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Bhopal Gas Tragedy, 1984. MIC or Hydrogen Cyanide?

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The Bhopal disaster, also referred to as Bhopal Gas Tragedy, which occurred in the last millennium over 29 years ago, was a catastrophe that has no parallel in the world's industrial history. Since than, there has been a controversy whether gas leaked was Methyl isocyanate or Hydrogen cyanide. The gas leaked at the pesticides plants of Union Carbide India Limited (UCIL) located in the thickly populated area hardly 2 km. away from Bhopal Railway Station.

The carnage as officially recorded immediate death toll was 2259: while other sources claim that the death tool was about 8000. The station master of Bhopal Railway Station on duty also died. In addition to the immediate deaths, effect of the gas followed has, over the years, claimed many lives and left many more struggling with consequences of inhaling MIC by union carbide. A Government affidavit in 2006 stated that the leak of MIC caused 558125 injuries including 38478 temporary partial injuries. Recently, gas victims are again agitating for better medical facilities and compensation etc. It is astonishing that after the lapse of long time, union Carbide, announced that the gas leaked was Methyl isocynate (MIC). Deaths were very sudden and were due to lack of oxygen reaching the respiratory centers. The majority of deaths occurred within the first 72 hours of the leak, a large fraction of the exposed population continues to be chronically ill with diseases of the respiratory, gastro-intestinal, pancreas, kidneys, reproductive, musculoskeletal, neurological, nasal neuroepithilium, special sensory organs, auditory, Ophthalmological and other systems.

Methyl isocynate is a relatively simple chemical (formula, CH3-N=C=O) while hydrogen cyanide leads to immediate collapse. Initial reports based on the autopsies of victim's bodies suggested cyanide poisoning (Bhatia, 1985). On the advice of Dr Avashia (Union Carbide) amyl nitrate and sodium thiosulphate, a medicine given in HCN poisoning was administered.

It is worth while to mention that critic argues that both Government of India and union Carbide tried to avoid mentioning the provocative cyanide (Bhatia, 1985). According to Kulling and Lorin (1987), MIC when heated in gas- phase starts to breakdown to HCN and at +200°C 3% of gas is Hydrogen Cyanide. The concentration of 300 PPM can lead to immediate collapse (Blake and Ijadi-Maghsoodi, 1981). Gupta (2001) on the basis of his study suggested that the gas victims were suffering from fatal disease like Pancreatitis. On the basis of Pancreatitis, he suggested that the toxic gas was Hydrogen Cyanide and not Methyl Isocyanate. Sriramachar(2004) and Balaram (2010) the confirmed the work of Gupta (2001) on the basis of his exhaustive on the gas victims.

It would be valuable for academic purpose as well as for the treatment of still suffering patients lingering in hospitals due to gas tragedy to re-investigate the cause again.

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