular safety meetings will also be used to review the information presented in the initial training. Foremen and other supervisors will be extensively trained regarding hazards and appropriate protective measures so they will be available to answer questions from employees and provide daily monitoring of safe work practices.

The training plan will emphasize these items:

- Summary of the standard and this written program.
- Chemical and physical properties of hazardous materials (e.g., flash point, reactivity) and methods that can be used to detect the presence or release of chemicals (including chemicals in unlabeled pipes).
- Physical hazards of chemicals (e.g., potential for fire, explosion, etc.).
- Health hazards, including signs and symptoms of exposure, associated with exposure to chemicals and any medical condition known to be aggravated by exposure to the chemical.

- Procedures to protect against hazards (e.g., personal protective equipment required, proper use, and maintenance; work practices or methods to assure proper use and handling of chemicals; and procedures for emergency response).
- Work procedures to follow to assure protection when cleaning hazardous chemical spills and leaks.
- Where SDSs are located, how to read and interpret the information on both labels and SDSs, and how employees may obtain additional hazard information.

The safety and health manager or designee will review our employee training program and advise the plant manager on training or retraining needs. Retraining is required when the hazard changes or when a new hazard is introduced into the workplace, but it will be company policy to provide training regularly in safety meetings to ensure the effectiveness of the program. As part of the assessment of the training program, the safety and health manager will obtain input from employees regarding the training they have received, and their suggestions for improving it.

Contractor Employers

The safety and health manager, Robert Jones, upon notification by the responsible supervisor, will advise outside contractors in person of any chemical hazards that may encountered in the normal course of their work on the premises, the labeling system in use, the protective measures to be taken, and the safe handling procedures to be used. In addition, Mr. Jones will notify these individuals of the location and availability of SDSs. Each contractor bringing chemicals on-site must provide us with the appropriate hazard information on these substances, including the labels used and the precautionary natures to be taken in working with these chemicals.

Additional Information

All employees, or their designated representatives, can obtain further information on this written program, the hazard communication standard, applicable SDSs, and chemical information lists at the safety and health office, Room SD-10.

Appendix C

RHODE ISLAND DEPARTMENT OF HEALTH

Sample Personal Protective Equipment Program

Introduction

The purpose of this program is to minimize the risk of injury to employees through with the use of personal protective equipment, (PPE). PPE devices are not solely relied upon to protect against hazards. Rather, these devices will be used in conjunction with guards, engineering controls, and other sound manufacturing practices.

Procedures

(NAME)_____ is the PPE program coordinator, and is responsible for the following:

1. Developing and administering the PPE program that is specific to the facility.
2. Conducting and assuring the timely completion of workplace hazard assessments.
3. Selecting the appropriate PPE for the hazards likely to be encountered, as determined through the hazard assessment.
4. Assisting in the selection of approved personal protective equipment and help assure an adequate inventory is maintained in the facility.
5. Assuring training and certification of all affected employees.
6. Enforcing the use of specified PPE in required areas.
7. Wear required PPE in designated areas.
8. Conduct task specific training on necessary PPE for all employees under their supervision.
9. Assisting in the completion of the hazard assessment for the worker's under their supervision.
10. Assuring that contractor's performing special projects (machine installation, facility repairs, etc.) are advised, during the bidding process, that they are to supply their employees with the PPE that is required in the facility, as well as any additional PPE that the scope of the job may indicate.

11. Wear appropriate PPE whenever working in designated areas.
12. Clean, maintain, and inspect PPE.
13. Immediately notify your supervisor of any problems you encounter with the use of PPE.
14. Actively participate in the training and certification process.

Employees are responsible for the following:

- a) Wear PPE at all times in designated areas.
- b) Clean, maintain and inspect PPE.
- c) Immediately notify supervisors of any problem you encounter with the use of PPE.
- d) Actively participate in the training and certification process.

Written Certification of Workplace Hazard Assessment

This is to certify that (name) has evaluated (process) on (date) in order to determine if PPE is required and if so, what specific type is required.

The following PPE is required for this operation or work area:

PPE Required	Type	Hazard

A workplace hazard assessment has been conducted to determine if hazards are present or are likely to be present.

When this assessment was conducted the following basic hazards were considered:

- Impact (flying particles or falling objects)
- Sharp objects (pierce foot or cut hand/arms)
- Compression (roll over or dropped objects)
- Chemical exposure (including splash or routine hand exposure)
- Heat (high temperature or sparks capable of causing burns or eye injury)
- Light (optical)
- Radiation (furnaces, welding, heat treating, high intensity lights)

Personal Protective Equipment Certification of Training

The following employees will be trained by (name) on the following subjects:

When PPE is required;

What PPE is required;

How to properly wear and adjust the required PPE;

Limitations of the required PPE;

The proper care, maintenance, useful life and disposal of the required PPE.

All employees trained have demonstrated an understanding of this information.

