

***ortho*-Toluidine**
C₆H₄(NH₂)CH₃
[CAS No. 95-53-4]

Occupational carcinogen: Group 1

Summary of classification

The Japan Society for Occupational Health (JSOH) recommended occupational exposure limit for *ortho*-Toluidine (*o*-Toluidine) in 1991 and classified it into Group 2A carcinogens (1986). Cohort studies focusing on the carcinogenicity of *o*-Toluidine are increasing. The International Agency for Research on Cancer (IARC) changed the classification of *o*-Toluidine from Group 2A to Group 1 (2010). A significantly increased risk, especially for the bladder cancer, was almost consistently observed in epidemiological studies¹⁻³, and JSOH considers evidence in humans for the carcinogenicity of *o*-Toluidine as sufficient. Carcinogenesis of organs such as the spleen, liver, and bladder was confirmed by experimental animal systems, especially in multi-strain of more than one species⁴⁻⁶, and evidence in experimental animals for the carcinogenicity of *o*-Toluidine were considered as sufficient. Mechanism studies indicated that genotoxicity of *o*-Toluidine was associated with carcinogenesis, and the formation of DNA adduct with *o*-Toluidine was confirmed in experimental animals^{7,8}. According to a comprehensive review including these findings, JSOH proposed to change the classification of *o*-Toluidine to Group 1 carcinogens.

Year of Proposal (revision): 2016

Year of Proposal: 1986 (Group 2A)

References

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