WRITTEN QUESTION TO THE PRESIDENT OF THE HEALTH AND SOCIAL SERVICES COMMITTEE BY THE DEPUTY OF ST. JOHN

ANSWER TO BE TABLED ON TUESDAY 1st MARCH 2005

Question

In February, the Grands Vaux Reservoir was contaminated with the herbicide Cyanazine. Has the Committee received information on the effects of this chemical on the human body, and, if so, could he provide details including the breakdown time of the chemical involved?

Answer

The Health and Social Services Committee has long standing arrangements with the Chemical Hazards and Poisons Division of the U.K. Health Protection Agency to provide expert advice in case of pollution.

In line with established practice, advice was sought when the Grand Vaux Reservoir was contaminated by cyanizine. An extract from the reply dated 8th February 2005 reads –

> 'Cyanazine is a triazine herbicide, sparingly soluble in water. It is considered to be of low acute toxicity to humans. No reports of acute adverse effects of ingestion of cyanazine in humans could be located in the peer-reviewed literature or National Poisons Information Service (London) (NPIS(L)) data Other triazines have caused nausea, vomiting, diarrhoea, abdominal pain and a burning sensation in the mouth with mild dysphagia (on ingestion of strong solutions).
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> Cyanazine and the other triazines were evaluated by the World Health Authority (WHO) in 1984, at that time no health-based guideline was proposed, but in 1998 they proposed a limit of 0.6 µg/l of cyanazine in drinking water; which still stands in the latest (3rd) edition of the Guidelines This guideline is derived assuming that no more than 10% of the Tolerable Daily Allowance (TDI) is contributed by drinking water, assuming that the subject is a 60 kg adult drinking 2 litres of water per day. The TDI was developed by extrapolation from animal (rat) studies, and is 0.198 µg/kg.
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> Small children drink a relatively larger proportion of water compared to their body weight than do adults; the WHO assume for the purposes of assessing chemical safety in drinking water that a 10 kg child (equivalent of an average toddler) drinks 1 litre a day, and that a bottle-fed 5kg child drinks 0.75 litres per day. Using these water intake values (which are on the generous side) and using the highest water cyanazine level (1.4 µg/l) then an intake of 1.98 µg/day could be calculated for a 10 kg child, which is still within the TDI. Using the same assumptions, the maximum intake for a bottle-fed 5 kg child could be 1.05 µg/day, which is slightly above the TDI. The worst case scenario would seem to be that this state of affairs lasted for maximum 21 days (assuming the water was leaving the treatment works containing cyanazine at 1.4 µg/l from 15th December until 5th January.
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> Cyanazine is approved in the UK for use on broad beans, bulb onions, combining and vining pea, and salad onions (as well as daffodils/narcissi); assuming that those foodstuffs only comprise a small proportion of a toddler's diet, this should mean that the majority of cyanazine exposure is derived from the water; they should comprise even less of a 5 kg child's diet (this would be the weight of an approximately 6 month old child).
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> However, given the (apparently) short period of exposure, this small excess of the TDI should not result in any major health effects, going by the current state of knowledge of the acute toxicity of cyanazine.'

Specific information on the breakdown time of cyanizine is not available at the time of writing.