



Mercury Minimization Plan Checklist

Industrial Stormwater Program

Doc Type: Pollutant Minimization Plans

Instructions: Some industrial facilities with industrial stormwater, hazardous waste, or air quality requirements may be required to complete a Mercury Minimization Plan (MMP). Use this checklist to check that all Minnesota Pollution Control Agency (MPCA) mercury requirements are in your facility's MMP. If you check "No" for any question, make changes at your facility. This checklist is for your use; do not submit this checklist to the MPCA.

Section A - Mercury Minimization Plan requirements for all facilities regulated by the industrial stormwater permit

All industrial stormwater facilities:

Have all potential sources of mercury been identified and listed in the MMP? A database of mercury in products is available at the Mercury-added Products Database website: http://www.newmoa.org/prevention/mercury/imerc/Notification/browse.cfm . If no mercury-containing devices are present, a MMP is not required.	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP include how mercury sources will be managed to prevent exposure to precipitation and stormwater runoff?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP describe how the collected devices will be managed in accordance with Hazardous Waste rules?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Is the MMP attached to the facility's Stormwater Pollution Prevention Plan (SWPPP)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP include employee training for inspecting, collecting, managing, storing, and disposing of mercury-containing devices? Consider including the following topics in your training: <ul style="list-style-type: none"> • State and federal rules for the removal, storage, transportation, and disposal of mercury-containing components. • How to identify scrap that is likely to have mercury-containing devices, what those components look like, and where they are located in the appliance, equipment, or vehicle. • Record-keeping requirements. • Safety precautions for handling scrap and hazardous materials, including broken and leaking mercury-containing devices. • Spill prevention and cleanup procedures. 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

All industrial stormwater regulated facilities with mobile activities: Industrial activities conducted away from a permitted facility are regulated. Facilities that might have mobile activities include mobile automobile crushers and concrete batch plants. Any regulated facility with mobile activities must document within their SWPPP a list of activities, control measures, and locations of mobile activities. They must also provide a summary of activities, locations, and length of time at each mobile location on their Annual Report.

If the facility has mobile activities involving mercury-containing devices, has the facility included a section in the MMP listing mobile activities?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the section address stormwater control measures to manage mercury-containing devices at mobile locations?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the facility keep a copy of this section of the MMP at the location where the mobile industrial activity occurs?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Section B - Industrial Stormwater Mercury Minimization Plan requirements for Sector M, Automobile Salvage Yards

If a facility's primary SIC code is 5015, Sector M, Automobile Salvage Yards, then an industrial stormwater permit and MMP are required. In addition to the general requirements in Section A of this checklist, automobile salvage yards must include how they will identify and remove mercury devices.

All vehicle recyclers and vehicle scrap processors must remove, manage, and recycle mercury containing convenience lighting switch assemblies, mercury containing ABS switch assemblies, and mercury containing air bag sensor switch assemblies found in some vehicles manufactured before model year 2002. Under Minn. Stat. § 116.92, subd. 4(c), "A person may not crush a motor vehicle unless the person has first made a good faith effort to remove all of the mercury switches in the motor vehicle." The Industrial Stormwater Permit requires that the automobile salvage yard remove the mercury-containing switch, regardless of who later crushes the vehicle. To demonstrate a "good faith effort," develop and administer a MMP that fulfills the requirements listed in this checklist.

The MPCA strongly encourages automotive salvage yards to use the *End of Life Vehicle Switch* collection/recycling program for all automotive mercury components. Many of the requirements contained in this checklist can be addressed by incorporating the procedures found on the End of Life Vehicle Solutions (ELVS) website at: <http://www.elvsolutions.org>.

