

Phenyl-1-naphthylamine

REFERENCES

Baden JM, Kelley M, Simmon VF, Rice SA, Mazze RI (1978) Fluroxene mutagenicity. *Mutation research*, 58:183-191.

Bayer AG (1931) *Physiologische Eigenschaften von Phenyl-alpha-naphthylamin und Phenyl-æ-naphthylamin*. Ludwigshafen, I.G. Farben (not available in print).

Bayer AG (1978a) *Akute orale Toxizität von Additin 30 (Phenyl-alpha-naphthylamin) bei weiblichen Wistar Ratten*. Wuppertal, Bayer AG (not available in print).

Bayer AG (1978b) *Akute orale Toxizität von Additin 30 (Phenyl-alpha-naphthylamin) bei männlichen Wistar Ratten*. Wuppertal, Bayer AG (not available in print).

Bayer AG (1990) *Biologischer Abbau von Vulkanox PAN (OECD Guideline 301C; modifiziert)*. Prüfbericht vom 05.12.1990. Leverkusen, Bayer AG (not available in print).

Blank IH, Miller OG (1952) A study of rubber adhesives in shoes as the cause of dermatitis of the feet. *Journal of the American Medical Association*, 149:1371-1374.

Boman A, Hagelthorn G, Jeansson I, Karlberg A-T, Rystedt I, Wahlberg JE (1980) Phenyl-alpha-naphthylamine - case report and guinea pig studies. *Contact dermatitis*, 6:299-300.

Brusick D, Matheson DW (1976) *Mutagen and oncogen study on N-phenyl-alpha-naphthylamine - final report* (Litton Bionetics, Inc., Kensington, MD). Wright-Patterson Air Force Base, OH, Aerospace Medical Research Laboratory (Report No. AMRL-TR-76-79).

Brusick D, Matheson D (1977) Mutagenic evaluation of 1,1-dimethylhydrazine, methylhydrazine and *N*-phenyl- α -naphthylamine. In: *Proceedings of the 7th annual conference on environmental toxicology*, 13-15 October 1976. Wright-Patterson Air Force Base, OH, Aerospace Medical Research Laboratory, pp. 108-129 (Report No. AMRL-TR-76-125).

BUA (1993) *BUA-Stoffbericht N-phenyl-1-naphthylamin*. Beratergremium fuer Umweltrelevante Altstoffe. Weinheim, VCH VerlagsGmbH (Report No. 113; April 1993).

Carmichael AJ, Foulds IS (1990) Isolated naphthylamine allergy to phenyl- α -naphthylamine. *Contact dermatitis*, 22:298-299.

Ciba-Geigy Corp. (1987a) *N-Phenyl-1-naphthylamine: Acute dermal irritation/corrosion study in the rabbit (final report)* - with cover letter dated 10/02/91. Hawthorne, NY, US Environmental Protection Agency, Office of Toxic Substances (EPA Report OTS 0533599; Doc. ID 86-920000033).

Ciba-Geigy Corp. (1987b) *N-Phenyl-1-naphthylamine: Acute eye irritation/corrosion study in the rabbit (final report)* - with cover letter dated 10/02/91. Hawthorne, NY, US Environmental Protection Agency, Office of Toxic Substances (EPA Report OTS 0533600; Doc. ID 86-920000034).

Ciba-Geigy Corp. (1987c) *N-Phenyl-1-naphthylamine: Skin sensitization test in the guinea pig modified maximization test (final report)* - with cover letter dated 10/02/91. Hawthorne, NY, US Environmental Protection Agency, Office of Toxic Substances (EPA Report OTS 0533601; Doc. ID 86-920000035s).

CITI (1992) *Biodegradation and bioaccumulation. Data of existing chemicals based on the CSCL Japan*. Tokyo, Japan Chemical Industry Ecology-Toxicology & Information Center, Chemicals Inspection & Testing Institute.

DuPont (1945) *Aniline tumours of the bladder. Studies of urinary bladder tumours*. Wilmington, DE, E.I. DuPont de Nemours & Co., 7 pp.

Epstein SS, Saporoschetz IB, Hutner SO (1967) Toxicity of antioxidants to *Tetrahymena pyriformis*. *Journal of protozoology*, 14:238-244.

Gehrmann GH, Foulger JH, Fleming AJ (1948) Occupational tumours of the bladder. *Proceedings of the 9th international congress on industrial medicine* (Chairperson: JM MacAlpine), Tudor Room, Caxton Hall, pp. 472-475.

Greenhouse GA (1976a) The evaluation of toxic effects of chemicals in fresh water by using frog embryos and larvae. *Environmental pollution*, 11:303-315.

Greenhouse G (1976b) *Effects of pollutants on eggs, embryos and larvae of amphibian species*. Wright-Patterson Air Force Base, OH, Aerospace Medical Research Laboratory, 24 pp. (Report No. AMRL-TR-76-31).

Greenhouse GA (1977) Toxicity of *N*-phenyl-alpha-naphthylamine and hydrazine to *Xenopus laevis* embryos and larvae. *Bulletin of environmental contamination and toxicology*, 18:503-511.

