

## Carbon disulfide



[CAS No. 75-15-0]

**OEL-B: Urinary 2-dithiothiazolidine-4-carboxylic acid (TTCA), 0.5 mg/g.creatinine**

**Sampling time: End of shift (with no excessive intake of Brassicaceae vegetables)**

### Summary of OEL-B documentation

Based on the findings of Meuling *et al.*<sup>1)</sup>, Drexler *et al.*<sup>2)</sup>, Omae *et al.*<sup>3)</sup> and Takebayashi *et al.*<sup>4)</sup>, the urinary TTCA concentrations that correspond to carbon disulfide exposure at 1 ppm were estimated to be 0.29<sup>1)</sup>, 0.905<sup>2)</sup>, 0.40<sup>3)</sup> and 0.37<sup>4)</sup> mg/g creatinine (cr), respectively. The arithmetic mean was 0.491 mg/g cr. Thus, 0.5 mg/g cr is proposed as the biological occupational exposure limit that corresponds to the occupational exposure limit for carbon disulfide of 1 ppm.

Year of Proposal: 2015

### References

- 1) Meuling WJ, Bragt PC, Braun CL. Biological monitoring of carbon disulfide. *Am J Ind* 1990; 17: 247–54.
- 2) Drexler H, Göen Th, Angerer J, Abou-el-ela, Lehnert G. Carbon disulphide I. External and internal exposure to carbon disulphide of workers in viscose industry. *Int Arch Occup Environ Health* 1994; 65: 359–65.
- 3) Omae K, Takebayashi T, Nomiyama T, Ishizuka C, Nakamura H, Uemura T, Tanaka S, Yamauchi T, O'Uchi T, Horiuchi Y, Sakurai H. Cross sectional observation of the effects of carbon disulfide on arteriosclerosis in rayon manufacturing workers. *Occup Environ Med* 1998; 55: 468–72.
- 4) Takebayashi T, Nishiwaki Y, Nomiyama T, Uemura T, Yamauchi T, Tanaka S, Sakurai H, Omae K for the Japanese Rayon Worker's Health Study Group. Lack of a relationship between occupational exposure to carbon disulfide and endocrine dysfunction; a six-year study of the Japanese rayon workers. *J Occup Health* 2003; 45: 111–8.