



Environmental Problems and Multifunctional Surgical Face Masks during Covid-19 Pandemic

Ramesh Rao*

Department of Materials and Textile Engineering, University Hassan II of Casablanca, Singapore

Abstract

Disposable diapers should only be made of non-toxic and natural chemicals due to the widespread use of disposable diapers in healthy newborns, children at risk for allergies, and premature babies with weakened immune systems. Manufacturers of disposable diapers unhappily refuse to disclose their precise chemical makeup, stating that their trade secrets still apply. However, numerous studies indicate that well-known brands, "store" brands, and "bio" brands of disposable diapers might contain a number of dangerous substances. The chemical makeup of disposable newborn diapers has received very little research attention. Common contaminants found in diapers include polychlorodibenzo-p-dioxins, organically active ethylene, benzene, xylene, and toluene compounds, polyacrylates, and phthalates. Some of these might pose health risks to kids. Only a few approaches have been published for identifying certain categories of substances that might be harmful to a baby's skin. Most of these processes rely on chromatographic separation.

continuing through the disposal process. Therefore, the purpose of this review is to present issues related to Disposable

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Introduction

The health of the newborn is the main concern of the parents; if this matter was ignored, the consequences would be uncomfortable. Infants have unique requirements related to healthy daily hygiene, such as care or nourishment. A suitable diaper is one of the baby accessories required. There is a large selection of sanitary napkins, but the one chosen for a baby should not only be cosy but also ensure their wellbeing. Usually, diapers are applied directly to the 24 hours a day, 7 days a week, skin. As a result, any chemicals present in diapers will have an impact on the baby's body and therefore, health [1]. Additionally, children who cannot regulate their urination have an influence when they frequently use diapers. Parents, it goes without saying that diapers should be composed of non-toxic materials for the sake of newborns' health [2]. However, recent reports indicate that diapers may contain a variety of dangerous compounds. In this case, a number of issues arose because, even at extremely low concentrations, the limits of detection of chromatographic instruments are too high to allow for a direct analysis of these analytes. Due to the presence of high concentrations of undesirable molecules in the sample matrix, it is also difficult to identify target compounds [3]. The sample pretreatment stage of the analytical process must include preconcentration and separation steps to release these analytes from the matrix components in order to minimise these troublesome concerns. This review's objective is to highlight issues related to disposable infant diapers. The public's lack of understanding in this area is one of the key problems. Another topic covered in this article is the presence of hazardous substances in disposable baby diapers. It is highlighted how crucial it is to monitor and analyse these xenobiotics [4]. The absence of precise information on the presence of different kinds of chemical compounds in disposable baby diapers, a lack of understanding of the concentration levels at which they occur, and the scarcity of analytical techniques that could be used to identify and monitor these toxic compounds have all contributed to the need to address this issue [5]. In most nations throughout the world, disposable baby diapers are among the most crucial baby items that

make parenting easier. According to estimates, an infant uses between 4600 and 4800 diapers throughout the first three years of life [6]. The purpose of disposable diapers is to retain and absorb urine and faeces while keeping the baby's skin dry and clean. The multilayer diaper architecture makes this possible. The main cause of harmful substances in diapers is contamination of the raw materials, such as pesticides or herbicides, improper materials utilised in the creation of the diapers and materials used to link the layers, or manufacturing procedures. For instance, bleaching of cellulose can result in the formation of PCBs, PCDDs, and polychlorodibenzofurans. There aren't many bleaching techniques used nowadays, but the one with chlorine dioxide is the most often used. Although the amount of chlorinated products is decreased but not entirely eliminated by the elemental chlorine free technique them. Nonylphenolethoxylates, which are employed as surfactants for cleaning, surface treatment, emulsification, or solubilisation, are one potential source of nonylphenol. Nylon threads and poly (ether amide) elastomers are the sources of caprolactam. A diaper adhesive can be the source of abiotic acid and dehydroabietic acid.

Discussion

Due to the presence of toxic compounds in diapers and their

*Corresponding author: Ramesh Rao, Department of Materials and Textile Engineering, University Hassan II of Casablanca, Singapore, E-mail: RameshRao56@gmail.com

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diapers due to the use of high temperatures manufacturing processes.

There are, however, surprisingly few studies that focus on identifying harmful substances and the techniques that make it possible to find them in diapers. Controlling the individual compound content of diapers is required due to the presence of hazardous compounds in them and their potential impact on newborns' health [8]. There are, however, surprisingly few studies devoted to identifying harmful substances and techniques that make it possible to find them in diapers. However, there aren't many research focused on determining multiple groups of distinct toxicants at once [9]. Compounds and this particular product: the disposable baby diapers—do not have any specific analytical analyses. The majority of research is limited to topics like allergies, gastrointestinal infections, or the detection of harmful substances