

## Abrasive blasting, scraping and sanding

Issued December 2010

*EPA 928/10: This information sheet is part of a series on environmental management practices for vessel and facility management on marine and inland waters. The information is extracted from the code of practice published in 2008.*

### Introduction

Uncontrolled abrasive blasting, scraping and sanding releases pollutants to soil, water or air both on and off-site. These pollutants pose risks to human health as well the ecosystem. Heavy metals may be consumed by bottom-dwelling organisms and passed up the food chain to humans. Heavy metals that are not incorporated into living tissue will remain in the environment, where they are an ongoing liability.

### Who this applies to

- vessel operators
- slipway operators
- marina operators
- boat yard operators
- boat ramp operators
- boat and yacht club operators

### Operators must (required outcomes)

- 1 obtain environmental authorisations (an EPA licence) for prescribed activities of environmental significance
- 2 use a designated abrasives work area with waste containment, mechanical ventilation, vacuum and filter systems  
OR  
undertake measures to contain and collect dust for licensed waste disposal that reflects the risk of environmental harm from the activity being performed (refer to 'recommended practices' for options)
- 3 comply with *Australian Standard AS5436.1 Guide to lead paint management part 1: industrial applications* (1995) for the removal of lead-based surface coatings
- 4 collect and store removed solid wastes securely, prior to disposal to an approved waste facility. Waste contractors may require testing of the material before accepting it for disposal, particularly if it contains listed wastes.

### Operators should (recommended practices)

- 5 test for the presence of lead-based paints, using representative examples, on all painted structures to be scraped, sanded or blasted where the type of paint is unknown. Retain records of test paint samples
- 6 assume antifouling paints removed from vessels older than 10 years contain tributyltin (TBT) unless tests prove otherwise

- 7 be aware antifouling paints removed from vessels constructed before the 1970s may contain a variety of hazardous chemicals including arsenic, mercury and Dichloro-Diphenyl-Trichlorethane (DDT). Paint residues from these vessels must be disposed of as listed wastes
- 8 use alternatives to abrasive blasting, such as vacuum sanders, paint peeling, mechanical buffing, scraping and manual sanding, or contract the work off site
- 9 remove anodes before blasting, scraping or sanding (wet and dry). Replace them when the job is done
- 10 recycle zinc and magnesium anodes with other scrap metals
- 11 when removing tough hull stains, minimise the use of stain removers and consider more abrasive rubbing or polishing compounds
- 12 use vacuum blasting/sanding equipment for outdoor cleaning. Vacuum cleaning methods use a standard abrasion inside a shroud that is in close contact with the work surface; a vacuum is applied to the shroud, removing the debris and piping it into a material collection and treatment chamber
- 13 investigate companies that recycle used abrasive material into new media or other products
- 14 invest in a closed plastic medium-blast (PMB) system. These systems blast with small plastic bits. Once the blasting is completed, spent material and paint chips are vacuumed into a machine that separates the plastic from the paint dust. The plastic is cleaned and may be reused. Paint dust is collected for disposal
- 15 consider fabric filter (felted cloth, pulse air cleaned) and paper cartridges (pulse air cleaned) as dust collectors
- 16 for outdoor dry sanding and scraping, use tarpaulins, hessian, shade cloth, polythene sheeting or similar screening materials to confine waste material and dust. The screening material should be tear resistant, UV resistant, fire retardant and be able to prevent the escape of fine dust
- 17 filter and treat wastewater from wet abrasive works for reuse
- 18 place material collected from blasting, sanding and scraping operations in disposal containers to prevent emissions to the atmosphere as soon as practical.

## **EPA licence requirements**

An EPA licence is required for the cleaning of materials by the abrasive action of any metal shot or mineral particulate propelled in a gaseous or liquid medium (otherwise than solely by using blast cleaning cabinets less than 5 m<sup>3</sup> in volume or totally enclosed automatic blast cleaning units). Open air blasting is only permissible subject to the consent of the EPA, when the object is too large or too heavy to fit in a booth, or is a fixed structure.

**SafeWork SA should also be consulted on occupational, health, safety and welfare regulations.**

## **References**

EPA, *EPA Guideline: Abrasive blasting*, [www.epa.sa.gov.au/xstd\\_files/Industry/Guideline/ea\\_abrasive.pdf](http://www.epa.sa.gov.au/xstd_files/Industry/Guideline/ea_abrasive.pdf).

EPA, *Code of practice for vessel and facility management (marine and inland waters)*, [www.epa.sa.gov.au/xstd\\_files/Water/Code%20of%20practice/vessels.pdf](http://www.epa.sa.gov.au/xstd_files/Water/Code%20of%20practice/vessels.pdf).

SafeWork SA, *Safework SA Occupational Health Safety and Welfare Regulation, 1995, Division 5.1 Abrasive Blasting*, [www.safework.sa.gov.au/show\\_page.jsp?id=110052&compact\\_query=%28%27regulations%27%29](http://www.safework.sa.gov.au/show_page.jsp?id=110052&compact_query=%28%27regulations%27%29).

## **Useful websites**

EPA Vessel and facility management pages, [www.epa.sa.gov.au/vfm](http://www.epa.sa.gov.au/vfm).

## Disclaimer

This publication is a guide only and does not necessarily provide adequate information in relation to every situation. This publication seeks to explain your possible obligations in a helpful and accessible way. In doing so, however, some detail may not be captured. It is important, therefore, that you seek information from the EPA itself regarding your possible obligations and, where appropriate, that you seek your own legal advice.

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## Further information

### *Legislation*

Legislation may be viewed at: <[www.legislation.sa.gov.au](http://www.legislation.sa.gov.au)>

Copies of legislation are available for purchase from:

Service SA Government Legislation Outlet  
Adelaide Service SA Centre  
108 North Terrace  
Adelaide SA 5000

Telephone: 13 23 24  
Facsimile: (08) 8204 1909  
Website: <[shop.service.sa.gov.au](http://shop.service.sa.gov.au)>

### *For general information please contact:*

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