

MARINA DEL REY HARBOR LOW LEACH RATE COPPER PAINTS

What are low leach rate copper paints?

Copper-leaching antifouling paints are often used on boat hulls because they reduce marine growth by releasing copper into the water. While copper-leaching paints are commonly available, they also are causing water quality concerns in marinas and other water bodies with limited circulation. In 2018, as part of a statewide effort to reduce the amount of copper entering harbors and waterways, the Department of Pesticide Regulation (DPR) capped the leach rate of copper-based antifouling paints at $9.5 \mu\text{g}/\text{cm}^2/\text{day}$ in the State of California. The copper paints with leach rates below $9.5 \mu\text{g}/\text{cm}^2/\text{day}$ are referred to as “low leach rate copper paints.” A list of low leach rate copper-based paints and their associated leach rates is provided in Table 1. Los Angeles County Department of Beaches and Harbors encourages boaters to make informed decisions about which paint they use to help reduce copper pollution in the harbor.

Why are low leach rate copper paints important in Marina del Rey Harbor?

Marina del Rey Harbor is subject to a total maximum daily load (TMDL) restriction on copper released into the harbor. Transitioning to low leach rate copper paints is helping reduce copper pollution in our harbor, in turn bringing the harbor closer to our local water quality targets. **Marina del Rey boat owners are included in the TMDL regulation and are required to reduce the amount of copper coming off their boats from hull cleaning and passive leaching.**

Which types of low leach rate copper paints would be most effective in reducing copper pollution?

Due to Marina del Rey Harbor’s unique design, high concentration of boats, and reduced circulation, using a bottom paint in the lowest range of low leach rate copper paints is encouraged. **Use of a non-biocide hull paint (e.g., a non-copper, non-toxic, ceramic or silicone alternative) is preferred.**



Non-biocide paints being applied to two County-owned vessels.

MdR boaters are encouraged to choose a non-biocide bottom paint, or a bottom paint that falls in the lowest range of low leach rate copper paints.

Non-biocide paints include:

- CeRam-Kote 54 SST
- Coval Marine & Hull Coat
- EcoSpeed – Subsea Industries
- HullSpeed 3000-Series or F-Series
- Intersleek 1100SR – International
- Sea-Speed V10 X Ultra Care – Seacoat

How to choose a low leach rate antifouling paint?

Low leach rate copper paints are listed in Table 1 below ranked from lowest leach rate (top of the table) to highest leach rate (bottom of the table). Use of lower leach rate paints is encouraged to reduce copper pollution in Marina del Rey Harbor.

Table 1: DPR's Copper-Based Antifouling Paint Product List with Leach Rates

Product Name	Company	EPA Reg. No.	Adjusted Release Rate ($\mu\text{g}/\text{cm}^2/\text{day}$)
HEMPAGUARD X7 89900	Hempel (USA), Inc.	10250-57-AA	0.42
TRI-LUX II AEROSOL 493A BLACK	International Paint LLC	2693-174-ZC	0.72
TRI-LUX II AEROSOL 498A WHITE	International Paint LLC	2693-174-ZA	0.72
WEST MARINE ANTIFOULING OUTDRIVE SPRAY PAINT 5566252 BLACK	International Paint LLC	2693-174-ZD	0.72
TRILUX 33 YBA060 BLUE	International Paint LLC	2693-203-AA	1.62
TRILUX 33 YBA061 GREEN	International Paint LLC	2693-203-ZD	1.62
TRILUX 33 YBA062 RED	International Paint LLC	2693-203-ZA	1.62
TRILUX 33 YBA063 BLACK	International Paint LLC	2693-203-ZB	1.62
TRILUX 33 YBA068 WHITE	International Paint LLC	2693-203-ZC	1.62
PETTIT MARINE PAINT VIVID ANTIFOULING PAINT	Kop-Coat, Inc.	60061-116-AA	1.66
WEST MARINE CPP ABLATIVE ANTIFOULING PAINT COMPOSITE COPPER TECHNOLOGY	Kop-Coat, Inc.	60061-132-AA	1.83
TRILUX 33 ANTIFOULING	International Paint LLC	2693-226-AA	1.86
PETTIT BLACK WIDOW ULTRA-SLICK RACING ANTIFOULING FINISH	Kop-Coat, Inc.	60061-116-ZA	2.08
WEST MARINE BOTTOM SHIELD ANTIFOULING PAINT EASY APPLICATION & CLEAN-UP TECHNOLOGY	Kop-Coat, Inc.	60061-135-AA	2.48
PETTIT MARINE PAINT ULTIMA SSA ANTIFOULING PAINT	Kop-Coat, Inc.	60061-71-ZB	2.93
PETTIT NEPTUNE 5 HARD HYBRID ABLATIVE ANTIFOULING PAINT	Kop-Coat, Inc.	60061-142-AA	3.01
INTERSPEED 6200NA ANTIFOULING BLACK BQA659/5GL	International Paint LLC	2693-176-ZB	3.72
INTERCLENE 5170 ANTIFOULING BLACK BCA 172/5	International Paint LLC	2693-176-ZA	3.93
INTERCLENE 5170 ANTIFOULING RED BCA 170/5	International Paint LLC	2693-176-AA	3.93

