



IC Lithography Materials Market at \$6.8B by 2023

EUV lithography demand small but strategic

San Diego, CA, September 28, 2018: TECHCET—the advisory services firm providing electronic materials information— announced that global IC fabrication demand for photoresists and ancillary lithography materials is growing strongly from an estimated market size of US\$5.2 billion in 2017 to US\$6.8 billion in 2023. Demand for argon-fluoride immersion (ArFi) photoresists is now growing at nearly 10 percent by volume. Extreme Ultra-Violet (EUV) lithography will soon be entering limited production use at Samsung and TSMC, with Intel and other companies expected to follow use after this year. However, the total market for EUV photoresists in the year 2023 is forecast to be just US\$100 million, as detailed in the latest TECHCET Critical Materials Report (CMR) on photoresists and ancillaries.

"EUV is finally happening but the total market for resists next year is forecast to be only 8 million dollars," said Ed Korczynski, TECHCET senior analyst and author of the report. "Our proprietary cost-models show that EUV can be cost-effective when the proper materials are integrated, and that resolution-extension materials such as anti-reflective coatings and shrink/trim materials add tremendous value to microlithography in general and to EUV litho in particular. When a single EUV stepper costs 120 million dollars and exposes 10 million wafers before wearing out, the CapEx depreciation per wafer is 12 dollars. In comparison, a high-value-add litho material may cost just 1 to 2 dollars per wafer to significantly improve the speed or resolution of the patterning."

One significant change in the regulatory landscape is increasing restrictions on the use of N-methyl-2-pyrrolidone (NMP) as a solvent in microlithography. NMP has been widely used in other industries and toxic residues can remain in consumer products, so the material is now on the U.S. EPA's Top10 list of priorities for regulation in 2019. Suppliers are working with fabs to find a less-toxic solvent to replace NMP.

Suppliers covered in this report include: Avantor, Brewer Science, Chang Chun, Dongwu Fine-Chem, DowDuPont, Eastman Chemical, FujiFilm, JSR, Kempur, KMG (Cabot Microelectronics), Merck/EMD, Moses Lake Industries, Nissan Chemical, SACHEM, Shin-Etsu, Sumitomo, Tama Chemical, and Tokyo Ohka Kogyo.

Purchase Reports Here: <https://techcet.com/product/photoresists-and-photoresist-ancillaries/>

ABOUT TECHCET: TECHCET CA LLC is an advisory service firm focused on process materials supply-chains, electronic materials technology, and materials market analysis for the semiconductor, display, solar/PV, and LED industries. Since 2000, the company has been responsible for producing the SEMATECH Critical Material Reports, covering silicon wafers, semiconductor gases, wet chemicals, CMP consumables, Photoresists, and ALD/CVD Precursors. For additional information about these reports or CMC Fabs membership please contact Diane Scott at info@cmcfabs.org +1-480-332-8336, or go to www.techcet.com or www.cmcfabs.org.