

Core Shipyard Processes Contributing to Stormwater Pollutant Loading

Sources of Pollutant and
Pollutants of Concern



Pollutants of Concern in Stormwater Discharges

➤ Goals:

- Identify the pollutants of concern in shipyard stormwater discharges.
- Determine the most likely shipyard operations/processes that are the sources of the pollutants of concern.



Pollutants of Concern in Stormwater Discharges

➤ Metals

- TBT
- Copper
- Nickel
- Zinc
- Lead
- Iron
- Manganese
- Chrome
- Magnesium
- Aluminum

➤ Organics

- Oil/Grease
- Fuels
- VOC

➤ Suspended Solids

- Inorganic particulates


Shipyard Sources of Pollutants of Concern

- What operations and processes are the primary contributors of the pollutants of concern?
 - Processes that are usually conducted out of doors.
 - Pollutants generated are usually not controlled at the source.
 - Pollutants generated usually are deposited or distributed in the facility in such manner to be exposed to rain fall.

Shipyard Sources of Pollutants of Concern

- Pre-construction primer removal
 - Process: Dry abrasive blasting
 - Location: Building ways or drydock
- Removal of AF hull coating
 - Process: Dry abrasive blasting
 - Location: Drydock

Shipyard Sources of Pollutants of Concern

- AF coating application
 - Process: Spray painting
 - Location: Building ways or drydock
 - Welding, burning and cutting
 - Process: Arc and torch.
 - Location: Exterior ship and various facility out of doors.
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Shipyard Sources of Pollutants of Concern

➤ Metal Grinding

- Portable grinding equipment
- Exterior ship and facility out of doors

➤ Rolling stock operations

- Wheel vehicles and equipment
- Facility out of doors



Shipyard Stormwater Pollution Process Sources

	Processes and Operations that are the Primary Contributors to Stormwater Water Pollutant Loading					
	Out of Doors Blasting - Preconstruction Primer	Out of Doors Blasting - Removal of Existing Coating	Out of Doors Spray Painting - Exterior Hull	Welding, Burning & Cutting	Metal Grinding	Rolling Stock Operations
Inorganics						
TBT	U	S	U	U	U	U
Copper	U	S	S	M	U	U
Zinc	S	S	S	S	S	S
Nickel	U	S	S	S	S	M
Lead	U	U	U	U	U	M
Iron	S	S	U	S	S	U
Manganese	U	U	U	S	S	M
Chrome	U	U	S	S	S	M
Magnesium	U	U	U	S	S	M
Aluminum	U	U	U	S	S	U
Organics						
Oil/Grease	U	U	U	U	U	S
Petroleum Fuel	U	U	U	U	U	S
VOC	U	U	U	U	U	U
Others						
Particulate	S	S	S	S	S	M
Notes:	S = Significant Contributor to Stormwater Pollutant Loading					
	M = May be a Significant Contributor to Stormwater Pollutant Loading					
	U = Unlikely or Insignificant Contributor to Stormwater Pollutant Loading					