Automotive salvage yards:

Does the MMP contain all the requirements listed in Section A of this checklist?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the MMP document how the facility evaluates all potential sources of mercury-containing devices?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP include how the facility will manage and recycle mercury-containing devices in accordance with federal rules?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP describe the process of how mercury-containing devices are removed, how spills are avoided and prevented from coming into contact with stormwater, and the methods used for recycling, including any specific recycling program used?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP include information about inspecting for and removing vehicle mercury components such as hood and trunk lighting assemblies, ABS modules, airbag sensors, security system sensors, and remote start hood safety switches?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP document that employee training includes identification, proper removal, and management of mercury-containing devices?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP describe how the facility will ensure all mercury-containing devices have been removed before vehicles are crushed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP prohibit crushing vehicles until all mercury-containing devices have been removed and documented?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP include procedures for immediate inspection of vehicles when they arrive at the yard to remove and segregate mercury switches and other mercury containing devices?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP document that the facility has made a "good faith effort" to remove vehicle switches? <ul style="list-style-type: none"> • Does the MMP document whether the automotive salvage yard is enrolled in the National Vehicle Mercury Switch Recovery Program (NVMSRP)? • Does the MMP direct employees to leave vehicle lighting assemblies intact for shipping through the ELVS switch collection/recycling component of the NVMSRP? • Does the MMP include procedures for evaluating all other sources of mercury-containing devices like appliances and industrial equipment accepted for salvage, scrap, or crushing? • Does the MMP include documentation of the expected number of switches from accepted vehicles and the recovered number of switches from the same vehicles? Use the ELVS webpage to determine the expected number of switches. 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Recordkeeping: Does the MMP document how mercury-containing devices have been managed during the past three years?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Note to suppliers of foundries:

Federal regulations controlling mercury emissions from iron foundries requires that they use only mercury-free scrap, and either conduct inspections of their suppliers or obtain a copy of their supplier's MMP with documentation of the supplier's mercury removal program.

Because scrap must be certified as mercury-free, the MPCA recommends that automobile salvage yards apply an identifying mark to any vehicle that has been inspected to indicate that mercury containing devices such as switches and sensors have been removed. This practice saves valuable time and provides scrap purchasers with a consistent visual confirmation of inspection and switch removal. This practice satisfies the requirement that scrap must be certified as mercury-free.

Iron foundries may request a copy of your MMP as evidence of compliance with federal regulations. See Section F for foundry rule requirements and web links.

Section C - Industrial Stormwater Mercury Minimization Plan requirements for Sector N, Scrap Recycling and Waste Recycling Facilities

If a facility's Primary SIC code is 5093, Sector N, Scrap Recycling and Waste Recycling, then an industrial stormwater permit is required. In addition to the general requirements in Section A, scrap and waste recycling facilities must prepare a MMP to identify and remove mercury devices. The checklist below identifies common mercury devices in appliances, industrial equipment, and heating/ventilating equipment.

Does the MMP contain all the requirements listed in Section A of this checklist?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Does the MMP document how the facility evaluates all potential sources of mercury-containing devices?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP include information on the process used for inspecting, removing, managing, and recycling mercury-containing devices from vehicles, equipment, and appliances that are received uncrushed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP describe the process of how mercury-containing devices are removed, how spills are avoided and prevented from contacting with stormwater, and describe methods used for management and recycling including any specific recycling program used?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Does the MMP include how the facility will manage and recycle mercury-containing devices in accordance with state and federal rules?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP describe how the facility will ensure that vehicles are not crushed until they have been inspected and all mercury devices have been removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Note to suppliers of foundries:

Federal regulations controlling mercury emissions require that foundries use mercury-free scrap and either conduct inspections of their suppliers or obtain a copy of their supplier’s MMP with documentation of the supplier’s mercury removal program.

Because scrap must be certified as mercury-free, the MPCA recommends that scrap and waste recycling facilities apply an identifying mark to any vehicle, equipment, or appliance that has been inspected to indicate that switches have been removed. This practice saves valuable time and provides scrap purchasers with a consistent visual confirmation of inspection and switch removal. This practice satisfies the requirement that scrap must be certified as mercury-free.

Foundries may request a copy of your MMP as evidence of compliance with federal regulations. See Section F for foundry rule requirements and web links.

