

Painting and varnishing

Issued December 2010

EPA 931/10: 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

The metals contained within paint and other surface coating products have the potential to accumulate in toxic concentrations in the environment if they are not managed appropriately. Once they have reached toxic concentrations within the environment they can severely affect aquatic plant and animal species, sometimes resulting in physiological mutations. The effects of these changes are far-reaching.

Who this applies to

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

Operators must (required outcomes)

- 1 not apply marine paints containing tributyltin (TBT)
- 2 spray paint in designated structures with waste containment, mechanical ventilation and filter systems

OR

undertake measures to control odour and drift (particulates) from spray painting that reflect the risk of environmental harm from the activity being performed (refer to recommended practices for options).

Operators should (recommended practices):

- 3 maximise effectiveness of antifouling coatings by obtaining manufacturer's advice as to the most appropriate coating for a vessel's hull, having regard to:
 - the material of its construction
 - the proposed sailing patterns including vessel speed and frequency of activity
 - the type of work in which the vessel is likely to be engaged, and
 - the localities in which the vessel is likely to operate.

- 4 improve antifouling paint adhesion and durability by ensuring angles and corners of surface to be painted are bevelled or radiused
- 5 vary the position of slipping blocks and supports at each slipping to ensure areas under blocks are painted with antifouling
- 6 stock only TBT-free antifouling paint for customers or facility users to purchase
- 7 recommend to customers or members whose boats are rack or stack stored that they use alternatives to antifouling paint, such as polyurethane, hull wax, or non-metallic epoxies, since antifouling paint is not normally necessary for boats that are not continuously in the water
- 8 obtain technical advice from the Australian Paint Manufacturers Federation (APMF) on the correct application of TBT-free paints and removing or encapsulating anti-fouling paints
- 9 use corrosion inhibitors compatible with surface coating requirements, biodegradable and free from chromates, nitrates and nitrites, (corrosion inhibitors commonly contain zinc that can contaminate land and water)
- 10 apply paint with brushes and rollers wherever possible
- 11 mix paint in drip trays under cover and in a sealed, bunded and well-ventilated paint bay
- 12 when spray painting outdoors, fully enclose the vessel (sides, top and floor), or item being painted with temporary screening materials. Weight the edges of the screens to keep them in place
- 13 use efficient spray equipment (transfer efficiency > 65%) such as high-volume low-pressure HVLP spray guns
- 14 use electrostatic spraying methods. These require less pressure, produce little overspray, and use relatively little paint
- 15 use low volatile organic compounds (VOCs), high solids content and water-based paints or surface preparations instead of traditional paint and primer
- 16 keep spray guns and lines clean and well maintained to reduce emissions
- 17 clean up spilt paint (particularly water-based paint) and allow the remaining paint to dry
- 18 never clean brushes on rocks or other surfaces not intended for the purpose
- 19 use a wash station for cleaning spray equipment and scrape the paint cup free of residual paint with a spatula before cleaning the equipment with solvent
- 20 paint out excess paint onto an absorbent material such as a rag or newspaper and allow it to dry before disposal
- 21 allow empty paint and thinner containers to air dry before disposal
- 22 use alternatives to chemical paint stripping. These will depend on the surface being stripped, the type of paint being removed, and the volume and type of waste produced. Alternatives include scraping, sanding, and/or abrasive blasting. Abrasive blasting should be a last resort
- 23 if paint stripper must be used, use soy-based or water-based products (they are less hazardous)
- 24 use a heat gun to remove paint and varnish where appropriate
- 25 prevent evaporation of solvents by using tight-fitting lids or stoppers. Reducing evaporation protects air quality, saves product and money
- 26 avoid teak cleaners containing acids (such as phosphoric acid or oxalic acid) or those labelled 'caustic', 'corrosive', or 'acidic'. Clean teak with a mild, phosphate-free detergent with bronze wool
- 27 train employees to use less paint stripper, to appropriately store new and used paint strippers to prevent leaks and spills, and which clean-up procedures to employ.

References

Australian Paint Manufacturers Federation, www.apmf.asn.au.

EPA, *EPA Guideline: Spray painting booths—control of air and noise emissions*, www.epa.sa.gov.au/xstd_files/Noise/Guideline/guide_spraypaint.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.

SafeWork SA, *SafeWork SA Safeguards: GS 27/1 Spray Painting*, www.safework.sa.gov.au/uploaded_files/g271i.pdf.

Useful websites

EPA Vessel and facility management pages, 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.

Further information

Legislation

Legislation may be viewed at: <www.legislation.sa.gov.au>

Copies of legislation are available for purchase from:

Service SA Government Legislation Outlet	Telephone:	13 23 24
Adelaide Service SA Centre	Facsimile:	(08) 8204 1909
108 North Terrace	Website:	< shop.service.sa.gov.au >
Adelaide SA 5000		

For general information please contact:

Environment Protection Authority	Telephone:	(08) 8204 2004
GPO Box 2607	Facsimile:	(08) 8124 4670
Adelaide SA 5001	Freecall (country):	1800 623 445
	Website:	< www.epa.sa.gov.au >
	Email:	< epainfo@epa.sa.gov.au >