ESD-SAFE WASH BOTTLE · WORKSTATION HARDWARE

I.C.® ESD WASH BOTTLES

Static dissipative · 90° bent-stem spout · 8 and 16 oz.

PRODUCT DESCRIPTION

I.C. ESD Safe Wash Bottles are designed to safely cleanse your labware or equipment and store your washing solutions in any cleanroom or sterile environment. An easily cut spout customizes water pressure and, along with a long straw attachment, allows for functional use at nearly any angle. Surface resistivity of 10^9 to 10^{10} Ω/sq and an average static decay rate of 0.5 seconds at 40% RH suit them to static-sensitive environments. The polyethylene uses an antistatic concentrate that does not contain ethoxylated tertiary amine, the antistatic agent widely used in other bottles, so it has none of the undesirable features of surfactant-laden materials.

DIRECTIONS FOR USE

Unfasten the nozzle from the bottle to fill the ESD bottle with solution. Tightly refasten the nozzle and press to prime or dispense solution.

USES

- For use in a cleanroom or sterile environment
- For use cleansing or rinsing lab equipment or beakers
- For use in storing cleaning solutions or solvents

APPLICATIONS

Electronics Manufacturing, Cleanrooms, Static-Sensitive Environments.

FEATURES & BENEFITS

FLOW ADJUSTMENT	Easy-to-cut spout allows for total control of water pressure
FULL-LENGTH STRAW	Straw attachment reaches the corner of the bottle, leaving no solution to waste
TILT CONTROL	Needle-nose dispenser and straw attachment offer control at most angles
GENTLE CLEANSER	Water flow achieves high-pressure cleaning with a gentle, yet direct flow
LIMITLESS ACCESSIBILITY	Eliminate lab restrictions by placing unsafe materials in ESD-safe containers
DURABLE, GRIP-RIGHT MDPE	Highly durable and chemical resistant; flexible for precise, appropriate resistance
LEAK-PROOF	Moldings are fitted to their matching tops and form a seal when enclosed
CLOSE QUARTERS	Material can be kept within reach inside your workstation
ESD BLUE, EASY-SPOT	Iconic "ESD-Safe" blue tint; translucent so contents and levels are easy to see
SAFER, CONTAMINANT-FREE	No PBDE, BPA, amines, amides or other known plastic or antistatic additive contaminants
STAINLESS MATERIAL	Non-stick plastic releases contents and contaminants from its surface
ODOR RESISTANT	Free of trace odors or fragrances left by solvents and other chemicals
DISHWASHER SAFE	Can be washed on the top rack of a dishwasher for cleaning and reuse
RECYCLABLE	Material is formulated to be recyclable and reusable

FREE OF

- BPA-FREE
- BISPHENOL-FREE
- PHTHALATE-FREE
- PVC-FREE
- PBDE-FREE
- AMINE & AMIDE-FREE
- LEAK-FREE
- DISHWASHER SAFE

WORKPLACE SPECIFICATIONS

- Supports an ANSI/ESD S20.20 program
- Exceeds MIL-B-81705 & NFPA-56A (electrostatic decay per Federal Test Standard 101, method 4046)
- Tested to ESD ADV 11.21: dissipative surface resistance between 1×10^4 and $< 1 \times 10^{11}$
- Meets EIA 625 triboelectric charge standards
- Helps meet ANSI/ESD S4.1 (worksurfaces – resistance measurements)
- DOD-HDBK-263 military spec compliant

MATERIAL

- **Material:** MDPE with antistatic additive (amine & amide free)
- **Color:** ESD blue, translucent
- **Surface resistivity:** 10^9 to 10^{10} Ω/sq (average)
- **Static decay:** 0.5 sec average at 40% RH

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I.C.® ESD WASH BOTTLES

CHEMICAL PROPERTIES

I.C. ESD Safe Bottles use MDPE and an antistatic additive which is compliant with FDA regulation for use in food contact: 21 CFR 177.1520 · 21 CFR 178.2010 · 21 CFR 178.3297 · 21 CFR 178.3120. Does not contain BPA, phthalates or heavy metals.

