

**AN ANALYSIS OF OCCUPATIONAL SAFETY AND
HEALTH HAZARDS IN THE HOT END SECTION OF
CONTAINER GLASS MANUFACTURING INDUSTRY**

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Appendix A - Survey questionnaire

Appendix B – Determination of sample size from a given population

Appendix C - Pilot study

Abbreviations

ACGH	- American Conference of Governmental Industrial Hygienists
TLVs	- Threshold Limits Values
JMO	- Junior Machine In-charge.
LI	- Line In-charge
NIOSH	- National Institute of Occupational Safety and Health
ISM	- Individually sectioned machine
ACGIH	- The American Conference of Government Industrial Hygienists
WBGT	- Wet-bulb globe temperature
WHO	- World Health Organization
SLIDB	- Sri Lanka Industrial Development Board
IARC	- International Agency for Research on Cancer
IJERT	- International Journal of Engineering Research & Technology
OSH	- Occupational safety and Health
RCS	- Respirable crystalline silica
MR	- Metabolic rate
TLV	- Threshold Limit Value
NIHL	- Noise induces hearing loss ()
COSHH	- Control of Substances Hazardous to Health Regulations 2002
GDP	- Gross Domestic Production
COSHH	- Control of Substances Hazardous to Health Regulations 2002
ILO	- International Labour Organizations

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Dedication

This project of dedicated to my beloved
mother who wanted me to be the best at
all the times

Declaration

“I declare that this is my own work and this thesis does not incorporate without acknowledgement any material previously submitted for a degree or diploma in any other university or institute of higher learning. To the best of my knowledge and belief it does not contain any material previously published or written by another person except where the acknowledgement is made in the text.

Signature of the student -

Date -

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The above candidate has carried out research for the Masters thesis under my supervision

Signature of the supervisor -

Date -

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Abstract

The uncontrolled occupational health and safety hazards are hidden issue all over the world. Many people die and sacrifice their lives in short terms and long terms as a result of these uncontrolled and unidentified hazards existing in the working environment. The health care sector of countries have to spent billions of money for medical treatments for the occupations illnesses, in the developing countries. In addition, the contribution of victimized people to the economic development process of a country get limited in various ways and their personal lives get disturbed. Accidents caused in industries making partially disabled, fully disabled people, who are considered as dependents in the society making minimum contribution to the economy.

The glass industry is known as an industry with high concerns of occupational health and safety conditions and with less studies in finding the long lasting solutions and remedies in remedying the hazardous conditions. In this study, preliminary the Sri Lankan glass manufacturing sector was considered and data collection done.

Preliminary in data collection the structured questionnaire was used validated with a questionnaire pilot study with industry experts. In this study, the hot end section was selected in carrying the survey and out of 35 employees; the 32 employees were selected according to the small survey-sampling plan. The demographic data, health and safety hazards according to the criticality, company background of OSH and critical causes for the OSH hazards were collected with interview of employees by the researcher by face-to-face interview. All collected data tabulated and analysed through the excel and RII (Relative Importance Index) was calculated in facilitating the ranking the hazards and the cause. In most of the cases, the hazardous condition had been controlled with PPE applications and engineering controls where as the eliminating and substitution is a challenging initiatives in the glass manufacturing environment. Against the preventive initiatives the controlling of the hazards and exposures are quite unsatisfactory as during the case study the results showed are alarming. This study conducted by emphasizing to develop a better OSH environment in Sri Lankan glass industry.

Key words: Safety Hazards, Container glass, Occupational health