

**SYNTHESIS OF GRAPHITE OXIDE FROM
KAHATAGAHA VEIN GRAPHITE USING A
LOCALIZED IMPROVED HUMMERS METHOD**

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By

YAPAGE VIRAJ MADUSANKA

**Mineral Resources and Technology Degree Program
Uva Wellassa University, Sri Lanka**

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Abstract

In modern world, materials, - regardless of their make, whether natural or synthetic – play a huge role. From all these materials, Graphite is taking a wide consideration of scientists as they are naturally occurring, cheap material with very interesting physical, chemical and mechanical properties. Graphite Oxide, (GO) has taken a considerable interest recently due to its applications in many fields. Many Studies have done for GO as an intermediate to the procedure of chemical synthesis of graphene and there are several other aspects of GO are still not have tested.

Recent studies on Sri Lankan natural vein graphite have shown that it can be upgraded up to 99.97% carbon chemically, at low cost. (Amaraweera, *et al.*, 2013).

The aim of this study is to synthesize GO from chemically upgraded Kahatagaha vein graphite and characterize GO for surface modifications made by the oxidation of graphite.

GO was synthesized using a localized version of improved Hummers method and then the characterization was done using FTIR spectroscopy, Conductivity measurements, Sheet resistance and XRD spectroscopy.

There were several strong evidence for oxidation of graphite to GO and the proposed structure for GO (Klinowski, *et al.*, 1998) can be supported with the findings of this study.

However, the level of oxidation still should be studied further and a more economical procedure should be found to produce GO chemically for commercial purposes.

Key Words: Graphite Oxide, Chemical Synthesis, Sri Lankan natural vein graphite.