3,3-Dichloro-4,4-diaminodiphenylmethane
\[ \text{CH}_2(\text{C}_6\text{H}_4\text{ClNH}_2)_2 \]
[CAS No.101-14-4]

Occupational carcinogen:
Group 2A (no change)

Summary
Carcinogenicity of 3,3-Dichloro-4,4-diaminodiphenylmethane (MBOCA) has been classified in Group 2A (probably carcinogenic to humans) since 1993\(^1\). IARC\(^2\) changed the classification of MBOCA from Group 2A to Group 1 (carcinogenic to humans) in 2010, based on newly-introduced carcinogenic evidence of humans and animals. In humans, a case report and a cohort study were reported. The case was of a new invasive transitional cell carcinoma of the bladder in Taiwan\(^3\). An English cohort study reported a single death from bladder cancer (SMR: 560), and non-significant excess of bladder cancer based on two cases (SRR: 328)\(^4\). DNA adducts were detected in not only target organs of various animals but also in exfoliated urothelial cells of an acute MBOCA-exposed worker\(^5\). Increase of sister chromatid exchange frequency in peripheral lymphocytes and micronucleus-positive frequencies in urothelial cells and lymphocytes of MBOCA-exposed workers has been reported\(^6\). In conclusion, this new evidence is not sufficient to categorize MBOCA in Group 1 but is adequate for MBOCA to remain in Group 2A.

Year of Proposal (revision): 2012
Year of Proposal: 1993 (Group 2A)

References