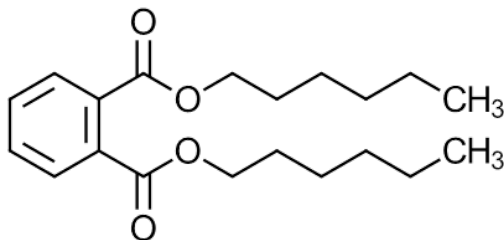


CAS 84-75-3

# Di-n-hexyl Phthalate (DnHP)

$C_{20}H_{30}O_4$



## Summary of Health Effects

Di-n-hexyl Phthalate (DnHP) can damage the reproductive system of animals and cause birth defects, especially if exposed to other phthalates.

## How is DnHP used?

DnHP is mainly used with other phthalates, which adds flexibility to plastics. It may be added to polyvinyl chloride (PVC), which is then used to manufacture children's products.<sup>1-3</sup>

## Toxicity: What are its health effects?

Both the State of California and the National Toxicology Program (NTP) consider DnHP to be a reproductive toxicant.<sup>1,4</sup> The European Chemicals Agency considers DnHP to be a reproductive hazard, class 1B.<sup>5</sup>

In 2008, California's Office of Environmental Health Hazard Assessment published a Maximum Allowable Dose Level for DnHP of 2,200 µg (micrograms) per day for oral exposure. This level was based on reproductive toxicity effects, which were observed in studies conducted by the NTP.<sup>6</sup> In a study on the effects of fetal exposure to DnHP, pregnant mice were given a high dose of DnHP daily for one week to observe the effects on their offspring. However, by the end of the study, there were no live litters to observe and one of the pregnant mice died.<sup>1</sup>

In another mouse study, developmental effects could not be evaluated at high doses because of either high rates of infertility, or complete infertility.<sup>7</sup> A study on fetal exposure of male rats to DnHP found reproductive malformations including underdeveloped or undescended testes and hypospadias. The study concluded that DnHP exposure led to permanent alterations of the male rat reproductive tract, like those caused by di-2-ethylhexyl phthalate (DEHP).<sup>8</sup>

## Exposure: How can a person come in contact with it?

A person may come in contact with DnHP by breathing in contaminated air or dust, swallowing dust or contaminated food and water, or from skin contact with consumer products.<sup>1</sup>

The 2014 National Health and Nutrition Examination Survey (NHANES) did not include data for DnHP.

## Other Information

In 2017 the Consumer Product Safety Commission banned DnHP in children's toys and childcare articles at levels greater than 0.1%. They also noted that DnHP exposure likely occurs simultaneously with other phthalates and contributes to an overall risk.<sup>3</sup>

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