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Azo dyes in candles are no problem - a candle is no baby toy after all

What is an azo dye?

Azo dyes are the biggest group within the dyes. They are widely used because they are particularly light-fast and stable and have vivid colours. Azo dyes themselves are normally not unhealthy. Some of them can be split into their components in the human body however and some of these so-called aromatic amines can be harmful to health.

Under which preconditions can azo dyes pose a health risk?

Both of the following two preconditions have got to be fulfilled in order to worry about an actual health risk resulting from azo dyes:

- *absorption by the body*

First of all, the azo dyes have got to be absorbed by the body, e.g. via food or the skin. In the latter case, this requires prolonged contact with the skin or oral cavity like this would be the case for textiles or jewellery worn next to the skin, cosmetics, or items for dental care.

- *azo dyes are split into certain aromatic amines*

Not all aromatic amines that are used for producing azo dyes are actually harmful. Only the ones identified as harmful are posing a health risk if their concentration in the body is significant.

Azo dyes in candles are no health risk

The use of certain azo dyes in some product categories is restricted by law in order to rule out health risks resulting from azo dyes or aromatic amines respectively:

- Textile and leather articles which may come into direct and prolonged contact with the human skin or oral cavity are not allowed to release more than 30 ppm of certain aromatic amines (*REACH Regulation (EC) No. 1907/2006 Annex XVII No. 43*).
- Special toys for which an increased absorption by skin or mucous membranes is very likely are not allowed to release more than 5 ppm of certain aromatic amines (*Toys Directive No. 88/378/EEC* in combination with EN 71 Parts 9 to 11). Examples are toys for children younger than 3 years because they are usually put in the mouth, mouthpieces of toys, or toys covering the mouth or nose.

There are good reasons why there are no such legal restrictions for candles because:

- Candles have no prolonged skin contact. Typically, they are only touched for a short time in order to unwrap and place them.
- Candles are definitely not intended to be used by children younger than 3 years. Quite the contrary: The European standard EN 15494 even requires warning of using candles within the reach of children.
- The candle flame destroys azo dyes when the candle is burning, i.e. they cannot be absorbed via the indoor air either.

Voluntary limits for azo dyes in candles

Despite candles do not pose a health risk resulting from azo dyes if they are properly used, many candle producers have voluntarily committed themselves to limit the use of azo dyes a long time ago already in order to even dispel the last doubts.

Consumers are able to recognise such candles if they watch out for the RAL Quality Mark for candles (www.kerzenquete.com) or the Nordic Ecolabel (www.nordic-ecolabel.org) that is mainly used in Scandinavian countries for example:



Both requirements limit the content of aromatic amines in candles to 30 ppm and meet the legal requirements for textile and leather articles with skin or mouth contact.