Group 2

Acrylamide
CH_2=CHCONH$_2$
[CAS No.79-06-1]
Reproductive toxicant: Group 2

There are no human studies (epidemiological study or case report) that have clearly demonstrated the reproductive toxicity of acrylamide; however, there is sufficient evidence in animal studies indicating its adverse effects on reproduction such as germ-cell mutagenicity[1–4], developmental toxicity[5–7] and testicular toxicity[8, 9]. Smith *et al*[1] reported that after subchronic oral dosing in the male rat, acrylamide induced significant elevations in both pre- and post-implantation loss in dominant lethal testing. Tyle *et al*.[2] also reported the dominant lethal effects of acrylamide, reduced numbers of implantations and live pups, after oral administration. As for developmental effects, the incidence of variations (extra rib), dose-related decreases in preweaning weights, and effects on negative geotaxis and Rotarod performance were reported. Severe testicular damage such as vacuolation and swelling of the round spermatids, necrosis of the late elongated spermatids, abnormal meiosis, and a marked cellular exfoliation into the lumen were observed after a single oral dose[8]. Based on this evidence, acrylamide is classified as a Group 2 reproductive toxicant.

References

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