<u>Work Area/Operation</u>	<u>Employee's Name</u>	<u>Date of Training</u>

Appendix D

RHODE ISLAND DEPARTMENT OF HEALTH

Sample Respiratory Protection Program

I. Company Policy

1. The intent of this written program is to define company rules regarding the use of respirators for personal protection against harmful dust, fogs, fumes, mists, gases, sprays, or vapors (list the hazards specific for your company). Wherever feasible, engineering controls shall be adopted, however, in those cases where enclosure and/or confinement of operations, or ventilation controls and/or product substitution is either inappropriate, unreliable, or temporarily ineffective, respirators shall be used according to company guidelines. These rules are not optional; they are mandatory for individuals who are required to wear respirators.
2. Only company furnished respirators shall be used. All respirators are certified by NIOSH.
3. Employees of (company name) shall only use the respirators provided by the company and in accordance with the instructions and training they have received. If you are unsure of equipment or instructions, consult one of the designated Respirator Monitors listed below before attempting a task requiring respirator use.
4. Respirators have been selected on the basis of the hazard(s) that are present or may become present during an employee's work activities. Management has reviewed the respiratory protection section of the Safety Data Sheets for chemical exposures of concern; made use of air monitoring results; utilized manufacturer's respirator selection guides, and consulted with sales representatives in order to provide employees with adequate respiratory protection for existing hazards in the facility. The following types of respirators are available.
 - a) 3M 8710 respirator (dust/mist) -utilize when working in the fluff room #1 polishing bench.

- b) Wilson 42491 full face respirator with acid mist cartridge -utilize when entering glass etching booth to perform maintenance or cleaning.
- c) Racal airworthy powered respirator with HEPA filters -for lead filing in the electro-guard department.

II. Authority and Responsibility

1. Edgar Begood, Operations Manager, administers this program. He will ensure that the objectives of this program are met and that adequate time, training, and funding is available for its operation.
2. Specific respiratory protective equipment shall only be selected by the Respirator Monitors under the guidance of the Administrator. These employees have received the necessary training to provide instruction in respirator use:
 - a) Edgar Begood, Operations Manager (1st Shift)
 - b) Jean Toffey, 1st Shift, Safety Committee Chairperson
 - c) William Tan, 2nd Shift Supervisor
 - d) Oscar Myer, 3rd Shift Paint Foreman
3. All employees who use respirators shall be instructed and trained in the use, maintenance, inspection, seal checks, storage, and limitations of this equipment on an annual basis (more often if necessary) by one or more of the above Monitors. Workers will receive a Respirator Issuance and Training Card when the monitor determines that they have demonstrated sufficient knowledge of competent respirator use. The card will be in effect until the following year's training period.
4. Inspection: A respirator will be inspected by the employee wearing it prior to each use. All respirators will be inspected monthly by the Monitors. Written records will be maintained of these inspections and will be kept with this document. Worn or deteriorated parts shall be replaced. The following employees are responsible for the monthly respirator inspection:
 - a) Jean Toffey inspects 1st shift.
 - b) William Taft inspects 2nd shift.
 - c) Oscar Myer inspects 3rd shift.

Jean Toffey and William Taft will be responsible for providing an inventory of spare parts and performing minor repairs on respirators.

III. Medical Evaluation

1. Prior to respirator use (including fit testing) employees shall receive a physician's medical evaluation to determine if they are able to wear a respirator. Employees will report to (medical service name) with their respirator and a description of the type of work they will be performing provided by the shift's Respirator Monitor (it will include the expected physical work effort, duration and frequency of respirator use, and average temperature and humidity expected). We will also provide you with a copy of this written program and a copy of the standard - Section (e) Medical Evaluation and Appendix C will be highlighted.
2. While additional medical evaluations after the initial respirator assignment are not time-dependent, but event-related, the company has elected to have employees evaluated once every five years unless (1) otherwise specified by the attending physician or the Program Administrator; (2) the employee reports symptoms of inability to wear a respirator; (3) information from the respiratory protection program indicates a need for reevaluation; (4) a change in workplace conditions increases the physiological burdens on employees.
3. Physicals shall be provided at no cost and without loss of pay to the employee.
4. The physician's written recommendation on an employee's eligibility to wear a respirator will be kept on file and updated as necessary. The employee will be supplied a copy.

IV. Fit Testing

1. No employee shall be issued a respirator without being tested to determine if the respirator fits properly. The company has determined that no exposures on-site are in excess of 10 times existing OSHA PELs and accordingly, will utilize qualitative testing as outlined by OSHA-accepted protocols for irritant smoke to determine proper respirator fit for employees. The Respirator Monitors may perform this testing using the Wannabe Respirator Test Kit or you may be sent to Williams Respirator Supply House who has agreed to perform this OSHA mandated fit test for the company.

2. Fit testing will be conducted:

- a) annually, or when a physician, supervisor, or program administrator notes a significant weight change in the employee (20 pounds or more);
 - b) after scarring in the area of face piece seal;
 - c) after significant dental changes;
 - d) after reconstructive or cosmetic surgery;
 - e) after any conditions that may interfere with face piece sealing.
3. If a proper face seal cannot be accomplished with a negative pressure respirator, a powered air purifying or air-supplied respirator may be required instead.
4. No facial hair that interferes with satisfactory fit of the mask-to-face seal is allowed on personnel if they are required to wear a respirator. Employee must be clean-shaven when reporting for the fit test.
5. The person or company conducting the fit test will complete a Respirator Fit Test Record form and ensure it is kept in the employee's training file until replaced by the following year's test.