Requirements for scrap and waste recycling facilities that accept vehicles for crushing or shredding:

If a scrap and waste recycling facility accepts vehicles for crushing and shredding, then the MMP requirements for automobile salvage yards applies.

If vehicles are accepted for crushing and/or shredding, does the MMP include the conditions as described in the Section B for auto salvage yards?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
If the scrap yard accepts crushed vehicles for shredding, does the MMP describe how the scrap yard ensures that vehicles are not crushed until they have been inspected and all mercury-containing devices have been removed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Appliances and residential heating/cooling/refrigeration (HVACR) systems:

Does the MMP include information on how to identify and remove the following? <ul style="list-style-type: none"> • Flame sensors and safety switches in gas-fired burners with standing or spark ignition pilot lights, such as ovens, broilers, dryers, gas refrigerators, and gas central air conditioning • Tilt switches in clothes washers (lid-up safety device) • Tilt switches in chest freezers (lighting) • Flow, temperature, vacuum/pressure control • Safety shutoff devices such as aquastats and pressurestats • Displacement relays 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
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Heavy scrap and commercial/industrial HVACR systems:

Does the MMP include details on how to identify and remove the following? <ul style="list-style-type: none"> • Wetted reed relays • Mercury displacement relays • Electrical devices including tilt switches • Capillary-dial face thermometers (typically used in incinerators, boilers, or high temperature applications) • Mercury in glass thermometers (including shielded and dyed-column thermometers) • Capillary-diaphragm melt pressure transducers 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<ul style="list-style-type: none"> • Manometers, barometers and similar pressure-vacuum-flow rate measurement devices • Tilt switches in float, level, position, temperature, vacuum, pressure, or flow sensors used in material handling equipment, plastics molding, lighting controls, resistance heating controls, or HVACR controls and equipment such as steam and hot water boilers, steam flow controls, low water shutoff, air handling unit controls, refrigeration, and air conditioners 	

Spent fluorescent lamp management guidance:

If spent fluorescent lamps are present at a facility, does the MMP ensure that the facility will not put used lamps in the trash? Is this policy documented in the MMP?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP include a policy that the facility will pack lamps appropriately? Be sure to: <ul style="list-style-type: none"> • Not tape them together • Mark the storage containers “Universal Waste - Used Lamps.” • Store any broken lamps in an airtight container marked “Broken Fluorescent Lamps,” and either send them to a recycling facility or manage them according to hazardous waste rules. 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

<p>If the facility delivers or arranges for the delivery of the lamps to a collection site, make sure the MMP includes the following information:</p> <ul style="list-style-type: none"> Who will transport the lamps and which recycling facility they will take them to. Contact the collection site to find out. Confirmation that the transporter has a contract with that recycling facility. Contact the facility to make sure. 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p>If the facility will store more than 1000 fluorescent lamps at a time, has a financial assurance form been submitted to the MPCA and documented in the MMP? The form is available on the MPCA website at http://www.pca.state.mn.us/index.php/view-document.html?gid=9122</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p>When shipping spent lamps in Minnesota, does the MMP recommend using an invoice or records that list the following:</p> <ul style="list-style-type: none"> Date of shipment Location from which the waste was shipped Destination location 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p>Optional: This is not a requirement according to Universal Waste rules but is recommended. Does the MMP recommend that records be retained for at least three years? If yes, be sure to include:</p> <ul style="list-style-type: none"> The number of lamps removed from service during each calendar year. The waste tracking invoices or manifests for ballasts and lamps. The storage location of the lamps, if stored off site. 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Section D - Hazardous Waste Management Guidance to be addressed in the Mercury Minimization Plan

This guidance specifically addresses mercury wastes, but may also apply to other hazardous wastes. Mercury-containing devices and lamps must be collected and managed as universal waste. Other materials separated at salvage yards and scrap recycling facilities may be hazardous and must be handled accordingly. All generators of hazardous waste must apply for and receive an U.S. Environmental Protection Agency (EPA) Identification (ID) number except for those generating only universal waste. If your facility is located in the metro area check with your county to see if a license is required for generating only universal wastes. For more information, visit the MPCA website at: <http://www.pca.state.mn.us/waste/pubs/business.html>.

