



Sector AA: Fabricated metal products

Industrial stormwater pollution prevention

Sector AA includes facilities described by the following Standard Industrial Classification (SIC) codes: 3411, 3412, 3421, 3423, 3425, 3429, 3431-3433, 3441-3444, 3446, 3448, 3449, 3451, 3452, 3462, 3463, 3465, 3466, 3469, 3471, 3479, 3482-3484, 3489, 3491-3499, 3911, 3914, and 3915.

Materials and activities at fabricated metal product facilities that can impact stormwater include raw material storage, parts and equipment cleaning, material handling, metal preparation such as grinding or welding, metal surface treatment, galvanizing, painting, equipment and vehicle maintenance, equipment storage, and finished product storage.

Pollution prevention practices

Minnesota's industrial stormwater permit requires a written Stormwater Pollution Prevention Plan (SWPPP). Use the SWPPP to assess potential sources of pollutants at your facility and then identify practices that will minimize these pollutants in runoff from the site. This fact sheet lists pollution prevention (P2) practices that can be incorporated into your facility's SWPPP.

Keep in mind that P2 is best achieved by qualifying for the No Exposure exclusion. No Exposure means that rain, snow, and runoff do not contact pollutant-containing materials or activities. Your facility can apply for the No Exposure certification as soon as you qualify, even if you already have the full permit. For more information visit the Minnesota Pollution Control Agency (MPCA)'s No Exposure web page at.

<http://www.pca.state.mn.us/noexposure>.

General strategies

- Keep materials and activities indoors as much as possible. Confine outdoor activities to areas that are covered, away from high traffic areas, out of drainage paths, and on impervious surfaces.
- Regularly clean up areas used for handling, storage, processing and maintenance using dry methods such as sweeping, squeegee and dust pan, reusable wipes, and vacuums.

Shipping and receiving

- Cover or plug storm drains during loading and unloading activities.
- Provide overhangs or door skirts to enclose trailer ends at loading docks.
- Avoid loading or unloading materials in rain or high winds.
- Inspect containers for leaks or damage before loading or unloading.
- For rail transfer, install a drip pan within the rails to collect spillage from the tank.
- Where liquid or powdered materials are transferred in bulk, make sure hose connection points are inside containment areas or drip pans are used.
- Provide dust control if needed by sweeping and/or applying water or other materials that will not impact surface or ground water.

Waste generation reduction

- Minimize the amount of metal working fluids needed by using high quality brands.
- Purchase chemicals in bulk to reduce the storage of chemical containers.
- Practice just-in-time manufacturing to avoid accumulation of stored contaminants.
- Use inventory control to reduce waste, including tracking the date received and expiration dates.
- Contain and frequently collect scrap, dust and other wastes as soon as they are generated.
- Avoid buildup of dust or other deposits on exhaust vents and roof stacks. Install particulate collection equipment if needed.

Raw metal and scrap metal storage areas

- Store metal parts coated with oil indoors or in sheltered areas.
- Avoid storing raw materials outdoors for long periods of time to reduce rust and corrosion.
- Store materials near where they will be used to minimize the chance of spills during transport.
- Store fine metal dusts in sealed containers indoors.
- Cover and plug scrap metal dumpsters or move inside.
- Place scrap or waste products directly into covered transport containers rather than stockpiling until there is a full load.

Metal fabrication areas

- Avoid heavy accumulation of ingots, scrap and metals dust.
- Keep floors clean and dry to minimize what is tracked outdoors.
- Remove obsolete equipment before it has a chance to leak or rust. Recycle unused equipment rather than stockpiling it.
- Keep compressed gas tanks in good condition to prevent leaks or spills. Most tanks are made of steel so monitor them for rust as well.

Metal working fluids, chemical cleaners and rinse water

- Use monitoring equipment to detect leaks and overflows of lubricating oil or hydraulic fluid.
- Use mechanical aids such as pumps, spigots and funnels when transferring metal-working fluids.
- Use tight sealing lids on all fluid containers.
- Label stored materials to help identify leak or spill contents.
- Organize storage for easy access in case of a leak or spill.
- Use drip pans to prevent and contain spills.
- Reuse cleaners and find non-toxic ones.
- Do not pour liquids (including wash water) into floor drains, sinks, outdoor storm drain inlets or other storm drain or sewer connections.

Painting

- Do not paint or sandblast outdoors.
- Use water-based paints when possible.
- Mix paints and solvents in designated areas away from drains, ditches, piers and surface waters; conduct such operations indoors when possible.

