β-BUTYROLACTONE

Data were last reviewed in IARC (1976) and the compound was classified in *IARC Monographs* Supplement 7 (1987).

1. Exposure Data

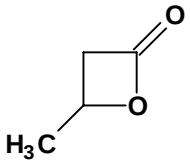
1.1 Chemical and physical data

1.1.1 *Nomenclature*

Chem. Abstr. Services Reg. No.: 3068-88-0

Systematic name: 4-Methyl-2-oxetanone

1.1.2 *Structural and molecular formulae and relative molecular mass*



$C_4H_6O_2$ Relative molecular mass: 86.1

1.1.3 *Physical properties* (for details, see IARC, 1976)

(*a*) *Boiling-point*: 54–56°C at 1.3 kPa; 110–118°C at 24 kPa

(*b*) *Conversion factor*: $mg/m^3 = 3.52 \times ppm$

1.2 Production and use

β-Butyrolactone has been used in the preparation of β-oxybutyryl-*para*-phenetidine (IARC, 1976).

2. Studies of Cancer in Humans

No data were available to the Working Group.

3. Studies of Cancer in Experimental Animals

β-Butyrolactone was tested for carcinogenicity in mice by skin application and by subcutaneous injection and in rats by oral administration and by subcutaneous injection. It produced tumours at the site of administration in both species (IARC, 1976).

4. Other Data Relevant to an Evaluation of Carcinogenicity and its Mechanisms

No data were available to the Working Group.

5. Evaluation

No epidemiological data relevant to the carcinogenicity of β-butyrolactone were available.

There is *sufficient evidence* in experimental animals for the carcinogenicity of β-butyrolactone.

Overall evaluation

β-Butyrolactone is *possibly carcinogenic to humans (Group 2B)*.

6. References

IARC (1976) *IARC Monographs on the Evaluation of Carcinogenic Risk of Chemicals to Man*, Vol. 11, *Cadmium, Nickel, Some Epoxides, Miscellaneous Industrial Chemicals and General Considerations on Volatile Anaesthetics*, Lyon, pp. 225–229

IARC (1987) *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans*, Supplement 7, *Overall Evaluations of Carcinogenicity: An Updating of* IARC Monographs Volumes 1 to 42, Lyon, p. 59