



Printers'
National
Environmental
Assistance
Center

Printing
Environmental Technology

Fact Sheet

PNEAC
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1-888-US-PNEAC

COMPLIANCE ISSUES FOR LITHOGRAPHIC PRINTERS

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The following is a list of potential sources of pollution to the air, water, and land commonly found in a lithographic printing plant that may be subject to permitting and/or special waste disposal and reporting requirements. Not all activities and pollutants identified can be found in each offset printing facility. The federal regulations that may impact these activities are referenced by section number (part), and at the end of this fact sheet specific chapter, subchapter, and specific sections are referenced. State and local regulations vary, and therefore the printer should review those regulations or seek assistance with identifying whether or not regulations apply to each process, product or equipment.

EPA = U.S. Environmental Protection Agency	VOC = Volatile Organic Compound	HAP = Hazardous Air Pollutant
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AIR

Prepress Department:

Sources of VOC Emissions	Comment	Potential Requirement	Federal Regulation
Plate Correction Fluids -	Insignificant amounts of VOC may be emitted from plate correction fluids simply due to the small volume typically used by most printing facilities.	Low levels of VOC emissions are not usually regulated or permitted, except in the case of facilities subject to Title V or FESOP permitting requirements, in which case the emissions would have to be inventoried, but likely considered "insignificant" or trivial. Several state air pollution control authorities exempt prepress activities from permit requirements.	40 CFR Part 70

Film Cleaner	Insignificant amounts of VOC may be emitted from film cleaners simply due to the small volume typically used by most printing facilities.	Low levels of VOC emissions are not usually regulated or permitted, except in the case of facilities subject to Title V or FESOP permitting requirements, in which case the emissions would have to be inventoried, but likely considered "insignificant" or trivial. Several state air pollution control authorities exempt prepress activities from permit requirements.	40 CFR Part 70
Proofing	Insignificant amounts of VOC may be emitted from newer proofing systems due to new chemistries and technology. Existing older solvent-based proofing systems can emit larger quantities of VOC.	Low levels of VOC emissions are not usually regulated or permitted, except in the case of facilities subject to Title V or FESOP permitting requirements, in which case the emissions would have to be inventoried, but likely considered "insignificant" or trivial. Several state air pollution control authorities exempt prepress activities from permit requirements.	40 CFR Part 70
Plate Making	Insignificant amounts of VOC may be emitted from plate making simply due to the small volume and low VOC content of most plate developing chemistries typically used by most printing facilities.	Low levels of VOC emissions are not usually regulated or permitted, except in the case of facilities subject to Title V or FESOP permitting requirements, in which case the emissions would have to be inventoried, but likely considered "insignificant" or trivial. Several state air pollution control authorities exempt prepress activities from permit requirements.	40 CFR Part 70
Film Developing	Insignificant amounts of VOC may be emitted from film developing simply due to the small volume and low VOC content of most plate developing chemistries typically used by most printing facilities.	Low levels of VOC emissions are not usually regulated or permitted, except in the case of facilities subject to Title V or FESOP permitting requirements, in which case the emissions would have to be inventoried, but likely considered "insignificant" or trivial. Several state air pollution control authorities exempt prepress activities from permit requirements.	40 CFR Part 70
Sources of HAPs	Comment	Potential Requirement	Federal Regulation
Film Cleaner	Insignificant amounts of HAP, namely hexane, may be emitted from film cleaners simply due to the small volume typically used by most printing facilities.	Low levels of HAP emissions are not usually regulated or permitted, except in the case of facilities subject to Title V or FESOP permitting requirements, in which case the emissions would have to be inventoried, but likely considered "insignificant" or trivial. Several state air pollution control authorities exempt prepress activities from permit requirements.	40 CFR Part 70

Film Developing	While hydroquinone is a common ingredient in film developers and is a HAP, it is not generally released to the air. Hydroquinone is consumed in the film development process.		
Plate Making, Proofing, and Other Activities	HAPs are not commonly found in the chemicals used in these processes.		
Sources Particulate Matter	Comment	Potential Requirement	Federal Regulation
None commonly known.			