**Note: This list includes DPR's Copper-based Antifouling Paint Product List (November 2021) and copper leach rates (i.e., release rates) provided by DPR through a Public Records Act Request dated, November 17, 2021. If a product was only recently registered or the product is not currently registered, it may not appear on the list.*

Product Name	Company	EPA Reg. No.	Adjusted Release Rate ($\mu\text{g}/\text{cm}^2/\text{day}$)
INTERSPEED 6200NA ANTIFOULING RED BQA654/5GL	International Paint LLC	2693-176-ZC	3.93
TEFCITE	Reintjes Marine Surface Technologies, LLC	89101-1-AA	4.19
ANTIFOULING SEAFORCE 200 AV BLACK 3GE099	Jotun Paints Inc.	2568-93-ZF	5.21
ABC 4 MARINE ANTIFOULING PAINT	PPG Architectural Finishes Inc.	7313-12-AA	5.28
INTERCLEN 140 MODIFIED VINYL ANTIFOULING BWA360 RED	International Paint LLC	2693-178-ZA	5.28
SIGMA ECOFLEET 238	PPG Architectural Finishes Inc.	7313-12-ZA	5.28
ANTIFOULING SEAFORCE 200 AV BLUE 3GEBLU	Jotun Paints Inc.	2568-93-ZG	5.31
ANTIFOULING SEAFORCE 200 AV DARK RED 3GEDRD	Jotun Paints Inc.	2568-93-ZE	5.31
PETTIT MARINE PAINT ULTIMA SR 40 ANTIFOULING BOTTOM PAINT	Kop-Coat, Inc.	60061-117-ZB	5.31
WOOLSEY YACHT SHIELD SF ABLATIVE ANTIFOULING BOTTOM PAINT	Kop-Coat, Inc.	60061-117-ZA	5.31
AF33	New Nautical Coatings, Inc.	44891-12-ZC	5.52
TALON	New Nautical Coatings, Inc.	44891-12-ZB	5.52
MICRON OPTIMA BASE PART A OF A TWO-PART ANTIFOULING PAINT SYSTEM	International Paint LLC	2693-193-AA	5.56
PETTIT MARINE PAINT HYDROCOAT ABLATIVE ANTIFOULING PAINT 1840 BLACK	Kop-Coat, Inc.	60061-87-ZI	5.66
AQUA-ONE	International Paint LLC		5.71
PETTIT MARINE PAINT ANTIFOULING PAINT FOR INFLATABLE BOATS	Kop-Coat, Inc.	60061-87-ZM	5.86
PETTIT MARINE PAINT HYDROCOAT ABLATIVE ANTIFOULING PAINT 1640 RED	Kop-Coat, Inc.	60061-87-ZL	5.93
PETTIT MARINE PAINT HYDROCOAT ABLATIVE ANTIFOULING PAINT 1240 BLUE	Kop-Coat, Inc.	60061-87-ZH	6.07
PETTIT MARINE PAINT HYDROCOAT ABLATIVE ANTIFOULING PAINT 1340 GREEN	Kop-Coat, Inc.	60061-87-ZJ	6.07
MICRON CSC HS	International Paint LLC	2693-225-AA	6.16
INTERCLEN 229 BCA449 A/F RED	International Paint LLC	2693-60-ZA	6.24
INTERCLEN 229 BCA779 A/F BLACK	International Paint LLC	2693-60-ZB	6.24
MICRON EXTRA VOC 5791 GREEN	International Paint LLC	2693-190-ZH	6.35
MICRON EXTRA VOC 5790 BLUE	International Paint LLC	2693-190-ZI	6.42

