



SDI Review Form 1.6

Journal Name:	British Journal of Applied Science & Technology
Manuscript Number:	2014_BJAST_12317
Title of the Manuscript:	Influence of NiCl ₂ /CdCl ₂ as mixed filler on structural, thermal and electrical properties of PVA/PVP blend
Type of the Article	Research article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

To know the complete guideline for Peer Review process, reviewers are requested to visit this link:

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments		
Minor REVISION comments		
Optional/General comments	The whole idea under this work is "to prepare films which can be used for rechargeable batteries". In this work, solution casting technique was used to prepare films, where the work is mainly performed on the characterization of films of poly (vinylalcohol) (PVA) and poly (vinyl pyrrolidone) (PVP) doped with various mass fractions of NiCl₂/CdCl₂ by using various techniques. Structural, thermal and electrical properties of PVA/PVP polymer blends doped with different concentrations of equal mass fractions of NiCl₂ and CdCl₂ were studied. X-ray diffraction scans were produced by using DIANO with Cu Kα radiation where, $\lambda = 1.540 \text{ \AA}$ was taken, the tube operated at 30 kV, and the Bragg's angle (2θ) was chosen in the range of 4-60°. FT-IR absorption spectra were carried out using the single beam Fourier transform infrared spectrometer, FT-IR-430, JASCO. UV-visible absorption spectra were measured in the wavelength region of 200-600 nm using UV spectrophotometer. Morphology of the films was characterized by scanning electron microscope using JEOL 5300 operating at 30 kV accelerating voltage. The differential scanning calorimetry of the prepared films was carried out using Shimadzu DSC-50 with a heating rate of 10 °C/min under argon atmosphere. DC electrical conductivity was measured using an insulation tester, Level type T M14 with accuracy $\pm 0.2\%$. XRD results, presented the semi crystalline nature of the prepared films and demonstrated that complexation between the blend and the filler took place in the amorphous region. FT-IR and UV-visible studies confirmed these results. UV-visible analysis also revealed that the optical energy gap was affected by adding the mixed filler, indicating that there are charge transfers complexes arose in the polymer blend matrices. DSC provides single T_g which indicates complete miscibility of the prepared films. The electrical conductivity increased from $2.16 \times 10^{-8} \text{ S/cm}$ of pure blend to $1.1 \times 10^{-4} \text{ S/cm}$ for the blend filled with 20 wt % of the mixed filler, showing that these composites can be used for battery fabrication. In my opinion this work can be publish without any alteration in your journal.	A lot thanks for your comments.