

Removers for LED Fabrication

Product Selection Guide

DuPont EKC Technology is a leading manufacturer and supplier of high purity patented and proprietary chemicals for wafer cleaning, surface preparation and photoresist removal to the semiconductor and related industries. We offer a specific line of wet chemistries for LED manufacturing, which is growing quickly as we continue to forge new relationships with LED chipmakers on a global scale.

The production of LED dies can require a variety of wet chemical treatments, and DuPont EKC Technology has put its science to work in formulating solutions for the LED industry since its inception. EKC formulations enable removal of positive- and negative-tone photoresists as well as plasma-hardened residues, and are compatible with a wide variety of metals required to form LED contacts.

Products		EKC162™	EKC175™	EKC830™	EKC922™
Formulation		Aqueous Quaternary Ammonium Hydroxide + Solvent + Additive	Aqueous Amine + Solvent + Additive	Aliphatic Solvent + Primary Amine	Aromatic Solvent + Alkyl Sulfonic Acid
Application		Post-Etch Residue Removal	Post-Etch Residue Removal	Positive PR Strip	Negative PR Strip
Physical Property	pH	~14	11.6	N/A	N/A
	Viscosity	~1.10	~1.08	~1.05	~0.96
Tool		Batch/Spray	Batch/Spray	Batch/Spray	Batch/Spray
Process Conditions		40 – 65°C 10 – 30 min	55 – 75°C 10 – 20 min	80 – 90°C 10 – 20 min	80 – 90°C 10 – 20 min
Rinse		Intermediate Rinse is Optional	Intermediate Rinse is Optional	Intermediate Rinse is Optional	Intermediate Rinse is Required (IPA)
Caution : Metal Compatibility		Not Compatible with Al	Not Compatible with Cu	--	--

DuPont™ EKC162™ plasma and photoresist residue remover – copper compatible

Formulated to remove the most challenging organic- and plasma-based residues at low operating temperatures. Water-rinsable.

DuPont™ EKC830™ positive tone photoresist remover

Photoresist removal product specifically targeted for positive-tone photoresists. Compatible with an exceptionally broad array of metals.

DuPont™ EKC175™ plasma and photoresist residue remover – aluminum compatible

Provides fast and efficient removal of plasma-based residues as photoresist. Water-rinsable.

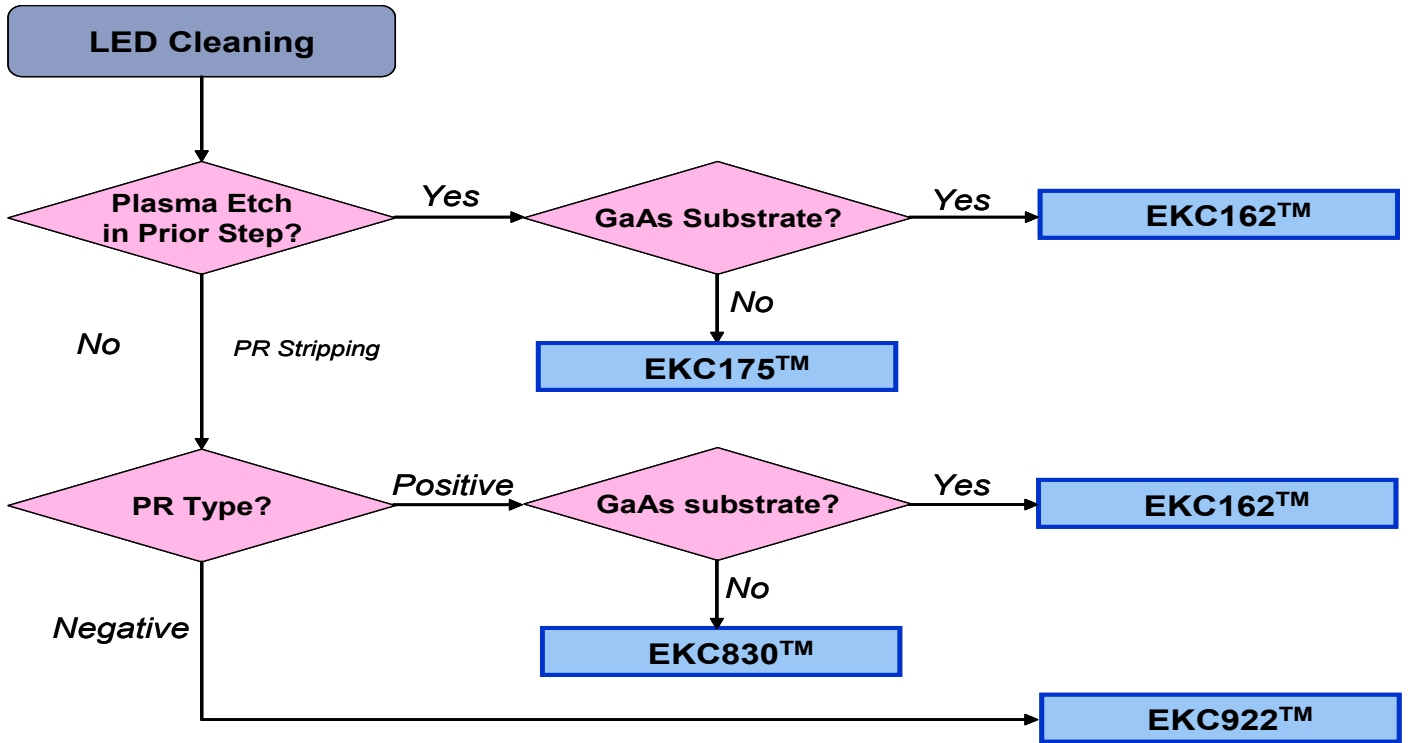
DuPont™ EKC922™ negative tone photoresist remover

