

# MAKE SMOKING HISTORY<sup>®</sup>

## Cigarette Ingredients

### Background

In Australia, tobacco products remain virtually unregulated and nothing prevents tobacco manufacturers from adding almost any ingredient that they choose.<sup>1</sup> A wide range of chemical ingredients and additives are found in cigarettes as well as the herbicides and insecticides which are routinely used in growing tobacco.<sup>2</sup>

### Chemicals in cigarettes

Cigarette smoke contains over 4000 chemical compounds. More than 60 of these have been identified as cancer causing.<sup>3</sup> Some of the toxic chemicals found in cigarettes and tobacco smoke are included in the table below.<sup>3</sup>

Nicotine	The addictive agent in tobacco smoke
Formaldehyde	Used in preservation of laboratory specimens
Ammonia	Used in toilet cleaner
Hydrogen cyanide	Used in rat poison
Acetone	Used in nail polish remover
Carbon monoxide	Found in car exhaust
Tar	Particulate matter in cigarette smoke
Toluene	Found in paint thinners
Phenol	Used in fertilisers

While smokers are aware cigarette smoke contains some of these chemicals, many are unaware of exactly how they harm the body. For example, carbon monoxide, found in car exhausts, binds to red blood cells and reduces the ability of blood to carry oxygen.<sup>3</sup> Hydrogen cyanide kills the cilia (small hair cells) that clear particles from the lungs (including smoke particles for smokers).

### Flavour additives in cigarettes

Flavour additives such as sugar, honey, liquorice and cocoa are frequently used in cigarettes. They not only allow smokers to inhale increased volumes of smoke and thus more easily absorb the desired dose of nicotine, but they also ensure that cigarettes are more palatable and appealing.<sup>4</sup> While these additives may seem harmless in their natural form, some can be poisonous in combination with other substances. In addition, when burned, new products of combustion are formed and many of these are toxic.<sup>4</sup> Some examples of seemingly harmless additives used in cigarettes and what they do are included below:

*Coffee and Cocoa:* Both 'caffeine' and the chief alkaloid found in cocoa 'theobromine' are known bronchodilators. This means that nicotine is available for easier absorption in the lungs.<sup>2</sup>

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**Sugars:** Cigarettes can be made up of sugars and sweeteners. This undoubtedly affects the palatability and flavour of cigarettes masking the noxious taste of tobacco, particularly the bitterness of nicotine.<sup>2</sup>

**Menthol:** Menthol serves as a flavour whilst also deadening local nerve endings to reduce the feeling of irritation from inhalation of the various combustion products. Mainly added to 'menthol' products, however it is frequently added to other brands in small quantities to produce sensations of "freshness".<sup>2</sup>

People are often surprised to learn such additives are not specific to 'niche' flavoured products but are in actual fact used in both factory made cigarettes and in roll-your-own tobacco<sup>5</sup>, ultimately helping smokers swallow a lethal cocktail. The reality is that flavour additives can mask the bitter taste of tobacco but nothing can hide the damage smoking does.

## Disclosure of ingredients

Australia has a voluntary agreement for the disclosure of ingredients between the Commonwealth Government and the three Australian tobacco manufacturers<sup>6</sup> however research with smokers suggests this is not an effective way of communicating the information with the public.<sup>5</sup> Also, ingredients used in different brands have not been adequately disclosed by tobacco manufacturers because the voluntary agreement with regulatory authorities allows them to protect trade secrets. As a consequence, smokers are not fully informed.

## Help to quit

Smokers who no longer want to be fooled should quit now before it's too late. For help to quit smoking, call the **Quitline on 13 7848** which offers free information and confidential counselling. The Cancer Council Western Australia's *Fresh Start* courses are run in workplaces and the community. If you are interested in attending a course, call the Quitline, or the Cancer Council Helpline 13 11 20, to find out where courses are running. You can also access information at [www.cancerwa.asn.au/prevention/tobacco](http://www.cancerwa.asn.au/prevention/tobacco).

<sup>1</sup> Chapman, S 2003, "'Keep a low profile": pesticide residue, additives and Freon use in Australian tobacco manufacturing', *Tobacco Control*, vol. 12, no. suppl. III, pp. iii45-iii53.

<sup>2</sup> Fowles, J.R. 2001, *Chemical factors influencing the addictiveness and attractiveness of cigarettes in New Zealand: final report*, Prepared as part of a New Zealand Ministry of Health Contract for Scientific Services.

<sup>3</sup> Department of Health and Aging 2008, *Tobacco Smoke is Toxic*, accessed 3 December 2008, <http://www.quitnow.info.au/internet/quitnow/publishing.nsf/Content/warning-smoketoxic>

<sup>4</sup> Bates, C, Jarvis, M & Connelly, G 1999, *Tobacco additives: cigarette engineering and nicotine addiction*, Action on Smoking and Health, Imperial Cancer Research Fund and Massachusetts Tobacco Control Program, accessed November 2006, <[http://www.ash.org.uk/html/regulation/html/additives.html#\\_Toc5014](http://www.ash.org.uk/html/regulation/html/additives.html#_Toc5014)>

<sup>5</sup> Carter, S & Chapman, S 2006, 'Smokers and non-smokers talk about regulatory options in tobacco control', *Tobacco Control*, vol. 15, pp 398-404.

<sup>6</sup> Department of Health and Aging 2006, *Australian cigarette ingredient information*, accessed November 2006, <<http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-publth-strateg-drugs-tobacco-ingredients.htm>>.