Product Name	Company	EPA Reg. No.	Adjusted Release Rate ($\mu\text{g}/\text{cm}^2/\text{day}$)
MICRON EXTRA VOC 5794 SHARK WHITE	International Paint LLC	2693-190-ZK	6.42
FIBERGLASS BOTTOMKOTE NT	International Paint LLC	2693-228-AA	6.52
MICRON EXTRA VOC 5792 RED	International Paint LLC	2693-190-ZG	6.52
MICRON EXTRA VOC 5793 BLACK	International Paint LLC	2693-190-ZJ	6.52
WEST MARINE PCA GOLD! ABLATIVE ANTIFOULING PAINT	Kop-Coat, Inc.	60061-101-ZB	6.76
SEAQUANTUM ULTRA SP	Jotun Paints Inc.	2568-103-AA	6.80
INTERCLEN 245 NA BRA570 RED	International Paint LLC	2693-132-ZX	6.83
INTERCLEN 245 NA BRA572 BLACK	International Paint LLC	2693-132-ZW	6.83
RUST-OLEUM MARINE COATINGS BOAT BOTTOM ANTIFOULING PAINT	Rust-Oleum Corporation	60061-63-AA-69587	6.86
SHARKSKIN	New Nautical Coatings, Inc.	44891-11-ZA	6.88
MICRON CSC	International Paint LLC	2693-132-ZV	6.96
HEMPEL'S GLOBIC 81950	Hempel Coatings (USA) Inc.	10250-55-AA	6.97
INTERSPEED 640 POLISHING ANTIFOULING BRA640 RED	International Paint LLC	2693-142-ZL	6.97
CALIFORNIA BOTTOMKOTE	International Paint LLC	2693-18-ZA	7.00
HEMPEL'S GLOBIC 81920	Hempel Coatings (USA) Inc.	10250-56-AA	7.03
MICRON EXTRA 5690 BLUE	International Paint LLC	2693-190-ZF	7.12
MICRON EXTRA 5694 SHARK WHITE	International Paint LLC	2693-190-ZE	7.12
INTERSPEED 6400NA BLACK BQA679/5GL	International Paint LLC	2693-132-ZY	7.17
INTERSPEED 6400NA RED BQA674/5GL	International Paint LLC	2693-132-ZZ	7.17
MICRON EXTRA 5693 BLACK	International Paint LLC	2693-190-ZC	7.20
MICRON EXTRA 5696 DARK BLUE	International Paint LLC	2693-190-ZA	7.24
MICRON EXTRA 5691 GREEN	International Paint LLC	2693-190-ZB	7.27
MICRON EXTRA 5692 RED	International Paint LLC	2693-190-ZD	7.31
MICRON EXTRA 5695 BROWN	International Paint LLC	2693-190-AA	7.31
COPPER SHIELD 45	Blue Water Marine Paint	74681-2-ZE	7.32
PETTIT TRINIDAD VOC ANTIFOULING PAINT	Kop-Coat, Inc.	60061-64-ZC	7.32
Z*SPAR "THE PROTECTOR" VOC ANTIFOULING BOTTOM PAINT	Kop-Coat, Inc.	60061-64-ZB	7.32

