

**CAS** 108-88-3

**Substance name** Toluene

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### **Toxicity**

Toluene is a known neurotoxicant and is listed as a developmental toxicant by the state of California.<sup>1</sup> Studies in laboratory animals indicate that gestational exposure can induce alterations in brain development and result in low birth weight.<sup>2</sup> Studies of human babies born to mothers who abused solvents during pregnancy (e.g., glue sniffers) have reported similar effects: perinatal death, preterm delivery, small brain size at birth, low birth weight, and neurodevelopmental delays.<sup>3,4</sup>

### **Exposure**

Toluene is a high production chemical that is widely used as a solvent in paints, coatings, adhesives, inks, and cleaning agents.<sup>4,5</sup> It is used in the production of other chemicals such as benzene.<sup>3</sup> Toluene is also used in production of polymers to make nylon, plastic soda bottles, and polyurethanes; and in some pharmaceuticals, and dyes.<sup>5</sup> Toluene is listed as an ingredient in hundreds of paints, sealers, strippers, autoshop and cleaning items<sup>6</sup> but few of these products would be marketed to children. Some hobby glues and liquid nails with toluene might be used by children. Toluene was detected in a wide variety of children's products in consumer product testing by the Danish EPA. It was detected in 1 of 5 infant jackets, 2 of 4 infant mittens, 2 of 3 school erasers, 1 or 4 pencil cases, 6 of 6 tents, 14 of 14 slimy toys, and 2 of 15 wooden toys. It was also reported in hobby adhesives.<sup>7</sup>

### **References**

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2. U.S. EPA Integrated Risk Information System (IRIS) Toxicological Review for Toluene 2005. <http://www.epa.gov/ncea/iris/toxreviews/0118tr.pdf>.
3. Centers for Disease Control and Prevention (CDC), Fourth National Report on Human Exposure to Environmental Chemicals, December 2009. [http://www.cdc.gov/exposurereport/data\\_tables/](http://www.cdc.gov/exposurereport/data_tables/).
4. REPROTEXT Thomson Reuters (Healthcare) Inc., File for Toluene. Database Version 5.1 Greenwood Village, CO. (accessed 2009).
5. U.S. DHHS, Agency for Toxic Substances & Disease Registry. Toxicological Profile for Toluene. September 2000. <http://www.atsdr.cdc.gov/substances/toxsubstance.asp?toxid=29>.
6. National Institutes of Health, National Library of Medicine, Household Products Database. <http://householdproducts.nlm.nih.gov/> Accessed May 2010.
7. Danish Ministry of the Environment, Environmental Protection Agency. Surveys on Chemicals in Consumer Products. Reports 46, 60, 67, 68, and 84. [http://www.mst.dk/English/Chemicals/Consumer\\_Products/Surveys-on-chemicals-in-consumer-products.htm](http://www.mst.dk/English/Chemicals/Consumer_Products/Surveys-on-chemicals-in-consumer-products.htm).