

**Methanol**  
**CH<sub>3</sub>OH**  
**[CAS No. 67-56-1]**  
**Reproductive toxicant: Group 2**

The reproductive toxicity of methanol, including developmental effects, has not been shown adequately in humans. However, its developmental toxicity has been clearly shown in animals, although effects on fertility and sexual functions are still unclear in animals<sup>1-4</sup>). Rogers et al. reported that prenatal exposure to methanol caused cleft palate, exencephaly, cervical rib, and skeletal malformations in mice<sup>1</sup>). Such teratogenic effects were observed at exposure levels not causing maternal toxicities<sup>1-4</sup>). The expert panel of the NTP organized for reviewing the reproductive and developmental toxicity of methanol mentioned in their report that they were concerned that methanol may be a developmental toxicant in pregnant women following exposure to high levels of methanol<sup>4</sup>). Based on these reports, it is concluded

that there is clear evidence for the developmental toxicity of methanol, and thus it is classified as a Group 2 reproductive toxicant.

**References**

- 1) Rogers JM, Mole ML, Chernoff N, et al. The developmental toxicity of inhaled methanol in the CD-1 mouse, with quantitative dose-response modeling for estimation of benchmark doses. *Teratology* 1993; 47: 175-88.
- 2) Bolon B, Dorman DC, Janszen D, Morgan KT, Welsch F. Phase-specific developmental toxicity in mice following maternal methanol inhalation. *Fundam Appl Toxicol* 1993; 21: 508-16.
- 3) Rogers JM, Mole ML. Critical periods of sensitivity to the developmental toxicity of inhaled methanol in the CD-1 mouse. *Teratology* 1997; 55: 364-72.
- 4) NEDO. Toxicological research of methanol as a fuel for power station: Summary report on tests with monkeys, rats and mice. Tokyo, Japan: New Energy Development Organization; 1987.
- 5) NTP, CERHR Expert panel report on the reproductive and developmental toxicity of methanol, 2002.