V. Operating Procedures for Respirators

1. **Cleaning:** Respirators will be kept in sanitary condition, dirty respirators that are not discarded shall be thoroughly inspected, disassembled, and cleaned. The components will be cleaned and disinfected using warm water, mild detergent with disinfectant, and the nylon brush located near the wash sink outside the laboratory area. After rinsing in clean water, respirators will be allowed to air dry prior to storage.
2. **Storage:** Respirators will be placed in individual plastic bags when not in use during the workday; after the respirator at the end of the shift, respirators will be placed face up in the individual's respirator storage box adjacent to the cleaning sink.
3. Respirators may not be worn when conditions such as dirt, facial hair, etc. prevent a good face seal. Employees may always take time to wash their face and respirator to prevent eye and skin irritation. To assure proper protection, the face piece seal must be checked by wearing before each use. This is accomplished in the following procedures:

- a) Positive pressure test: close off exhalation valve with your hand. Breathe air into the mask. The face fit is satisfactory if some pressure can be built up inside the mask without air leaking out between the mask and the face.
- b) Negative pressure test: close off the inlet opening of cartridge with the palm of your hand. Some masks may require that the filter holder be removed to seal off the intake valve. Inhale gently so that a vacuum occurs within the face piece. Hold your breath 10 seconds. If the vacuum remains and no inward leakage is detected, the respirator is properly adjusted.

4. Limitations of Air Purifying Respirators:

- a) Cartridge service life is limited. Always leave the contaminated area if smell or taste is detected or when breathing becomes difficult or dizziness or other distress occurs. The company will supply End of Service Life Indicators (ESLI) wherever possible. In the event that ESLIs are not available, we have arrived at a cartridge change schedule for your specific respirator and work area based upon information we have gathered from air sampling results, equipment suppliers and manufacturers.
- b) Cartridges must be selected on the basis of the individual contaminant and its concentration level -this selection will be made by the Respirator Monitors who base their decisions on SDSs, manufacturer's use selection guides, and air monitoring results.
- c) The air-purifying respirator does not supply oxygen and therefore should never be used in an oxygen-deficient atmosphere or to enter an area of unknown contaminant or concentration. Half-mask respirators generally provide protection for up to 10 times the permissible exposure limit. (Full faced respirators in this facility are limited to this same exposure level due to our selection of fit testing methods). An air-purifying respirator cannot be used in an Immediately Dangerous to Life or Health (IDLH) concentration of a chemical. If you do not know if your respirator will protect you from a chemical exposure, do not enter the area until you have checked with your Respirator Monitor.

- 5. Emergency Respiratory Equipment: **(Note - this type of equipment may not be required for your company)** Self-contained breathing apparatus may be required in specific areas for emergency use. This equipment will be used only by trained personnel when it is necessary to enter hazardous atmospheres. The following points should be considered:

- a) All potential users will be fully trained in the use of this equipment.
- b) When the equipment is used, it will be tested in an uncontaminated atmosphere prior to entering the hazardous area if possible.
- c) An employee will not work with this apparatus in a hazardous atmosphere on an individual basis. At least one additional employee suitable equipped with a similar breathing apparatus must be in contact with the first employee and must be available to render assistance if necessary.
- d) This equipment will be inspected monthly by trained department or group personnel. Inspection and maintenance information will be recorded in a logbook and the current inspection will be checked off on tags attached to the storage compartment.

VI. Administration

1. Day-to-Day Operation: A Respirator Monitor has been assigned for each shift and shall be responsible for monitoring work area conditions and employee exposure. The designated Monitor shall evaluate the capabilities of the worker prior to respirator use. Such an evaluation shall include determining whether the worker is physically able and qualified to use respiratory equipment during the shift. The designated monitor shall insure that respirators are being used correctly during the shift. The designated monitor shall determine when changes in workload, materials, or techniques result in increased exposures that require additional air monitoring. This information shall be passed on to the Program Administrator, Edgar Begood, who will provide for the air sampling.
2. Program Evaluation: This respiratory program will be evaluated as necessary and, at least, annually by Edgar Begood. The evaluation will include:
 - a) Program effectiveness -arrived at by observation and interviews with employees and managers.
 - b) Equipment repair and maintenance -arrived at by inspection of equipment and supplies.
 - c) Respirator training -arrived at by review of training records and interviews with employees.
 - d) Medical surveillance -arrived at by review of records.
 - e) Employee monitoring -arrived at by observation and interviews with employees and managers.

-End of Sample Respirator Program-

VII. OSHA Appendix D requirement for use of dust masks

Appendix D to Sec. 1910.134 (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.
2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.
3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.
4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

PRINT YOUR
NAME _____

SIGNATURE _____
DATE _____