Hexamethylene diisocyanate

MAK value (1996)	**0.005 ml/m³ (ppm) ≙ 0.035 mg/m³**
Peak limitation (1983)	**Category I**
Absorption through the skin	**–**
Sensitization (1998)	**Sah**
Carcinogenicity	**–**
Prenatal toxicity (1990)	**see Section IIc of the List of MAK and BAT Values**
Germ cell mutagenicity	**–**
BAT value	**–**
CAS number	822-06-0

In 1997, in the *List of MAK and BAT Values*, substances designated as sensitizing were subdivided into those producing allergic reactions in the airways (designation with "Sa"), in the skin (designation with "Sh"), or in both target organs (designation with "Sah").

In humans, hexamethylene diisocyanate (HDI) induces mainly respiratory sensitization (see documentation "Hexamethylene diisocyanate" 2013 (documentation from 1996), for which reason, it has been designated with "Sa" in the *List of MAK and BAT Values,* since the above introduction of separate designations in 1997.

Individual case reports are, however, also available on allergic contact dermatitis produced by HDI, and a contact allergenic effect was demonstrated for monomeric HDI in a number of animal studies. Especially after intradermal induction, it was possible to induce an allergic reaction at challenge (see documentation "Hexamethylene diisocyanate" 2013 (documentation from 1996).

The MAK-Collection Part I, MAK Value Documentations 2013
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Manifesto (sensitzation)

In humans, HDI is able to induce mainly respiratory sensitization. However, individual reports on allergic skin reactions after contact with HDI are also available, and a contact allergenic effect of the substance is clearly shown in animal studies. Thus, HDI is additionally designated with “Sh” and the designation “Sah” is given to it as being a substance with a sensitizing potential to the airways and skin.

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