

CHAPTER III

EXPERIMENTAL

3.1 Equipments

Two types of equipment that used in this research were personal computer (PC) and Simapro 5.1 software that was supplied by MTEC (National Metal and Materials Technology Center). The methods called Eco-indicator 95 and 99 were used to analyze the data.

3.2 Procedures

3.2.1 Investigate and Study

The situation of nylon textile industrials is investigated and SimaPro 5.1 software is studied for life cycle assessment.

3.2.2 Goal and Scope Definition

The data of resource consumption, energy consumption, emission and waste from cradle-to-grave are collected during the entire life cycle of polyamide fiber production. The energy and environmental impact are evaluated in the step of raw material process, production, transportation, use phase and disposal phase.

3.2.3 Inventory Analysis

The input-output data from the company are collected and the flow charts of the process are created to show overall picture of life cycle.

3.2.4 Impact Assessment

The significance of potential environmental impact is evaluated which base on the result of the life cycle inventory analysis.

3.2.5 Interpretation

The results from inventory analysis and impact assessment are analyzed and verify the conformability between the result, the goal and the scope definition. The conclusions are drawn.