研　究　速　報

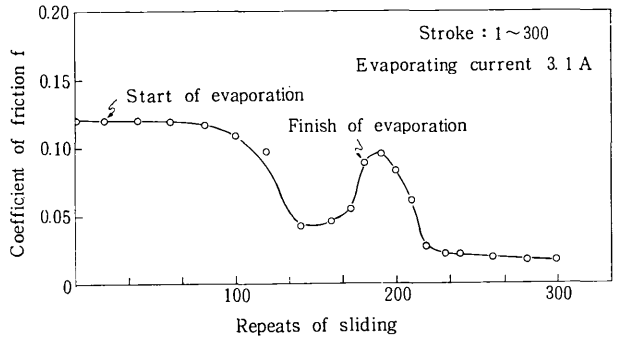

Fig. 7　Effect of stearic acid by evaporation

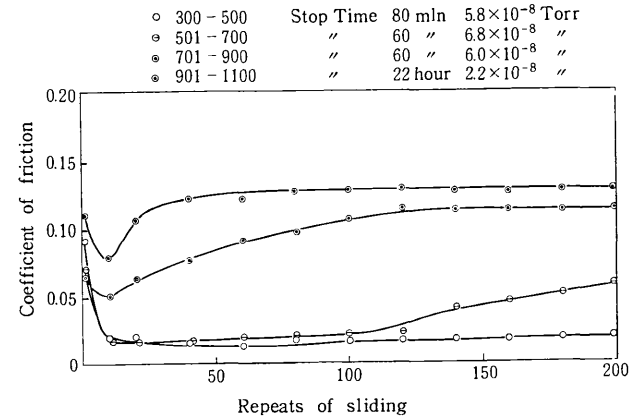

Fig. 8　Effect of sliding and stop time on low friction film of stearic acid on MoS_2

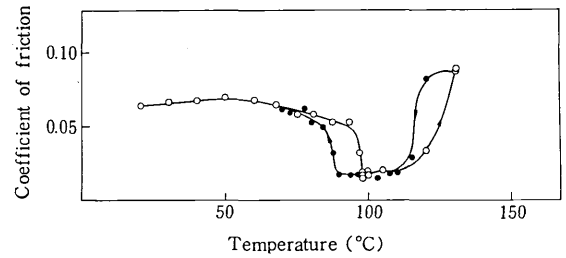

Fig. 9　Effect of heating on low friction film of stearic acid on MoS_2

friction test was continued, the friction was again reduced. After reduction of friction, the experiments were performed with accompanied by stop times. Result is shownin Fig. 8, indicating that friction was increased by desorption of the film. It was shown that a certain amount of adsorption could reduce the friction and excess amount again increased the friction. The result is nearly the same as other vapours in its qualilative nature.

The second experiment was performed by MoS_2 film with 1 mg stearic acid in ethanol. The coefficient of friction was high and about 0.06 even after 4200 strokes. Since the value was nearly the same as that of stearic acid in its boundary lubrication, it seemed that excess compound existed on the surface. In heating, reduction of friction occurred at about 100C. The causes are not clear now.

Conclusions

The organic compounds used in this experiment had effects on coefficient of friction of MoS_2 in that a certain amount of adsorption could reduce the friction. The result coincided with that of other vapours qualitatively. Of these compounds used, organic chloride is more difficult to evaporate from MoS_2 surface than other compounds. It was concluded that only introduction of vapours could not obtain low frictional material in high vacuum and at high temperature, but that some chemical reactions would be necessary to get a material of such natures.

(Manuscript received, July 15, 1977)

References

1) M. Matsunaga and T. Nakagawa, Effect of Various Vapors on Coefficient of Friction of Clean Molybdenum Disulfide, ASLE Trans. 19. 3, 216, 1976

正　誤　表（9月号）

頁	段	行	種　別	正	誤
467	右	↑3～4	本　文	……0.5%, 5%とした.	混和水に対して0.5%, 1%とした.