Printing Department

Sources of VOC Emissions	Comment	Potential Requirement	Federal Regulation
Fountain solution -	Products that contain wetting additives such as alcohols (isopropyl alcohol) or alcohol substitutes are considered VOC emission sources.	<p>Permit, record keeping, reporting, monitoring</p> <p>For heatset web sources subject to RACT* requirements one of the following needs to be met:</p> <ol style="list-style-type: none"> 1. Maintain the as applied VOC content of the fountain solution at or below 1.6 percent, by weight; or 2. Maintain the as applied VOC content of the fountain solution at or below 3.0 percent, by weight, and refrigerate the fountain solution to 60°F or less; or 3. Maintain the as applied VOC content of the fountain solution at or below 5.0 percent, by weight, and use no alcohol in the fountain solution. <p>For nonheatset web sources subject to RACT* requirements one of the following needs to be met:</p> <ol style="list-style-type: none"> 1. Use no alcohol in the fountain solution 2. Maintain the as applied VOC content of the fountain solution at or below 5.0 percent, by weight, and use no alcohol in the fountain solution. <p>For sheetfed sources subject to RACT* requirements one of the following needs to be met:</p> <ol style="list-style-type: none"> 1. Maintain the as applied VOC content of the fountain solution at or below 5.0 percent. by 	40 CFR Parts 50, 51, 70, 82

		weight; or 2. Maintain the as applied VOC content of the fountain solution at or below 8.5 percent, by weight, and refrigerate the fountain solution to 60°F or less; or	
Cleaning Solvents – Blanket and Roller Washes	Most solvent based cleaning products will contain specific or blends of various chemicals or compounds that are considered a VOC. Detergent based products, used for specific applications, may have little to no VOC. Alternative blanket wash solutions may still contain small amounts of VOC.	Permit, record keeping, reporting, monitoring For sources subject to RACT requirements*, blanket and roller wash shall be 1. no greater than 30% VOC by weight., or VOC composite vapor pressure shall be less than 10 mm Hg at 20°C (68°F).	40 CFR Parts 50, 51, 70, 82
Inks/Coatings	Traditional petroleum based and soy based inks will contain VOC's. Sheetfed and non-heatset web inks and conventional coatings (varnishes) only emit 5% of the VOC content. Heatset web offset inks and conventional coatings (varnishes) emit 80% of the VOC content. Ultra violet and electron beam curable inks contain zero or trace amounts of VOC. Coatings are either conventional varnish, water based, solvent based, or UV curable with UV and conventional coatings possessing the same emission characteristics as inks. Water and solvent based coatings will release all of the VOCs in them.	Permit, record keeping, reporting, monitoring For heatset sources subject to RACT requirements, duct heatset web dryer emissions to a pollution control device capable of reducing emissions by 90% or greater. There are no ink VOC requirements for nonheatset web or sheetfed sources subject to RACT.	40 CFR Parts 50, 51, 70, 82
Paper coating operations -	Some paper coatings such as adhesives or other materials applied in-line may contain solvents that emit VOC's.	Permitting, record keeping, reporting, monitoring. The paper coating RACT rule limits the VOC content is 2.5 pounds per gallon minus water and exempt compounds.	40 CFR Parts 50, 51, 61, 63, 68, 70, 82

