

Gender bender found in disposable nappies

Women's Environmental Network (WEN) is calling for immediate action following the discovery that certain disposable nappy brands contain a chemical that could disrupt human sex hormones.

WEN today released results of chemical analysis of five types of newborn size nappies which showed the presence of tributyl tin. Although the amounts are tiny, babies could be in contact with up to 3.6 times the estimated tolerable daily intake¹.

Tributyl tin (TBT) is a long-lasting toxic chemical which is a known endocrine disruptor². It has caused shellfish to change sex and recent research suggests it could act in a similar way in humans. It is used in antifouling paint on ships and in the manufacture of certain plastics. Its use has already been banned on small boats and the German and Austrian Environment Agencies are calling for an EC-wide ban on all uses. The International Maritime Organisation is pushing member states to sign up to a ban on its use on all ships by 2003.

The chemical can be absorbed through the skin. A safe level has not been established for effects on the hormone system but the World Health Organisation has calculated a tolerable daily intake for adults of 15 millionths of a gramme (microgrammes) based on the experience of shipyard workers. WEN estimates that intake of one microgramme (1ug) a day could be unsafe for babies. The tests suggest babies could be in contact with up to 3.6ug a day.

Ann Link, WEN's Coordinator, said: "WEN is extremely concerned that a product is being sold for use on newborn babies even though the manufacturers know it contains a chemical which, in tiny amounts, can disrupt hormones. Tributyl tin is a chemical that should not be made, let alone occur in babies' nappies. Its presence shows that the chemical industry does not know where its products are, and shows the need for a precautionary approach on all chemicals of this nature. We don't know exactly what effect TBT could have but we are concerned that it may leach out of materials it is in. Babies' skins are thinner than adults and can absorb chemicals."

WEN commissioned the nappy analysis after Greenpeace Germany found TBT in various nappies on sale in Germany, as well as in football shirts and PVC flooring. The nappies³ were bought from retailers in early July and analysed by Scientific Analysis Laboratories Ltd, an independent laboratory well known for analysis of toxic micro-pollutants. At least one major manufacturer, Procter and Gamble, appears to have known about the presence of TBT since January yet contaminated nappies were still on sale in the UK in July⁵.

WEN is calling for immediate action by the companies to remove TBT and other organotin⁷ compounds from nappies. The Government should push for a complete phase out in 2003 with immediate action to remove TBT from consumer products. This experience should bring urgency to the current European review of chemicals policy.

ENDS

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Background notes to editors

1) The World Health Organisation tolerable daily intake (TDI) for humans was worked out from effects on shipyard workers handling anti-fouling paint. It is 0.25 microgrammes per kilogramme bodyweight per day. This would be one microgramme for a baby weighing 4 kg. At the rate of five, 30g nappies a day, based on the levels below, a baby is in close contact with

up to 3.6ug of TBT a day. We do not know that this is safe for babies nor do we know how much can get from the nappy to the baby.

2) TBT is a compound of carbon, hydrogen and tin used in anti-fouling paint and as an additive in PVC and other plastics; it can be present as an impurity in catalysts used to make plastics, especially PVC and polyurethane. TBT was found to have caused sexual abnormality in dog whelks in Plymouth in 1970. Subsequent research has shown irreversible damage to other molluscs exposed to TBT and similar inhibition of the human hormone system.

3) The brands tested were:

- i) Benetton 802 midi unisex
- ii) Boots high performance newborn
- iii) Huggies newborn (Kimberly Clarke)
- iv) Sainsburys performers, ultra dry unisex mini size
- v) Pampers baby-dry new born (Procter & Gamble)

All samples were bought in the UK in July 2000. The Boots and Sainsbury brands appear to have been made in March and April this year. Specimens for analysis were taken through the whole thickness of the body of the nappy in several different places. Concentrations may be higher in parts such as the waist and cuffs.

4) Results:

Sample Tributyl tin (u/g per kg of nappy) amount per 30g nappy

- i) Benetton 5 0.15
- ii) Boots 13 0.39
- iii) Huggies 19 0.57
- iv) Sainsbury's 24 0.72
- v) Pampers 13 0.39

(One microgramme is a millionth of a gramme. There are one thousand grammes in a kilogramme, so the concentrations are one part per billion.)

5) In a statement to the Danish Environment Agency on 10th July, Procter and Gamble said that three different materials in their nappies were changed to eliminate TBT between January and April this year. However Procter and Gamble withheld this information when approached by ENDS (Environmental Data Services) in June. They also told Greenpeace Germany in June that they knew how to eliminate TBT from their nappies worldwide.

6) Sources: ENDS Report 305, June 2000: Search on for source of TBT contamination in nappies; Royal Society: Endocrine disrupting chemicals, June 2000; Greenpeace Germany.

7) Organotin compounds are chemical compounds based on carbon, normally with hydrogen, which contain the element tin.

8) WEN runs a real nappy project to prevent waste pollution and health impacts from disposables. We work to ensure the public has full information and a fair choice about products. This research is a consequence of that nappy work but our major concern comes from our longstanding work on endocrine disruptors, especially dioxins and lindane.