



ChemTech

International Journal of ChemTech Research

CODEN (USA): IJCRGG ISSN: 0974-4290

Vol.9, No.04 pp 177-191, 2016

Analysis of Accidents in Chemical Process Industries in the period 1998-2015

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Abstract: The present research work is briefly providing some of major accidents in chemical process industries which occurred for the period 1998-2015. For this study, 70 major process accidents have been considered from 30 countries across the world. The criteria considered for the analysis of process accidents are the frequency of accidents occurred, the number of people killed and the number of people injured in developed and developing countries. Moreover, the primary and chemical causes of accidents are identified in this study. It is observed that, the number of accidents occurred in the chemical process industries are more in developed countries than in developing countries. The number of people deaths is less and number of injuries is more in developed countries. But number of deaths is considerably more in developing countries than developed countries. It is revealed that, most of the accidents concerned with hydrocarbons and toxic chemicals are 55% and 30% respectively. Furthermore, around 63% and 25% of accidents are concerned with explosions and fire due to flammability and explosive nature of hydrocarbons. The present study understands the mechanism of the process accidents and is useful to develop the prevention and mitigation strategies for controlling the process accidents.

Keywords: Chemical disaster, process accident, chemical process industry (CPI), environmental pollution, developed countries, developing countries.

Kiran Yarrakula *et al* /International Journal of ChemTech Research, 2016,9(4),pp 177-191.