Sources of HAP	Comment	Potential Requirement	Federal Regulation
Fountain solution	Fountain solutions (alcohol substitutes) typically contain ethylene glycol, and several different types of glycol ethers.	Permit, record keeping, reporting, monitoring	40 CFR Parts 61,63
Fountain Solution Refrigeration Systems or Equipment Chillers	Systems may contain refrigerants (CFC's or HCFC's) that are classified as ozone depleting substances.	Venting of refrigerant is prohibited. Refrigerants must be recovered and recycled by certified technician. Equipment used to recover and recycle refrigerants must be certified. Certified technician must complete servicing. Refrigeration units containing more than 50 pounds of Class I or Class II refrigerants must have records of servicing activities maintained. Used refrigeration equipment cannot be discarded without first removing refrigerant.	40 CFR Part 82
Inks/Coatings	HAP's are not commonly found in offset inks and coatings.	N/A	N/A
Cleaning Solvent	Cleaning solvent blends and/or pure chemicals such as Methyl Ethyl Ketone (MEK) may contain hazardous air pollutants. Common HAPs include glycol ethers, xylene, cumene, Review MSDS and the EPA's list of HAP's	Permit, record keeping, reporting, monitoring	40 CFR Parts 61, 63, 68
Sources of PM	Comment	Potential Requirement	Regulation
Printing presses	Paper dust, spray powder from sheetfed presses, and other particulates in the form of condensable organics from uncontrolled ink oil emissions from heatset web presses may be emitted. PM emissions are generally not significant leading to opacity problems.	Permit, record keeping, reporting, monitoring If ducted outside facility - most state permitting authorities have a 20% over a six minute period opacity limit and some have instantaneous limits of 60%.	40 CFR Parts 50, 51, 70
In-line trimming or cutting	Paper dust	If ducted outside facility permit, record keeping, reporting, monitoring	40 CFR Parts 50, 51, 70

		If ducted outside facility - most state permitting authorities have a 20% over a six minute period opacity limit and some have instaneous limits of 60%.	
Cyclone W/ baler systems	Paper dust	If ducted to outside facility - permit, record keeping, reporting, monitoring If ducted outside facility - most state permitting authorities have a 20% over a six minute period opacity limit and some have instaneous limits of 60%.	40 CFR Parts 50, 51, 70
Sources of CO,Sox, & NOx	Comment	Potential Requirement	Federal Regulation
Heatset Web Offset printing press dryers	Gas fired dryers are a source of CO, SOx & NOx. Most dryers found in printing are not large units and do not emit significant amounts of pollutants.	Record keeping, reporting Most dryers firing natural gas with heat input of 10 million Btu or less are exempt from permitting. Threshold for those burning fuel are lower – Check with State/Local Authority.	40 CFR Parts 50, 51, 70
Boilers	Natural Gas and fuel oil fired boilers are a source of CO,SOx & NOx. Most boilers found in printing are not large units and do not emit significant amounts of pollutants.	Dependant on Btu capacity - Permit, record keeping, reporting, monitoring Most boilers firing natural gas with heat input of 10 million Btu or less are exempt from permitting. Threshold for those burning fuel are lower – Check with State/Local Authority.	40 CFR Parts 50, 51, 70
Fuel Combustion Equipment - heating devices, hot water heaters, furnaces, space heaters, backup generators	Gas and fuel oil fired fuel combustion equipment are a source of CO, SOx, & NOx. Most fuel combustion equipment found in printing are not large units and do not emit significant amounts of pollutants.	Dependant on Btu capacity - Permit, record keeping, reporting, monitoring Most fuel combustion equipment firing natural gas with heat input of 10 million Btu or less is exempt from permitting. Threshold for those burning fuel are lower – Check with State/Local Authority.	40 CFR Parts 50, 51, 70
Pollution control devices	Oxidizers are a source of CO, SOx & NOx. Most oxidizers found in printing are not large units and do not emit significant amounts of pollutants.	Permit, record keeping, reporting, monitoring Most oxidizers firing natural gas with heat input of 10 million Btu or less are exempt from permitting. Threshold for those burning fuel are lower – Check with State/Local Authority.	40 CFR Parts 50, 51, 70
Post-Press			

