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Surface Chemistry of Cyanogen on Copper EVERETT LEE, JAMES LALLO, ERKAN CIFTLIKLI, SYLIVE RANGAN, ALEXEI ERMAKOV, B.J. HINCH, Rutgers University — The surface chemistry of cyanogen/cyanide species has been observed on Cu(100) crystal through Temperature Programmed Desorption, Helium Atom Scattering and soft X-ray Photoelectron Spectroscopy. Cyanogen (C2N2) dissociates on copper to form a mixture of cyanogen and cyanide (CN) species depending at cryogenic temperatures but pure cyanide at around ambient temperatures, leading to c(10x6) superstructure in two domains at saturation. Temperature Program Desorption spectra observed indicated that cyanide recombinatively desorbs as cyanogen at relatively high temperatures with no additional species observed. The desorption results were analysed using a variety of techniques in order to determine the activation energy of desorption (Ed) as well as its coverage dependency.

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