MODELING OF AMMONIA RELEASE ACCIDENTS IN FERTILIZERS PLANTS

By

Yahia Mohammad Hossam Shawky Al-Sabbagh

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
in
CHEMICAL ENGINEERING

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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MODELING OF AMMONIA RELEASE ACCIDENTS IN FERTILIZERS PLANTS

Key Words:
Ammonia Release; Fertilizers Plants; Dispersion Area.

Summary:

To deal with ammonia release in fertilizers plants we must know the factors that affect the dispersion of ammonia like wind speed and ground roughness. This thesis will study new factors that may affect ammonia dispersion zone which are the surrounding temperature and source leakage diameter. This study is very important for the decision maker who is in-charge of emergency arrangement and planning. This will greatly help in early prediction of the ammonia leakage dispersion so as to take precautions and reduce injuries.

Disclaimer

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Date:

Signature:

Dedication

I dedicate this thesis to my whole family especially my grandfather who brilliantly enforced me to seek a master degree.

Acknowledgments

I would like to provide my acknowledgements to the PROPHET MOHAMMAD {O ALLAH BLESS AND GREAT HIM} the source of purity, serenity and beauty. Then to my family who gave me support and encouragement to complete my thesis and to my supervisors; Prof. Omar Al-Farouk, Prof. Yasser Ibrahim and Dr. Ayat Osama who were helpful and gave me great advices.

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