Sources of VOC	Comment:	Potential Requirement	Federal Regulation
Adhesives	Adhesives may contain varying amounts of VOC's and/or HAPs, check the MSDS to determine if the specific product does contain VOC or HAPs. Adhesives are generally not a significant source of VOC and/or HAP emissions.	Permit, record keeping, reporting, monitoring Low levels of VOC emissions are not usually regulated or permitted, except in the case of facilities subject to Title V or FESOP permitting requirements, in which case the emissions would have to be inventoried, but likely considered "insignificant" or trivial.	40 CFR Parts 50, 51, 70, 82
Laminates & coatings	Laminates and coatings may contain varying amounts of VOC's and/or HAPs, check the MSDS to determine if the specific product does contain VOC or HAPs. Laminates and Coatings are generally not a significant source of VOC and/or HAP emissions. See above for more information on coating emissions.	Permit, record keeping, reporting, monitoring Low levels of VOC emissions are not usually regulated or permitted, except in the case of facilities subject to Title V or FESOP permitting requirements, in which case the emissions would have to be inventoried, but likely considered "insignificant" or trivial.	40 CFR Parts 50, 51, 70, 82
Ink jet printing activities	Ink jet inks may contain varying amounts of VOC's and HAP's, check the MSDS to determine if the specific product does contain VOC or HAPs. Some solvent-based ink jet inks can release significant amounts of VOC and HAPs. The most common HAPs are methyl ethyl ketone and methanol.	Permit, record keeping, reporting, monitoring Low levels of VOC emissions are not usually regulated or permitted, except in the case of facilities subject to Title V or FESOP permitting requirements, in which case the emissions would have to be inventoried, but likely considered "insignificant" or trivial. Solvent-based ink jet activities emitting significant levels of VOCs or HAPs could be subject to control requirements.	40 CFR Parts 50, 51, 70, 82
Flexo imprinter	Flexo imprinting inks may contain varying amounts of VOC's and HAP's, check the MSDS to determine if the specific product does contain VOC.	Permit, record keeping, reporting, monitoring	40 CFR Parts 50, 51, 70, 82
Cleaning solvents	See above	See above	See above
Sources of PM	Comment	Potential Requirement	Federal Regulation
Converting & Die Cutting	Paper dust	If ducted outside, permit, record keeping, reporting, monitoring. Most operations venting inside the facility are exempt.	40 CFR Parts 50, 51, 70, 82
Paper slitting			
Cutting and trimming operations (guillotine)		If ducted outside facility - most state permitting authorities	

Perfect binding		have a 20% over a six minute period opacity limit and some have instantaneous limits of 60%.	
In-line off-line trimming or cutting			
Sources of CO, SOx, & NOx	Comment	Potential Requirement	Federal Regulation
None commonly known			

WASTEWATER DISCHARGES

Prepress Department

Sources of Water Pollutants	Comment	Potential Requirement	Federal Regulation
Fixer containing silverthiosulfate -	Silver is a heavy metal whose discharges are regulated by U.S. EPA, state regulatory agencies and local sewer authorities. Printers must meet the discharge limits established by the <i>local</i> sewer authority. A silver recovery system may be required to treat the fix or washwater prior to discharging it into the sewer system or off-site disposal or recycling may be necessary. Fix is also has a low pH and can be high in BODs, CODs, and total suspended solids. Discharges to the sewer must meet the local sewer authority's acceptable pH range. If the material does not, it must be neutralized prior to discharge or disposed of in other means. Do not discharge to a septic system.	Waste water discharge permit and/or pretreatment, or off-site disposal as a hazardous waste.	40 CFR Parts 116, 117, 121, 122, 125, 129, 136
Developer	Developer has a high pH and can be high in BODs, CODs, and total suspended solids. Discharges to the sewer must meet the local sewer authority's acceptable pH range. If the material does not, it must be neutralized prior to discharge or disposed of in other means. Do not discharge to a septic system.	Waste water discharge permit and/or pretreatment	40 CFR Parts 116, 117, 121, 122, 125, 129, 136
Other plate processing solutions	Solutions for conventional aluminum plates are typically water-based with a small amount of solvent, typically propyl alcohol .	Waste water discharge permit and/or pretreatment, or off-site disposal as a	40 CFR Parts 116, 117, 121, 122, 125, 129, 136

	Plate processing solutions for new direct-to-plate systems can have a high pH and BODs, CODs, and total suspended solids. Plate processing solutions for etching bimetallic plates exhibit low pH. Discharges to the sewer must meet the local sewer authority's acceptable pH range. If the material does not, it must be neutralized prior to discharge or disposed of in other means. Do not discharge to a septic system.	hazardous waste for bimetallic etching chemistry.	
Film & Plate Processor Cleaning Solutions	Traditional film and plate processor cleaning solutions may contain chromic acid, which exhibits a low pH and high chrome content. Chromic acid should be avoided as it may be carcinogenic to humans. Discharges to the sewer must meet the local sewer authority's acceptable metal content and pH range. If the material does not, it must be neutralized prior to discharge or disposed of in other means. Do not discharge to a septic system.	Waste water discharge permit and/or pretreatment, or off-site disposal as a hazardous waste.	40 CFR Parts 116, 117, 121, 122, 125, 129, 136

