



ChemTech

International Journal of ChemTech Research

CODEN (USA): IJCRGG ISSN: 0974-4290

Vol.9, No.04 pp 296-300, 2016

## Hydrothermal Synthesis of a New Anderson Type Molybdenum based Polyoxometalates (POMs)

K.C Dey<sup>1\*</sup>, V.Sharma<sup>2</sup>, S. Kumari<sup>3</sup>

<sup>1</sup>Associate Prof in Chemistry and Dean, Science and Engg, Kolhan University, Chaibasa, India

<sup>2</sup>Faculty of Chemistry, RVS College of Engg and Technology, Jamshedpur, India

<sup>3</sup>Faculty of Chemistry, Jamshedpur Cooperative college, Jamshedpur, India

**Abstract:** Polyoxometalates (POM) or poly metal oxide Anderson type compound  $\text{Na}_{12}[\text{NiVMo}_5\text{O}_{24}]\cdot 11\text{H}_2\text{O}$  has been synthesized under hydrothermal conditions. The compound is formed at the pH of 4.36 with  $\text{CH}_3\text{COOH}-\text{CH}_3\text{COONa}$  as a buffer. Light green big crystals were evolved after some days and are characterized using ICPAES for elemental analysis, IR Spectroscopy for M-O and M-O-M vibration frequency, TG- DTA for Thermal stability of the said compound and SEM for morphological study of the compound.

Molecular weight of the compound is determined by the cryoscopic method which has found to be little lesser than the calculated value.

**Key words:** Anderson type, Hydrothermal synthesis, Molybdenum, SEM.

V.Sharma *et al* /International Journal of ChemTech Research, 2016,9(4),pp 296-300.

\*\*\*\*\*