Haskell Laboratory (1971) *Memorandum to customers*. Wilmington, DE, E.I. DuPont de Nemours & Co. [cited in McCormick WE (undated), *Environmental health control for the rubber industry, Part II*, p. 634.]

IPCS (1993) *International Chemical Safety Card - N-phenyl-1-naphthylamine*. Geneva, World Health Organization, International Programme on Chemical Safety (No. 1113).

Järholm B, Lavenius B (1981) A cohort study on cancer among workers exposed to an antirust oil. *Scandinavian journal of work*,

environment & health, 7:179-184.

JETOC (1996) *Mutagenicity test data of existing chemical substances based on the toxicity investigation system of the industrial safety and health law*. Tokyo, Japan Chemical Industry Ecology-Toxicology & Information Center.

Jungclaus GA, Lopez-Avila V, Hites RA (1978) Organic compounds in an industrial wastewater: a case study of their environmental impact. *Environmental science and technology*, 12:88-96.

Kalimo K, Jolanki R, Estlander T, Kanerva L (1989) Contact allergy to antioxidants in industrial greases. *Contact dermatitis*, 20:151-152.

Kantoh H, Ishihara M, Itoh M, Hosono K, Nishimura M (1985) Allergens in rubber products. *HIFU (Skin research)*, 27:501-509 (in Japanese, with English summary).

Kenaga EE (1980) Predicted bioconcentration factors and soil sorption coefficients of pesticides and other chemicals. *Ecotoxicology and environmental safety*, 4:26-38.

Kenaga EE, Goring CAI (1980) Relationship between water solubility, soil sorption, octanol-water partitioning, and concentration of chemicals in biota. In: Eaton JG, Parrish PR, Hendricks AC, eds. *Aquatic toxicology*. Philadelphia, PA, American Society for Testing and Materials, pp. 78-115 (ASTM Special Technical Publication 707).

Lopez-Avila V, Hites RA (1980) Organic compounds in an industrial wastewater. Their transport into sediments. *Environmental science and technology*, 14:1382-1390.

Loveday KS, Anderson BE, Resnick MA, Zeiger E (1990) Chromosome aberration and sister chromatid exchange tests in Chinese hamster ovary cells *in vitro*. V: Results with 46 chemicals. *Environmental and molecular mutagenesis*, 16:272-303.

MacEwen JD, Vernot EH (1974) *Toxic hazards research unit annual technical report: 1974* (University of California). Wright-Patterson Air Force Base, OH, Aerospace Medical Research Laboratory (Report No. AMRL-TR-74-78).

Mackay D (1991) *Multimedia models: the fugacity approach*. Chelsea, MI, Lewis Publishers.

Magnusson B, Kligman AM (1970) *Allergic contact dermatitis in the guinea pig. Identification of contact allergens*. Springfield, IL, Charles C. Thomas.

Miyazaki K, Kawai S, Sasayama T, Iseki K, Arita T (1987) Absorption, metabolism and excretion of *N*-phenyl-1-naphthylamine in rat. *Yakuzaigaku*, 47:17-22 (in Japanese, with English summary).

Mobil Oil Corp. (1985) *Dermal carcinogenicity in mice* - with cover letter dated 12/17/91. Princeton, NJ, US Environmental Protection Agency, Office of Toxic Substances (EPA Report OTS 0533828; Doc. ID 86-920000547S).

Mobil Oil Corp. (1989) *Two-week oral toxicity study in female rats (final report)* - with cover letter dated 12/17/91. Princeton, NJ, US Environmental Protection Agency, Office of Toxic Substances (EPA Report OTS 0533821; Doc. ID 86-920000540S).

Nater JP (1975) Überempfindlichkeit gegen Gummi. *Berufsdermatosen*, 23:161-168.

NIOSH (1976) *Metabolic precursors of a known human carcinogen, beta-naphthylamine*. Cincinnati, OH, US Department of Health and Human Services, National Institute of Occupational Safety and Health (Current Intelligence Bulletin 16; Publication No. 78-127).

NIOSH (1984a) *NIOSH manual of analytical methods*, 3rd ed. Vol. 1.

Cincinnati, OH, US Department of Health and Human Services, National Institute of Occupational Safety and Health, pp. 2002-1 - 2002-6
(Publication No. 84-100).

NIOSH (1984b) *NIOSH manual of analytical methods*, 3rd ed. Vol. 2. Cincinnati, OH, US Department of Health and Human Services, National Institute of Occupational Safety and Health, pp. 5518-1 - 5518-4
(Publication No. 84-100).

Nomura A (1977) Studies of sulfhemoglobin formation by various drugs. *Folia Pharmacologica Japonica*, 73:793-802 (in Japanese, with English summary).

NTP (1987) *National Toxicology Program, fiscal year 1987, annual plan*. Research Triangle Park, NC, US Department of Health and Human Services, National Institutes of Health, National Toxicology Program, p. 87.

NTP (1988) *NTP technical report on the toxicology and carcinogenesis studies of N-phenyl-2-naphthylamine (CAS no. 135-88-6) in F344/N rats and B6C3F1 mice (feed studies)*. Research Triangle Park, NC, US Department of Health and Human Services, National Institutes of Health, National Toxicology Program, 4 pp. (NTP TR 333).