Printing Department

Sources of Water Pollutants	Comment	Potential Requirement	Federal Regulation
Fountain solution	May contain flammable materials (isopropyl alcohol) that are prohibited from all sanitary discharge systems if the flashpoint is below 140°F. Need to confirm acceptability with local POTW. Do not discharge to a septic system.	Need permission from local POTW to discharge. Waste water discharge permit and/or pretreatment, or off-site disposal..	40 CFR Parts 114, 116, 117, 121, 122, 125, 129, 136
Water based coatings and adhesives	May contain flammable materials (isopropyl alcohol) and other solvents in limited quantities that are prohibited from being discharged if the flashpoint is below 140°F. Need to confirm acceptability with local POTW. Do not discharge to a septic system.	Need permission from local POTW to discharge. Waste water discharge permit and/or pretreatment, or off-site disposal.	40 CFR Parts 114, 116, 117, 121, 122, 125, 129, 136
Floor and equipment cleaning wash water	May contain flammable or combustible materials, excessive color or pigment, and heavy metals. May also exceed the acceptable pH range for discharge water established by the local sewer authority, this is commonly associated with detergent based products. Do not discharge to a septic system.	Need permission from local POTW to discharge. Waste water discharge permit and/or pretreatment, or off-site disposal.	40 CFR Parts 114, 116, 117, 121, 122, 125, 129, 136

Post Press

Sources of Water Pollutants	Comment	Potential Requirement	Federal Regulation
Compressor condensate water -	May contain excessive fats/oils/grease. An oil water separator may be needed to remove excess oil prior to discharging the condensate in order	Waste water discharge permit and/or pretreatment or off-site disposal	40 CFR Parts 114, 116, 117, 121, 122, 125, 129

	to meet the local sewer authority's discharge limit. Oil recyclable if separated from water. Do not discharge to a septic system.	pretreatment, or off-site disposal.	136, 279
Water based coatings and adhesives	May contain flammable materials (isopropyl alcohol) and other solvents in limited quantities that are prohibited from being discharged if the flashpoint is below 140° F. Some adhesives may contain binders that will disrupt the municipal waste water treatment system. Need to confirm acceptability with local POTW. Do not discharge to a septic system.	Waste water discharge permit and/or pretreatment, or off-site disposal	40 CFR Parts 114, 116, 117, 121, 122, 125, 129, 136, 279

SOLID WASTE - LAND (Hazardous Waste)

Prepress Department:

Sources of Solid Waste	Comment	Potential Requirement	Federal Regulation
Spent film	Contains trace amounts of silver halide. Considered a hazardous waste if silver content is greater than 5 ppm as measured by TCLP. Most films used in the graphic arts industry are not hazardous. Contact vendor for confirmation or otherwise test. May be recycled.	EPA Haz. Waste Generator ID#, manifest, record keeping, testing, proper handling and storage, labeling and other requirements (Only if hazardous waste).	40 CFR Parts 241, 260, 261, 262, 268
Spent Fixer	Contains silver, even after passing through silver recovery units. Considered a hazardous waste if silver content is greater than 5 ppm as measured by TCLP. Will have to test to confirm silver concentration. May be recycled.	EPA Haz. Waste Generator ID#, manifest, record keeping, testing, proper handling and storage, labeling and other requirements (Only if hazardous waste).	40 CFR Parts 241, 260, 261, 262, 268
Spent Developer	Spent developer is generally not classified as a hazardous waste. Confirm with testing. May be recycled.		
Spent Plate Developing Solutions	Spent developer is generally not classified as a hazardous waste. Confirm with testing for silver content (daylight plates and some direct-to-plate). May be recycled.	EPA Haz. Waste Generator ID#, manifest, record keeping, testing, proper handling and storage, labeling and other requirements (Only if hazardous waste).	40 CFR Parts 241, 260, 261, 262, 268
Used Containers	Packaging for photo and plate processing chemicals may contain product	If containers are to be recycled,	40 CFR Part 261

	residues. Make sure containers meet the EPA's definition of "empty" (i.e., contains less than 1" of material in a 30-55 gallon drum or less than 3% of the dry volume weight). In order to recycle off site generator may need to rinse containers prior to shipment.	records documenting the number of drums or containers per shipment to reconditioner/recycler should be retained.	49 CFR Part 173.29
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Printing Department