Product Name	Company	EPA Reg. No.	Adjusted Release Rate (µg/cm ² /day)
INTERSPEED 640 POLISHING ANTIFOULING BRA641 BLUE	International Paint LLC	2693-142-ZO	7.41
INTERSPEED 640 POLISHING ANTIFOULING BRA642 BLACK	International Paint LLC	2693-142-ZM	7.41
INTERSPEED 640 POLISHING ANTIFOULING BRA643 GREEN	International Paint LLC	2693-142-ZN	7.41
INTERSPEED 640 POLISHING ANTIFOULING BRA644 OCEAN GRAY	International Paint LLC	2693-142-ZK	7.41
INTERSMOOTH 460 ANTIFOULING BLUE BEA462/5	International Paint LLC	2693-187-ZM	7.43
INTERSMOOTH 360 ANTIFOULING DARK BROWN BEA368/5	International Paint LLC	2693-187-ZH	7.47
INTERSMOOTH 360 ANTIFOULING DARK RED BEA369/5	International Paint LLC	2693-187-ZI	7.47
INTERSMOOTH 460 ANTIFOULING BLACK BEA461/5	International Paint LLC	2693-187-ZL	7.47
INTERSMOOTH 460 ANTIFOULING DARK BROWN BEA468/5	International Paint LLC	2693-187-ZJ	7.47
INTERSMOOTH 460 ANTIFOULING DARK RED BEA469/5	International Paint LLC	2693-187-ZK	7.47
WOOLSEY YACHT SHIELD ABLATIVE ANTIFOULING BOTTOM PAINT	Kop-Coat, Inc.	60061-101-ZA	7.93
BIOCOP EXTREME	New Nautical Coatings, Inc.	44891-20-AA	8.06
ISLANDS 44TF	New Nautical Coatings, Inc.	44891-20-ZA	8.06
PROGUARD ABLATIVE BLUE NAU990	International Paint LLC	2693-142-ZP	8.17
PETTIT HYDROCOAT SR DUAL-BIOCIDE ABLATIVE ANTIFOULING PAINT	Kop-Coat, Inc.	60061-141-AA	8.21
SIGMA ECOFLEET 530	PPG Architectural Finishes Inc.	7313-24-AA	8.24
BIOCOP TF	New Nautical Coatings, Inc.	44891-15-AA	8.28
PROGUARD ABLATIVE RED NAU992	International Paint LLC	2693-142-ZQ	8.28
PROGUARD ABLATIVE BLACK NAU993	International Paint LLC	2693-142-ZR	8.32
FIBERGLASS BOTTOMKOTE CLASSIC	International Paint LLC	2693-18-ZB	8.48
EPOXYCOP K52 BLACK	International Paint LLC	2693-62-ZR	8.52
ULTRA-KOTE	International Paint LLC	2693-119-ZE	8.66
EPOXYCOP K53 GREEN	International Paint LLC	2693-62-ZS	8.82
FIBERGLASS BOTTOMKOTE	International Paint LLC	2693-62-ZO	8.89
EPOXYCOP K51 BLUE	International Paint LLC	2693-62-ZQ	8.93

Product Name	Company	EPA Reg. No.	Adjusted Release Rate ($\mu\text{g}/\text{cm}^2/\text{day}$)
MICRON 66 YBA472 RED	International Paint LLC	2693-187-ZE	9.03
ULTRA	International Paint LLC	2693-212-AA	9.07
PETTIT MARINE PAINT TRINIDAD PRO ANTIFOULING BOTTOM PAINT	Kop-Coat, Inc.	60061-94-ZB	9.10
PETTIT MARINE PAINT TRINIDAD SR ANTIFOULING BOTTOM PAINT	Kop-Coat, Inc.	60061-94-ZD	9.10
PETTIT TRINIDAD HD	Kop-Coat, Inc.	60061-64-ZD	9.11
Z-SPAR BOTTOM PRO GOLD	Kop-Coat, Inc.	60061-64-ZE	9.11
MICRON 66 YBA470 BLUE	International Paint LLC	2693-187-ZD	9.14
MICRON 66 YBA471 GREEN	International Paint LLC	2693-187-ZF	9.14
MICRON 66 YBA473 BLACK	International Paint LLC	2693-187-ZG	9.14
EPOXYCOP ABLATIVE K76 BLACK	International Paint LLC	23566-19-ZX	9.17
EPOXYCOP K50 RED	International Paint LLC	2693-62-ZP	9.38
MONTEREY	New Nautical Coatings, Inc.	44891-9-ZA	9.40
TROPIKOTE	New Nautical Coatings, Inc.	44891-10-ZA	9.46
CUKOTE	New Nautical Coatings, Inc.	44891-7-ZA	9.49

Inclusion of a paint on this list does not indicate an endorsement by the County of Los Angeles, nor does it imply that these paints are effective or in compliance with local regulations (e.g. VOC limits). Always consult with your local boat yard, paint vendor, and/or the paint manufacturer when determining if a specific paint is right for your boat and check local regulations to make sure it is allowed in your harbor.



This material was prepared by the County of Los Angeles, Department of Beaches and Harbors.

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