# STUDIES ON THE STABILITY AND PHYSICAL PROPERTIES OF COLLOIDAL GRAPHITE

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Colloidal graphite is widely used for many purposes. It is, however, not manufactured in Sri Lanka. The objective of our work was to prepare stable colloidal graphite dispersions and study some of the properties that affect the stability.

Dispersion media tried were water, various oils, and emulsions of oil and water. Several surfactants were tested. Most were of anionic type like alkali metal soaps and amino salts of fatty acids. Several procedures for the preparation of colloidal dispersions were investigated.

Alkali metal soaps were found to give stable graphite dispersions in alkaline aqueous media. The stability is partly due to adsorption of the anionic surfactant to yield negatively charged colloidal particles, and partly due to the high viscosity of the medium.

Viscosities of aqueous alkaline dispersions containing potassium stearate as surfactant were also investigated as a function of temperature and concentration of graphite. These results revealed that the dispersion is most stable below 39°C.

Dispersion of graphite in previously prepared emulsions of paraffin oil or kerosene in water were found to give stable dispersions. Here amino salts of oleic acid (eg. Triethanolamine oleic acid) was found to be the best surfactant.