

## **TRIBOFILMS GENERATED FROM ZDDP AND DDP ON STEEL SURFACES: PART 2, CHEMISTRY**

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The chemical constitution of tribofilms, generated from zinc dialkyldithiophosphate (ZDDP) and ashless dialkyldithiophosphate (DDP), has been examined by X-ray Absorption Near Edge Structure (XANES) spectroscopy. The identification of spectral features and interpretation of the results for P, O, Fe, and S species are given, allowing an overall mechanism to be deduced. The role of Fe in these films was investigated in some detail using P L-edge, O K-edge and Fe L-edge XANES spectra.