Photoresist removal product specifically targeted for negative-tone photoresists. Compatible with an exceptionally broad array of metals.



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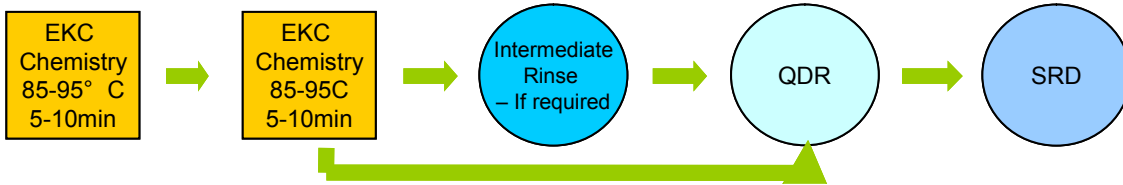
Guidelines for Selection of Optimal Cleaning Solution*



*Please consult with EKC representative about 1) metal compatibility, 2) process condition and 3) tool capability.

Typical EKC LED Cleaning Process Conditions

1. Wetbench Application



2. Automated Spray Tool (e.g. Semitool SST) Application

Step	Time	RPM	Process	Source	Manifold	Drain
1	0:05	35	Warm-up	chamber	–	Chm 1
2	0:10	35	EKC Chemistry reclaim to drain	T1	M1	Chm1
3	10–20 min @ 85–95°C	35	EKC Chemistry reclaim to reclaim	T1	M1	T1
4	0:10	500	N2 purge to reclaim	N2	M1	T1
5	0:05	500	Chamber to drain	chamber	–	Chm 1
6	2:00	50	Cold DI water rinse to drain	C DI	M1, M2	WD1
7	1:00	500	Cold DI water rinse to drain	C DI	M1, M2	WD1
8	2:00	1200	N2 dry/purge (M3 heated), Dry Hi	N2	M1, M2, M3	WD1
9	5:00	600	N2 dry low (M3 heated)	N2	M3	WD1

For more information on DuPont EKC Technology products, please contact your local representative, or visit our website:

Americas

DuPont Electronic Technologies
EKC Technology, Inc.
2520 Barrington Court
Hayward, CA 94545
Tel: 510 784 9105

Taiwan

EKC Technology
No. 2, LiHsing 4th Road
Science-Based Industrial Park
Hsinchu, Taiwan R.O.C.
Tel: 866 357 90550
Fax: 866 357 98857

Japan

EKC Technology, K.K.
KSP R&D D3 42
3-2-1 Sakado, Takatsu-ku, Kawasaki
Kanagawa, 213-0012 Japan
Tel: 81 44 850 8215

European Sales & Support

EU Technical Support: 44 (0) 16 98 26 69 46
EU Sales Support: 44 (0) 15 55 72 80 84
EU Fax: 44 (0) 13 13 41 10 43

www.ekctech.com

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Caution: Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement: H-51459 or H-50102-2

K-23759-2 02/11



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