this end in view the investigation is being resumed with other polysaccharides.

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Residual Films of D.D.T.

IN the course of an investigation into the toxicity to houseflies of films of the insecticide D.D.T. deposited upon an absorptive type of wall-board, some observations have been made which may help to explain certain results obtained in field and laboratory tests by other workers.

Pieces of wall-board were sprayed with various concentrations of D.D.T. in 'Pool' burning-oil to give equal deposits of D.D.T. per unit area. After four days at 27·5° C. and 60 per cent relative humidity, flies were confined on the treated surfaces under petri dishes. From the data for toxicity to flies it was clear that, within the limits of the experiment, the highest toxicity was obtained from a given quantity of D.D.T. by applying it at a high concentration.

When the same samples were tested four weeks after treatment, those with the highest concentrations of D.D.T. had increased strikingly in toxicity. Microscopic examination revealed that, on those samples to which the D.D.T. had been applied in high concentration, the areas exposed to flies at the first test had become thickly carpeted with minute crystals of D.D.T. Further investigation has shown that D.D.T. has a great tendency to supersaturate or supercool, this tendency being greater with crude than with pure D.D.T. and greater when the solvent is 'Pool' burning-oil than acetone. Movement of the confined flies is sufficient mechanical agitation to induce crystallization of the relatively poorly toxic gum-like residue, a phenomenon which can also be initiated with a soft paint-brush. If the surface remains undisturbed, crystals do not form for at least several weeks and much of the potential toxicity of the D.D.T. residual film remains latent. The data supporting these observations will be reported more fully later.

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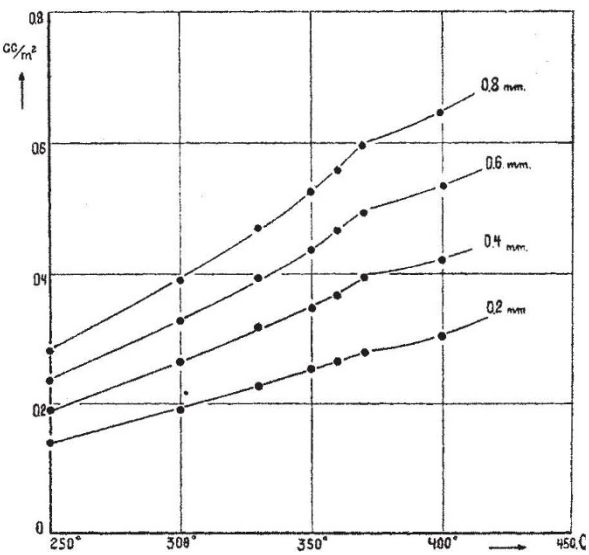
Activated Adsorption of Hydrogen in the Neighbourhood of the Curie Point

IN catalytic phenomena the ferromagnetic metals (iron, cobalt, nickel) possess a special interest. On the other hand, it is also known that adsorption phenomena are closely connected with catalysis. In continuation of systematic work carried out during recent years in this laboratory on adsorption phenomena, we measured the adsorption of hydrogen on nickel sheets between 200° and 400° C. The nickel is thoroughly cleaned by washing it successively with hydrogen and pumping off for several hours at 600° C. at a pressure lower than 10^{-6} mm. Special care is taken with the purification of the hydrogen. The measurements have been made with pressures up to 1 cm. It is found, first, that the equilibrium is very rapidly reached (30 sec.); secondly, adsorption increases with increasing temperature; thirdly, in the neighbourhood of the Curie point (358° C.) the isobars show a very pronounced discontinuity (see graph).



Chevenard[1] and Williams[2] found also by means of measurements on the thermal expansion coefficient of nickel some discontinuities at the Curie point. These discontinuities are, however, too small to explain the phenomena observed by us. It is known that activated adsorption is connected with the electronic state of the metal, and at the Curie point this state undergoes some characteristic modifications.

Finally, our measurements on adsorption isotherms revealed partial reversibility for the adsorption.

A detailed report on these measurements will be published in the *Annales de Physique* (Paris).

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