

Measurements made under conditions which make it probable that such a condition existed during the determinations should not be reported as "interfacial tensions," because they can in no way satisfy the fundamental requirement of reversibility.

In case the plastic film merely approaches but does not touch the tip, a true liquid liquid-interface will exist next the tip and the plastic film can only affect the results by influencing the shape development of the drop. Since the correction factor, which is dependent upon the shape development, varies from 1.3 to 1.8, it seems conservative to state that it is impossible to ignore any condition or set of conditions which is capable of affecting this shape development.

STEWART S. KURTZ, JR.

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The Purification of Toluene for Thermo-Regulators.—For use in a mercury-toluene thermo-regulator the toluene must be free from traces of certain impurities, notably sulfur compounds, which will foul the surface of the mercury and interfere with the sharp adjustment of the regulator. According to Vanino,¹ toluene may be purified by washing it repeatedly with sulfuric acid, then with water until the washings are neutral to litmus paper, and finally drying the toluene over metallic sodium.

A quantity of c. p. toluene purified according to Vanino's directions was still found to corrode the mercury. It occurred to us to determine the effect of sodium amalgam. The toluene was accordingly boiled under a reflux condenser with sodium amalgam containing 1% of sodium. The toluene was then decanted, washed with water and finally distilled. The water remaining in the toluene was all removed with the first small fraction of the distillate, which was accordingly rejected.

The toluene purified in this manner has been in use for several months without showing any action upon the surface of the mercury.

MELLON INSTITUTE OF INDUSTRIAL RESEARCH,
PITTSBURGH, PENNSYLVANIA

GEORGE D. BEAL
B. L. SOUTHER

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¹ Vanino, "Handbuch der präparativen Chemie," Organischer Teil, p. 345.