Sources of Solid Waste	Comment	Potential Requirement	Federal Regulation
Offset Printing plates	Some plates such as paper and polyester "daylight" plates or direct-to-plate systems using silver halide may contain trace amounts of silver halide. Considered a hazardous waste if silver content is greater than 5 ppm as measured by TCLP. Contact vendor for test results or otherwise test to confirm status. May be recycled, especially aluminum plates.	EPA Haz. Waste Generator ID#, manifest, record keeping, , testing, proper handling and storage, labeling and other requirements (Only if hazardous waste).	40 CFR Parts 241, 260, 261, 262, 268
Ink waste– Offset Lithographic	Most uncontaminated lithographic ink does not meet the definition of a hazardous waste. Some specialty inks may contain regulated metals, which are considered hazardous and could render the waste ink hazardous. Contact vendor for TCLP test results or otherwise test to confirm status. Should be segregated from other non-hazardous ink waste. Can be reblended or recycled.	EPA Haz. Waste Generator ID#, manifest, record keeping, , testing, , proper handling and storage, labeling and other requirements (Only if hazardous waste).	40 CFR Parts 40 CFR Parts 241, 260, 261, 262, 268
Cleaning solvent waste	May exhibit flammable characteristic (i.e., flashpoint below 140°F) or contain an EPA "listed" solvent making them a hazardous waste. Cleaning solvents mixed with water may also contain excessive suspended solids, excessive color, and/or pH levels that do not meet the local discharge limits.	EPA Haz. Waste Generator ID#, manifest, record keeping, , testing, proper handling and storage, labeling and other requirements (Only if hazardous waste).	40 CFR Parts 241, 260, 261, 262, 268
Adhesives	Generally, adhesive wastes are not classified as hazardous. May exhibit flammable characteristic (i.e., flashpoint below 140°F) or contain an EPA "listed" solvent making them a hazardous waste. Water-based adhesives may also contain excessive suspended solids, excessive color, and/or pH levels that do not meet the local discharge limits.	EPA Haz. Waste Generator ID#, manifest, record keeping, , testing, , proper handling and storage, labeling and other requirements (Only if hazardous waste).	40 CFR Parts 241, 260, 261, 262, 268
Coatings	Generally, coating wastes are not classified as hazardous. May exhibit flammable characteristic (i.e., flashpoint below 140°F) or contain an EPA	EPA Haz. Waste Generator ID#, manifest, record keeping, , testing, ,	40 CFR Parts 241, 260, 261, 262, 268

