

RD Irwin. *J. Appl. Toxicol.* (2006) Vol. 26 p 72–80

A review of evidence leading to the prediction that 1,4-butanediol is not a carcinogen.

Ten years after his definitive review [National Toxicology Program Toxicity Report Series Number 54], the author provides an explanation of his findings and considers any relevant developments occurring in the interim.

1,4 Butanediol [CAS number 110-63-4] continues to be used in very large quantities in industry and in the research laboratory. It is rapidly absorbed and metabolised to Gamma hydroxybutyric acid (GHB) which has powerful anaesthetic properties. GHB has been extensively studied and has no organ specific health effects including cancer.

There are no Official exposure guidelines for 1,4 Butanediol in the UK nor on the US ATSDR list. Retention of more than 1g could lead to debilitating anaesthetic effects (based on rat experiments).



L A Mucci et al. *Int J Cancer* (2006) Vol. 118 p 169 to 173

Prospective study of dietary acrylamide and risk of colorectal cancer among women

A cohort of 61,467 women, mean age 54, were studied for 13 years. Dietary intake of acrylamide was estimated from diet sheets recorded at baseline.

There was no association between dietary variation in acrylamide consumption and colorectal cancer, colon cancer or rectal cancer. Similarly, high acrylamide foods were not associated with these outcomes.

Mean intake of acrylamide through diet was 24.6 µg per day (interquartile range = 18.7–29.9), or 0.38 µg per kg body weight per day (interquartile range = 0.27–0.47).

C Pelucchi et al. *Int. J. Cancer* (2006) Vol. 118 p 467 – 471

Dietary acrylamide and human cancer

A large case control study of human cancer cases. Oral cavity and pharynx (749 cases, 1,772 controls), oesophagus (395 cases, 1,066 controls), large bowel (1,394 cases of colon, 886 cases of rectal cancer, 4,765 controls), larynx (527 cases, 1,297 controls), breast (2,900 cases, 3,122 controls), ovary (1,031 cases, 2,411 controls) and prostate (1,294 cases, 1,451 controls).

The average daily intake of acrylamide among controls ranged between 23.33 and 29.24 µg/day.

The odds ratios for the highest versus the lowest quintile of acrylamide intake were 1.12 (95% CI = 0.76–1.66) for cancer of the oral cavity/pharynx, 1.10 (95% CI = 0.65–1.86) for oesophageal, 0.97 (95% CI = 0.80–1.18) for colorectal, 1.23 (95% CI = 0.80–1.90) for laryngeal, 1.06 (95% CI = 0.88–1.28) for breast, 0.97 (95% CI = 0.73–1.31) for ovarian and 0.92 (95% CI = 0.69–1.23) for prostate cancer.

That is, there were no statistically significant associations between dietary acrylamide and these cancers.

RD Goodwin et al. *Psychosomatic Medicine* (2006) Vol.68 p 94–98

Major Depression and Allergy: Does Neuroticism Explain the Relationship?

The analysis suggests that there is a significant relationship between allergy and depression among females but not males in the community. This relationship appears independent of the effects of neuroticism. Our results also provide preliminary evidence that there is a link between neuroticism and increased likelihood of allergy among males, independent of the effects of major depression.

D Brodie. *Industrial Law Journal.* (2006) Vol.35 p 87 – 92

The Enterprise and the Borrowed Worker

Viasystems (Tyneside) Ltd v Thermal Transfer (Northern) Ltd [2005] IRLR 983 (CA)

Viasystems had employed the first defendants (D1) to install air conditioning. The latter had sub-contracted part of the work (the installation of the air ducting) to the second defendants (D2) who, in turn, had borrowed 2 employees of the third defendants (D3) to assist, one was usually supervisor to the other. The harm was caused by the negligence of an employee of the third defendants when he was working for the second defendants under their 'instruction or supervision'. It appears that the borrowed

employees were given instruction by the second defendants about methods of working, including safety. It was also clear that an employee of the second defendants was responsible for site safety.

In spite of clear precedents relating to actual as opposed to contractual control, the judge in this case decided that liability can be shared between the temporary (D2) and general employer (D3). Under this regime of shared liability both employers are regarded as joint tortfeasors and, in line with general principles, the plaintiff can recover in full from either of them. The author considers that this judgement was heavily influenced by the fact that the D3 employee who caused the harm was also under supervision by the D3 supervisor.

AM Ruder et al. Environ Health Perspect. (2006) Vol.114 p 18–23.

Mortality among Workers Exposed to Polychlorinated Biphenyls (PCBs) in an Electrical Capacitor Manufacturing Plant in Indiana: An Update

Ten years after the initial report of a seven year follow-up study two of the original findings persisted. Melanoma and brain cancer were both related to having worked with PCBs. There was no dose response relationship with either outcome.

AL Oaklander et al. Pain (2006) Vol.120 p 235 – 243.

Evidence of focal small-fiber axonal degeneration in complex regional pain syndrome-I (reflex sympathetic dystrophy)

As well as the usual sensory tests, the authors took skin biopsies and counted the number of axons in 18 CRPS-1 cases. It was clear that CRPS-1 sites had significantly fewer nerve cells (by an average of 29%). This may help explain the persistent unbalanced behaviour of the sympathetic nervous system in affected sites. Eventually, this observation could be worked up into a diagnostic tool and could be applied to non-specific arm pain.

PJ Albrecht et al. Pain (2006) 120 p 244 – 266

Pathologic alterations of cutaneous innervation and vasculature in affected limbs from patients with complex regional pain syndrome

A detailed skin biopsy examination of two CRPS-1 cases found unusual innervation of hair follicles and decreases in sweat gland and vascular innervation. Differences in these very fine nerves may help explain the persistent nature of CRPS-1.

MGM O Rikkert et al. Arch Neurol (2006) Vol.63 p 144 – 146

Multiple Diagnostic Tests Are Needed to Assess Multiple Causes of Dementia

The review focuses on recent consensus that dementia is not always present in a pure form and less so as patients get older (in less than half of patients > 80 years of age). Alzheimer's and vascular dementia are often co-present. Research into the aetiology of dementia should seek to employ precise diagnoses.

C Monforton. Am J Public Health (2006) Vol. 96#2 p 271-276

Protecting Underground Miners from Diesel Particulate Matter

This journalistic article summarises developments towards a protective standard. NIOSH has held the view, since 1988, that whole diesel exhaust is a potential human carcinogen. The Mines Safety and Health Administration have proposed an exposure standard for diesel particulate matter of 160 µg/m³. This compares with a current average of 808 µg/m³. At current levels (according to this report) it is estimated that over 83 per 1000 mine workers would develop diesel exposure related lung cancer if exposed for a working lifetime.