General procedures for handling, storing, and transporting mercury switches:

<p>Does the MMP direct employees to store leaking switches in a leak-proof, closed container in a manner that will prevent the capsule from breaking? It is recommended that all switches be stored in this manner.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p>Does the MMP specify that all storage containers for mercury-containing devices or that the non-leaking devices themselves are labeled? The label should be written in English and the predominant language of any non-English-reading workers. Make sure they are labeled with one of the following:</p> <ul style="list-style-type: none"> Universal Waste—Mercury-Containing Equipment Waste Mercury-Containing Equipment Used Mercury-Containing Equipment 	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p>Does the MMP document how the facility will ensure that mercury-containing devices are not stored for longer than one year, such as by writing the date on the container when the first item is added?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p>Does the MMP ensure and document that the facility is inspecting containers regularly to make sure they are not leaking?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p>Does the MMP ensure and document that the facility re-containerizes switches when leaking or broken containers are discovered?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p>Does the MMP ensure and document that the facility takes precautions to prevent damaging or breaking any mercury-containing device? If breakage (a spill) occurs, manage spill debris as fully regulated hazardous waste.</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p>Does the MMP include information about recycling mercury switches by sending them or taking them to a licensed metals recycler that reclaims mercury?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p>Does the MMP ensure and document that if the facility is transporting mercury switches in their own vehicle, they are following the appropriate transportation requirements?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
<p>Does the MMP document that the facility keeps copies on site of waste-tracking invoices, manifests, and export documents for at least three years from the date of shipment?</p>	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A

Section E - Solid waste management

Minn. Stat. § 115A.932 prohibits mercury switches from being placed in solid waste; they must be recycled or sent to a hazardous waste facility. Any other wastes generated during the removal of the mercury switch must be managed according to the solid waste rules. All facilities that generate solid waste must comply with solid waste requirements. For more information, visit the MPCA website at <http://www.pca.state.mn.us/udqx881>.

Section F - For suppliers of foundries: air quality requirements that scrap metal be mercury-free

Federal air standards require certain foundries to confirm that their suppliers are providing mercury-free scrap. For this reason, auto salvage yards and scrap recyclers must produce mercury-free scrap or risk not being able to sell their processed metal. This section (Section F) includes the components of the federal air regulations for foundries that affect scrap vendors. These work practice standards are not required to be included in the MMP prepared for the industrial stormwater permit, but are provided here for completeness.

- 4/22/04 Iron Foundry National Emission Standards for Hazardous Air Pollutant Sources (NESHAPs): <http://www.epa.gov/ttn/atw/ifoundry/fr22ap04.pdf>
- 5/20/05 Iron Foundry NESHAP: <http://www.epa.gov/ttn/atw/ifoundry/fr20my05.pdf>
- 2/07/08 Iron Foundry NESHAP: <http://www.epa.gov/ttn/atw/area/fr07fe08.pdf>

Does the MMP include information about offering materials for sale that do not include lead components, mercury switches, chlorinated plastic parts, or liquids?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP include information about providing a copy of the MMP to the scrap purchaser if needed so they can comply with federal air regulation 40 CFR Part 63 subp. EEEEE (National Emission Standards for Hazardous Air Pollutants for Iron and Steel Foundries)?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP describe in sufficient detail the steps used to remove accessible mercury switches from the scrap supply?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP identify whether prepared scrap is available for purchaser inspection?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP document inspection procedures that include the location(s) where inspections can be performed?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP document each inspection and the results?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP document the reasons a potential purchaser might have for rejecting or returning entire or partial shipments?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A
Does the MMP specify that a copy of the inspection plan procedure be onsite and readily available to all plant personnel with inspection duties?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A