	"listed" solvent making them a hazardous waste may also contain excessive suspended solids, excessive color, and/or pH levels that do not meet the local discharge limits..	proper handling and storage, labeling and other requirements (Only if hazardous waste).	
Solvent, ink, or oil laden launderable/reusable shop towels	<p>May exhibit flammable characteristic (i.e., flashpoint below 140°F) or contain a EPA "listed" solvent making them a hazardous waste. Many states specifically regulate shop towels and if certain management practices are followed, then they are not considered hazardous wastes. Management practices vary according to state but include:</p> <ol style="list-style-type: none"> 1. Towels must be unsaturated and pass paint filter or "one drop" test. 2. Containers must be labeled and covered or closed. 3. Must have a contract with industrial launderer. <p>Excessive contaminants may cause compliance problems at the industrial laundry facility. Solvent can be recovered from towels for reuse.</p>	EPA Haz. Waste Generator ID#, manifest, record keeping, , testing , proper handling and storage, labeling and other requirements (Only if hazardous waste).	40 CFR Parts 241, 260, 261, 262, 268
Solvent, ink, or oil laden disposable shop towels	<p>May exhibit flammable characteristic (i.e., flashpoint below 140°F) or contain a EPA "listed" solvent making them a hazardous waste. Towels classified as hazardous cannot be landfilled or "thrown into the trash".</p> <p>Grease and oil that is classified as a state hazardous waste will result in the towels being considered hazardous solid waste. Solvent can be recovered from towels for reuse.</p>	EPA Haz. Waste Generator ID#, manifest, record keeping, testing , proper handling and storage, labeling and other requirements (Only if hazardous waste).	40 CFR Parts 241, 260, 261, 262, 268
Sorbent products (oil dry, sorbent socks and drip pads) -	Depending on state or local regulations and contaminants in material, may be subject to significant regulations regarding disposal. Confirm with state on proper management. May be wrung or otherwise treated to remove contaminants. May be reused.	EPA Haz. Waste Generator ID#, manifest, record keeping, testing proper handling and storage, labeling and other requirements (Only if hazardous waste)..	40 CFR Parts 241, 260, 261, 262, 268
Oil / Lubricants	In some states, these materials are classified as state hazardous wastes and are subject to specific recycling and/or storage/handling and disposal regulations. Oils/lubricants containing certain metals or halogens above specific levels are classified as federal hazardous waste. Some states regulate oil and other lubricants as special wastes with separate storage,	EPA Haz. Waste Generator ID#, manifest, record keeping, testing proper handling and storage, labeling and other requirements (Only if hazardous waste)..	40 CFR Parts 241, 260, 261, 262, 268, 279, 300, 302, 355, 370, 372

	handling, and disposal requirements.	Recycling typically avoids significant regulation.	
Containers (ink, solvent, blanket wash, etc.) -	All containers must be emptied according to EPA regulation, which states there must be no greater than 1 inch of material remaining in 30-55 gallon drums and/or no greater than 3% material compared to the total volume of the container. In some states containers are considered a "regulated" waste material and may be classified as hazardous waste depending on the original contents of the container.	Records documenting the # of drums or containers per shipment to reconditioner/recycler should be retained.	40 CFR Part 261 49 CFR Part 173.29

Post Press

Sources of Solid Waste	Comment	Potential Requirement	Federal Regulation
Adhesives	Generally, adhesive wastes are not classified as hazardous. May exhibit flammable characteristic (i.e., flashpoint below 140°F) or contain an EPA "listed" solvent making them a hazardous waste. Water-based adhesives may also contain excessive suspended solids, excessive color, and/or pH levels that do not meet the local discharge limits.	EPA Haz. Waste Generator ID#, manifest, record keeping, , testing , proper handling and storage, labeling and other requirements (Only if hazardous waste).	40 CFR Parts 241, 260, 261, 262, 268
Coatings	Generally, coating wastes are not classified as hazardous. May exhibit flammable characteristic (i.e., flashpoint below 140°F) or contain an EPA "listed" solvent making them a hazardous waste may also contain excessive suspended solids, excessive color, and/or pH levels that do not meet the local discharge limits..	EPA Haz. Waste Generator ID#, manifest, record keeping, , testing , proper handling and storage, labeling and other requirements (Only if hazardous waste).	40 CFR Parts 241, 260, 261, 262, 268

Solid Waste generated during production activities that is typically not regulated as a land pollutant:

Prepress Department:

Sources of Solid Waste	Comment	Potential Requirement	Federal Regulation
Plate and film packaging, slip sheets, and other nonhazardous solid wastes.	May be recycled.		