STORAGE TEMPERATURE & SHELF LIFE

This product has a shelf life of at least 24 months from the date of manufacture. Some ESD bottles will degrade over time depending on the solvents used and frequency of use.

EFFICACY TESTING

Static decay. Ability of a grounded material to dissipate a known applied charge. Dissipates a 5kV charge 99% (1% cutoff) at 40% humidity when grounded, average decay 0.05 seconds.

Surface resistivity (ASTM D257). Ohm-meter resistance between two electrodes under load on the surface. Result: 1.97 x 10^{10} Ω/sq at 40% humidity.

CUTOFF	MIN	MAX	AVERAGE
STATIC DECAY, 5KV @ 40% RH (SECONDS)			
1%	0.04	0.07	0.05
10%	0.02	0.03	0.03
SURFACE RESISTIVITY, 100V @ 40% RH (Ω/SQ)			
1%	1.86 x 10^{10}	2.18 x 10^{10}	1.97 x 10^{10}
10%	4.08 x 10^{10}	5.03 x 10^{10}	4.48 x 10^{10}
SURFACE RESISTANCE, 100V @ 40% RH (Ω)			
1%	4.22 x 10^{8}	7.00 x 10^{8}	5.51 x 10^{8}
10%	4.50 x 10^{7}	1.18 x 10^{8}	7.02 x 10^{7}

Static decay, packaging material (5kV @ 15% RH): PVC sleeve 0.35 sec · PE foam 0.17 sec · PS foam 0.17 sec.

SOLVENT RESIDUE TESTING

Seven-day exposure, blow-molded bottles with antistat agent (Analyze report). The antistat has no chemical reactivity with the solvents; water pH unchanged (ca. 5.9); no color or other physical change for any solvent.

SOLVENT	WT. RESIDUE (G)	CONC. (MG/ML)	CONC. (PPM)
LARGE BOTTLE			
TCE	0.0256	0.13	97
MEK	0.0191	0.096	120
IPA	0.0082	0.041	52
H2O	<0.001	<0.01	<5
SMALL BOTTLE			
TCE	0.0487	0.70	520
MEK	0.0213	0.30	380
H2O	<0.001	<0.01	<15

SIZES & PART NUMBERS

PART NO.	SIZE	CASE	UPC
WHB-8-ESD	8 oz. wash, 90° bent stem	50	666080848651
WHB-16-ESD	16 oz. wash, 90° bent stem	50	666080848644

CHEMICAL COMPATIBILITY

For chemical compatibility or resistance information, refer to the ESD Bottle Chemical Resistance Chart at **rrlotion.com/esd-bottle-chemical-resistance-chart/**

QUICK CHEMICAL REGULATORY REFERENCES

PROP 65	No known substances
TSCA	No known substances
SARA	No known substances
REACH	No known substances
ROHS	No known substances

REGULATORY

This product is an ESD product, manufactured and labeled in compliance with Federal Regulation and current Good Manufacturing Practices (cGMP). R&R Lotion is an FDA and EPA registered and audited facility.

FDA EST. ID	3004167955
EPA FACILITY	91651-AZ-001
FDA DRUG CODE PREFIX	59555
GOV'T CONTRACT	GSA MAS 47QSMS24D0078

SAFETY DATA SHEETS

For safety, environmental, handling, first aid and disposal information, refer to the Safety Data Sheet (ESD Bottles) in the SDS library at **rrlotion.com/msds/**

QUALITY ASSURANCE

Facility standards. R&R Lotion products are manufactured in facilities which follow Current Good Manufacturing Practice (cGMP) and/or Cosmetic GMP requirements.

Material standards. All raw material used for production undergoes a thorough quality control process before being used for manufacturing.

Equipment standards. All equipment used in manufacturing and production areas is regularly inspected and maintained to ensure consistent and controlled results.

Formula testing. Formulas are tested while being developed, including product and packaging stability testing and product effectiveness testing.

Finished product testing. Each batch goes through physical and chemical testing before being released for distribution, including testing of appearance, color, electrostatic discharge and density.

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