- Store new and used paints and solvents indoors.
- Control sand buildup and tracking from sand-blasting.
- Make sure filters are in good condition and not torn or otherwise allowing paint or dust to escape.
- If reclaiming used solvents, conduct operation indoors.
- Clean equipment regularly to remove accumulated dust and residue.
- Use tarps, drip pans, and other spill collection devices; immediately manage any waste properly.
- Be prepared for immediate spill cleanup.

Pallets and drums

- Use sturdy, rust-free drums.
- Clearly label each drum with its contents.
- Store drums close to areas of operation.
- Provide secondary containment for all drums, empty or used, and all above ground tanks.
- Cover dirty or stained wooden pallets with permanent shelter; clean them if possible.

Inspections

- Frequently check raw materials for corrosion.
- Inspect loading and unloading areas for material spills and engine fluid drips.
- Inspect pallets for breakage, dirt or oil.
- Inspect equipment maintenance areas to identify problems and reduce fluid waste.

Employee training

- Train employees in spill prevention, control, cleanup, and materials management techniques.
- Train employees on proper chemical use, storage, cleanup, and waste reuse, recycling or disposal.
- Train employees on good housekeeping measures including all SWPPP components.
- Train employees on equipment operation (for example, how to minimize overspray when using spray equipment).

Cold climate considerations

Minnesota experiences challenging climatic conditions that require thoughtful P2 design and operation. Cold weather, snow, and ice result in extended storage of pollutants in the snowpack. The following P2 activities can help minimize the impact of cold climate on stormwater:

- Sweep sand, salt, and spilled materials from paved surfaces throughout the winter and before snow melts.
- Store materials away from areas where it could get mixed with snow and moved around when the area is plowed. Keep materials out of accumulated or dumped snow.
- Cover salt storage areas to help minimize contact with stormwater.
- Use judicious amounts of de-icing and anti-skid chemicals and road salt.
- Keep plowed snow out of retention ponds. This ensures the treatment capacity of the pond is available during snowmelt or rain on frozen ground.

Stormwater treatment best management practices

Stormwater treatment Best Management Practice (BMP)s are engineered structures that treat stormwater runoff or reduce the stormwater runoff rate, volume, and velocity. In combination with P2 practices, stormwater treatment BMPs such as retention ponds act as a second line of defense against polluting downstream waterbodies. Treatment BMPs should be used down-gradient of areas where P2 activities have

been fully implemented. Specific guidance on stormwater treatment BMPs is in the *Minnesota Stormwater Manual* and the *BMP Guidebook*, which are linked in the Resources section at the end of this fact sheet.

Groundwater pollution potential

Groundwater contamination is of greatest concern where there is a high water table and in karst regions. A water table that is close to the surface can allow pollutants to enter the groundwater system quickly, which does not allow time for pollutant levels to be reduced by the soil. Karst is common in southeastern Minnesota and is largely shaped by the dissolving action of water on limestone. Over time, this creates features such as sinkholes, disappearing streams, complex underground drainage systems, and caves. Water and pollutants can flow rapidly through these features to wells and streams.

Extra precautions to prevent groundwater contamination in these areas include P2 measures such as proper storage and handling of materials, spill prevention planning, good housekeeping, and employee training. In addition, stormwater treatment BMPs used downstream of P2 practices should be designed with sensitivity to local conditions.

Resources

BMP Guidebook (fact sheet #wq-strm3-26) is available on the MPCA website at <http://www.pca.state.mn.us/index.php/view-document.html?gid=10557>.

EPA industrial stormwater fact sheet, *Sector AA: Fabricated Metal Products Manufacturing Facilities*, is available on the EPA website at http://www.epa.gov/npdes/pubs/sector_aa_fabmetal.pdf.

Industrial stormwater webpages on the MPCA website at <http://www.pca.state.mn.us/industrialstormwater>.

Industrial stormwater permit (document #wq-strm3-67a) is available on the MPCA website at <http://www.pca.state.mn.us/index.php/view-document.html?gid=20797>.

Low Impact Development for Businesses webpage on the MPCA website at <http://www.pca.state.mn.us/veiz7d0>.

Manufacturers: Reduce your exposure to stormwater regulations (fact sheet #wq-strm3-15) is available on the MPCA website at <http://www.pca.state.mn.us/index.php/view-document.html?gid=7720>. *Minnesota Stormwater Manual* is available on the MPCA website at <http://stormwater.pca.state.mn.us>.

No Exposure: Qualifying for and keeping the exclusion (fact sheet #wq-strm3-13) is available on the MPCA website at <http://www.pca.state.mn.us/publications/wq-strm3-13.pdf>.

More information

For more information e-mail the MPCA's industrial stormwater program at iswprogram.pca@state.mn.us or call the stormwater hotline at 651-757-2119 or 800-657-3804 (non-metro only).