

**NATIONAL UNIVERSITY OF SCIENCE  
AND TECHNOLOGY**

LIBRARY  
NATIONAL UNIVERSITY OF SCIENCE  
AND TECHNOLOGY  
CLASS No  
SC2160



**MUST LIBRARY**

**FACULTY OF APPLIED SCIENCES**

**DEPARTMENT OF APPLIED CHEMISTRY**

**TITLE : LOSS EVALUATION AND MINIMISATION  
DURING BAKING OF ACRYLIC AUTOMOTIVE  
PAINTS**

**NAME : NEVER KNIFE  
N950330F**

**A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF  
REQUIREMENTS FOR:**

**BACHELOR OF APPLIED SCIENCE HONOURS  
(CHEMISTRY)**



**MAY 1999**

# ABSTRACT

PAGE

This research project was undertaken at Dulux Paints Pvt limited, Harare. The aims of the project were to assess the paint-losses that occurred during the spray painting of cars, and attempts to reduce these losses and hence the expenses incurred in preparing the paints. The first aim was achieved by comparing the weight of paint applied onto the metal substrate with the total paint used-up for the process. This involved assessing the transfer efficiencies of different spray-guns.

## PRINCIPLE

An attempt was made to reduce the quantity of volatile organic content within the initial paint formulation. This objective was achieved by preparing different samples of the automotive paint each with varying quantities of the paint components and then applying each sample onto a steel panel (representative of the automotive surface). Losses were calculated and the system that yielded the least losses that is, the best efficiency, at optimum costs of raw materials was recommended as the ideal formulation.