Evaluation of the environmental impacts of Thermocol using life cycle assessment: a study in India

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Abstract: Humans are very innovative in finding efficient material serving several purposes to ease their lives. Unfortunately these materials though advantageous are non-biodegradable in nature and threaten our environment due to their long lifetime even after their disposal. One among them is thermocol, substantially used in packaging and construction industry, which is a kind of plastic its negative effects are not under limelight. After usage of thermocol due to lack of knowledge in proper disposal creates effects like soil infertility and deleterious to aquatic life. The major problem arises by burning thermocol which releases more than ninety hazardous chemicals particularly carbon monoxide and styrene vapours which effects the central nervous system of human beings. The study based on life cycle analysis of thermocol is done, from its production till it is disposed to different sources which humans are using extensively, to know the various impacts and to prevent addition of this material into pollutant category. Reuse of this material is an appreciable choice instead of disposal to attain sustainability. With the inventory and impact studies of life cycle analysis, the awareness among consumers and end user is being emphasized and trying to implement a closed loop in the thermocol's life.

***Keywords**: Thermocol, Life Cycle Analysis, Packaging material, Closed loop, Sustainability*