

ENVIRONMENTAL TOBACCO SMOKE**J.P. McLaughlin***Department of Experimental Physics, University College Dublin, Dublin, Ireland*

ETS (Environmental Tobacco Smoke) is a mixture of exhaled mainstream smoke and of the sidestream smoke from smouldering tobacco. It is a complex mixture of very many compounds including over 50 known or suspected human carcinogens. Of the 88 agents or groups of agents classified by the WHO-IARC (World Health Organisation's International Agency for Research on Cancer) into Group 1 as known human carcinogens nine of these are present in ETS. In 2002 WHO-IARC declared that involuntary smoking is carcinogenic to humans thus placing ETS itself in Group 1. In addition to carcinogens a number of irritants and cardiovascular toxicants such as nicotine and carbon monoxide are also present. As a consequence of the differences in temperatures at which they are produced in tobacco combustion, in pH value and in air dilution many carcinogens and other toxicants are generated at greater amounts in sidestream compared to mainstream smoke. Many studies in recent years have shown that involuntary or passive smoking due to ETS exposure gives rise to a range of serious health effects such as cardiovascular disease, respiratory problems in adults and children and lung cancer. It also has adverse effects on reproduction including low birth weight. In this paper an overview will be given of the evidence on which such health effects are based and also of both technical and legislative approaches to ETS control. As an illustration of the latter an account is given of the recently introduced ban on smoking in workplaces in Ireland.