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## **SUSTAINABILITY ASSESSMENT IN DISPOSABLE BABY DIAPERS BY ADOPTING A SYSTEMS APPROACH**

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### **Abstract**

Disposable baby diapers are commonly used hygiene products worldwide for modern parental convenience. However, the environmental and human health impacts attributed to the life cycle of disposable diapers are a serious concern. Salient health concerns attributed to diaper use include exposure to phthalates and VOCs, dermatitis, etc. Sustainability is a pressing concern underlying product use in modern society. Sustainability assessments require a multidisciplinary systems perspective than conventional life cycle studies to scrutinize short and long-term impacts on various stakeholders and ecosystem services. Literature dealing with a holistic systems approach is lacking regarding the sustainability of a product like disposable baby diapers. This study comprises a forecasting model that examines prevalent socio-technical trends to provide a multi-stakeholder systems-based sustainability assessment of baby diapers considering environmental, social, and economic indicators. The current study goes beyond conventional environmental assessments and discusses positive and negative trends associated with various indicators on a temporal scale. Interventions have also been discussed to improve the sustainability of the product.

**Keywords:** cross-impact analysis, disposable baby diaper, morphological analysis, sustainability assessment, systems thinking

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