Ozeki S, Tejima K (1979) Drug interactions. V. Binding of basic compounds to bovine serum albumin by fluorescent probe technique. *Chemical and pharmaceutical bulletin*, 27:638-646.

Rannug A, Rannug U, Ramel C (1984) Genotoxic effects of additives in synthetic elastomers with special consideration to the mechanism of action of thiurames and dithiocarbamates. In: *Industrial hazards of plastics and synthetic elastomers*. New York, NY, Alan R. Liss Inc., pp. 407-419.

Rosenberg A (1983) Microbial metabolism of N-phenyl-1-naphthylamine

in soil, soil suspensions, and aquatic ecosystems. *Chemosphere*, 12:1517-1523.

Schär W (1930) Experimentelle Erzeugung von Blasentumoren. Die Wirkung langdauernder Inhalation von aromatischen Aminoverbindungen. *Deutsche Zeitschrift für Chirurgie*, 226:81-97.

Schultheiss E (1959) Gummi und Ekzem (3. Mitteilung), Kasuistik. *Berufsdermatosen*, 5:76-96.

Sikka HC, Pack EJ, Sugatt RH, Banerjee S, Rosenberg A, Simpson BW (1981) *Environmental fate and effects of N-phenyl-1-naphthylamine and its disposition and metabolism in the rat*. Syracuse, NY, Syracuse Research Co., 106 pp. (Report No. AFOSR-TR-81-0703).

Sofuni T, Matsuoka A, Sawada M, Ishidate M, Zeiger E, Shelby MD (1990) A comparison of chromosome aberration induction by 25 compounds tested by two hamster cell (CHL and CHO) systems in culture. *Mutation research*, 241:175-213.

Te Lintum JCA, Nater JP (1979) Allergic contact dermatitis caused by rubber chemicals in dairy workers. *Dermatologica*, 148:42-44.

Thomas RG (1990) Volatilization from water. In: Lyman WJ, Reehl WF, Rosenblatt DH, eds. *Handbook of chemical property estimation methods. Environmental behavior of organic compounds*. New York, NY, McGraw-Hill Book Co., pp. 15-34.

Union Carbide (1996) *Material safety data sheet from 2/22/96*. Union Carbide Corporation, South Charleston Plant (USA), 8 pp.

van Beek L (1977) *Primary skin and eye irritation tests with the compound WTR 10 in albino rabbits*. Zeist, TNO Central Institute on Nutrition and Food Research, 10 pp. (Report No. R 5468).

Vernot EH, MacEwen JD, Haun CC, Kinkead ER (1977) Acute toxicity and

skin corrosion data for some organic and inorganic compounds and aqueous solutions. *Toxicology and applied pharmacology*, 42:417-423.

Wang H, Wang D, Dzeng R (1984) Carcinogenicity of *N*-phenyl-1-naphthylamine and *N*-phenyl-2-naphthylamine in mice. *Cancer research*, 44:3098-3100.

Xuanxian X, Wolff T (1992) Metabolism of *N*-phenyl-2-naphthylamine and *N*-phenyl-1-naphthylamine by rat hepatic microsomes and hepatocytes. *Journal of environmental science*, 4:74-83.

Zeiger E, Anderson B, Haworth S, Lawlor T, Mortelmans K (1988) *Salmonella* mutagenicity tests: IV. Results from the testing of 300 chemicals. *Environmental and molecular mutagenesis*, 12:1-158.

APPENDIX 1 - SOURCE DOCUMENT

BUA-Stoffbericht N-phenyl-1-naphthylamin. Beratergremium fuer Umweltrelevante Altstoffe (Report No. 113; April 1993). VCH VerlagsGmbH, Weinheim

For the BUA review process, the company that is in charge of writing the report (usually the largest producer in Germany) prepares a draft report using literature from an extensive literature search as well as internal company studies. This draft is subject to a peer review during several readings of a working group consisting of representatives from government agencies, the scientific community, and industry.

The English translation of the BUA report (BUA Report *N*-phenyl-1-naphthylamine. GDCh-Advisory Committee on Existing Chemicals of Environmental Relevance. VCH VerlagsGmbH, Weinheim) was released in 1994.

APPENDIX 2 - CICAD PEER REVIEW

The draft CICAD on *N*-phenyl-1-naphthylamine was sent for review to institutions and organizations identified by IPCS after contact with IPCS national Contact Points and Participating Institutions, as well as to identified experts. Comments were received from:

Department of Health, London, United Kingdom

Health and Safety Executive, Bootle, United Kingdom

Health Canada, Ottawa, Canada

National Chemicals Inspectorate (KEMI), Solna, Sweden

National Institute for Working Life, Solna, Sweden

National Institute of Occupational Health, Budapest, Hungary

National Institute of Public Health, Oslo, Norway

National Institute of Public Health and Environmental Protection,
Bilthoven, The Netherlands

United States Department of Health and Human Services (National
Institute for Occupational Safety and Health, Cincinnati, USA;
National Institute of Environmental Health Sciences, Research
Triangle Park, USA)