Printing Department

Sources of Solid Waste	Comment	Potential Requirement	Federal Regulation
Paper (from make ready & web breaks or jams)	May be recycled.	See state & local requirements	
Off spec printing	May be recycled.	See state & local requirements	
Shrink wrap, paper wraps, and paper cores (from incoming raw materials)	May be recycled.	See state & local requirements	

Post Press

Sources of Solid Waste	Comment	Potential Requirement	Federal Regulation
Shrink wrap (from outgoing material wrapping)	May be recycled.	See state & local requirements	

Other

Sources of Solid Waste	Comment	Potential Requirement	Federal Regulation
Wooden Pallets / Broken Pieces	Pallet material may be regulated by state or local regulation regarding disposal. Good pallets can be reused; broken pallets can be repaired/refurbished. If material is contaminated with solvents, inks, oil, etc, it may be considered regulated or potentially hazardous waste.	May be restricted from land disposal. EPA Haz. Waste Generator ID#, manifest, record keeping, , testing, proper handling and storage, labeling and other requirements (Only if hazardous waste).	40 CFR Parts 241, 260, 261, 262, 268
Corrugated or other packaging	If packaging is contaminated with solvents, inks, oil, etc. it may be considered a regulated waste.	May be restricted from land disposal if specific conditions exist.	40 CFR Part 241,
Lead/Acid Batteries	Considered a hazardous waste due to lead content. May be recycled.	U.S. EPA Universal Waste Rules	40 CFR Parts 260, 261, 264, 265, 268, 270, 273
Fluorescent Bulbs	Considered a hazardous waste due to mercury content. May be recycled. New, low or no mercury bulbs are now available. Make sure they pass the TCLP for heavy metals prior to disposal in municipal waste. Contact vendor for TCLP test data or otherwise test.	U.S. EPA Universal Waste Rules	40 CFR Parts 260, 261, 264, 265, 268, 270, 273

Incandescent Bulbs	May be considered hazardous waste due to lead content. May be recycled.	U.S. EPA Universal Waste Rules	40 CFR Parts 260, 261, 264, 265, 268, 270, 273
Lighting ballasts containing Mercury (Hg)	May be recycled.	U.S. EPA Universal Waste Rules	40 CFR Parts 260, 261, 264, 265, 268, 270, 273
Lighting ballasts installed prior to 1972	May contain PCB's in packing material. May be recycled.	U.S. EPA Universal Waste Rules	40 CFR Parts 260, 261, 264, 265, 268, 270, 273
Spent computers and other electronic devices	May contain regulated precious metals and other recyclable materials. May be recycled.	U.S. EPA Universal Waste Rules	40 CFR Parts 260, 261, 264, 265, 268, 270, 273

For additional information about compliance issues or pollution prevention opportunities in the printing industry visit the PNEAC web site at www.pneac.org

Graphic Arts Technical Foundation - Gary Jones or Rick Hartwig (412/741-6860)

Printing Industries of America - Ben Cooper (703/519-8115)

Illinois Hazardous Waste Research & Information Center - Gary Miller (217/333-8940) or Debra Jacobson (630/472-5019)

University of Wisconsin - Wayne Pferdehirt (608/265-2361)

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Reasonable effort has been made to review and verify information in this document. Neither PNEAC and it's partners, nor the technical reviewers and their agencies, assume responsibility for completeness and accuracy of the information, or its interpretation. The reader is responsible for making the appropriate decisions with respect to their equipment and regulatory obligations. It is imperative to verify current applicable regulatory requirements with state and/or local regulatory agencies.

40 CFR Regulations Potentially Affecting Lithographic Printers
(Record keeping Citations)

Part 50 - National Primary and Secondary Ambient Air Quality Standards Sections 50.1-50.12

Part 51 - Requirements for Preparation, Adoption, and Submittal of Implementation Plans

Subpart G - Control Strategy Section 51.110 - 51.119

Subpart I - Review of New Sources and Modifications Section 51.160 - 51.166

Subpart J - Ambient Air Quality Surveillance Section 51.190

Subpart K - Source Surveillance Section 51.210 - 51.214

Subpart N - Compliance Schedule Section 51.260 - 51.262

Subpart P - Protection of Visibility Section 51.300 - 51.307

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Companies may also be subject to:

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Part 459 - Photographic Point Source - Effluent Guidelines
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Reasonable effort has been made to review and verify information in this document. Neither PNEAC and its partners, nor the technical reviewers and their agencies, assume responsibility for completeness and accuracy of the information, or its interpretation. The reader is responsible for making the appropriate decisions with respect to their operation, specific materials employed, work practices, equipment and regulatory obligations. It is imperative to verify current applicable regulatory requirements with state and/or local regulatory agencies.