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**CONFIDENTIAL**

FORMATION AND ANALYSIS OF CARBON MONOXIDE IN CIGARETTE  
MAINSTREAM AND SIDESTREAM SMOKE<sup>1,2</sup>

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### Summary

Carbon monoxide is one of the three cigarette smoke constituents which have been judged as "most likely to contribute to the health hazards of smoking". CO is formed in the burning cigarette by oxidation of nonvolatile carbonaceous matter, by reduction of CO<sub>2</sub> and by pyrolysis of nonvolatile organic matter, primarily cellulose and cellulose-like materials. The best way, currently known, to control the CO formation in the burning cigarette is air dilution by porous cigarette paper or by perforated filter tips. During the smoldering of a cigarette between puffs about 2.5 times more CO is formed than during actual smoking. The release of CO in sidestream smoke from tobacco products has on occasion led to short term occurrence of up to 50 ppm of CO in enclosed environments.