

# **QUANTIFICATION OF WASTE IN NEOPRENE GLOVE MANUFACTURE**

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## ABSTRACT

Rubber Industry is a major thrust industry in Sri Lanka, which has a significant contribution to national economy. A closer look reveals that rubber industry consumes large volumes of water, uses tons of chemicals and other utilities and discharges enormous amounts of wastes and effluents. The few cleaner production assessments and Implementation programs carried out in Sri Lanka has shown huge benefits. Some of them are lesser usage of chemicals, energy and utilities including water, improvement in productivity and profitability.

This research approaches the concept of Cleaner Production in an industry of Synthetic latex dipped products. Cleaner production is defined as, the continuous application of an integrated, preventive, environmental strategy applied to processes, products and services to increase overall efficiency and reduce risks to humans and the environment. Initially obtained top management commitment and assessment was started then formed cleaner production team, realize the process flow diagram, identified the waste streams and quantified the wastes and the finally possible options were given to reduce identified waste streams.

Noticeable compound wastages were identified from process flow, greater amount of compound wastes in coagulated pans and due to additional parts in glove. Around 110.9 Kilograms (Kg) of compound were induced from plant 01, 02 and excess parts of glove per week. The water wastages from leaching tanks and dipping tanks were considerable levels. As well energy waste makes an unfavorable working environment with long term environmental pollution. Around 179.8 gigawatts (GW) were liberated from main and pre heated ovens, per week.

Resource consumption can be reduced by optimizing the process flow. Large amount of water can be recycle for the same process activities or can reuse for any other purpose

without searching for completely pure water. Waste generation can be minimized by adopting new technologies and by improving operating efficiencies. The minimization of wastes at the point of generation is the most valuable option under cleaner production.

Key words: Cleaner production technology, Dipping industry, Compound, Recycle