

## Manfaat pemakaian masker terhadap perubahan kadar fenol dalam urin akibat pajanan benzen di Unit Penatalaksanaan Limbah PT.V Kalimantan Timur, 2000

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### Abstrak

Latar belakang : Benzen yang masih digunakan oleh berbagai industri sebagai bahan pelarut dan bahan mentah diketahui berdampak negatif terhadap kesehatan tenaga kerja. Begitu juga dengan benzen yang digunakan perusahaan pemerosesan minyak dan gas dapat berdampak yang sama. Tujuan dilakukan penelitian ini adalah untuk mengetahui manfaat pemakaian masker gas terhadap perubahan kadar fenol dalam urin akibat pajanan benzen di unit penatalaksanaan limbah PT. V di Kalimantan Timur

Metode : Penelitian ini menggunakan disain studi intervensi. Empat belas tenaga kerja diambil secara purposif sebagai subjek yang diintervensi dengan pemakaian masker selama empat minggu disertai penyuluhan mengenai pencegahan terhadap pajanan benzen. Pengukuran terhadap lingkungan kerja dilakukan dengan mengukur kadar uap benzen, dan beberapa variabel seperti umur, pendidikan, pengetahuan, alkohol, merokok didapat dari wawancara dan kuesioner. Pajanan benzen terhadap tenaga kerja diukur melalui kadar fenol dalam urin.

Hasil : Pengukuran kadar uap benzen di lingkungan kerja diatas nilai ambang batas yang dianjurkan ACGIH. Pada penelitian ini ditemukan perbedaan bermakna pada pemeriksaan kadar fenol dalam urin dan pengetahuan sebelum dan sesudah intervensi ( $P < 0,05$ ).

Kesimpulan dan saran : Studi intervensi ini menunjukkan adanya penurunan kadar fenol dalam urin subjek disertai peningkatan pengetahuan subjek yang bermakna sesudah intervensi. Disarankan pada perusahaan untuk melakukan pemantauan kadar uap benzen di lingkungan kerja setiap enam bulan dan tenaga kerja diharuskan memakai masker secara teratur pada saat bekerja.

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The Benefit of Mask on the Change of Fenol Level in the Urine as an Effect of Benzene Exposure at the Sludge Processing Plant, 'V' Company, East Kalimantan, 2000  
Background: Benzene which is still used in the industrial world as a solvent and raw material, still known to have negative effects on the workers' health. Benzene also exists in oil and gas company as by product. The purpose of this study was to identify the effects of benzene exposure through the measurement of phenol level in the urine of workers' at the sludge processing unit in the oil and gas company, PT V East Kalimantan and the impact of using mask respirator for its prevention.

Method : The design of study was a simple intervention study. Fourteen workers were recruited purposively as subjects, were intervened by using mask about four weeks simultaneously and having education on personal protection against benzene vapor. A simple working environmental survey was carried out measuring the level of benzene vapor at the working area, while several variables i.e age, education,

duration of work, alcoholism, smoking and drugs were collected through interviews and questionnaires. Benzene exposure was measured through phenol urinary level of subjects.

Results : Study finding showed that the level of benzene vapors in the working area was above ACGIH threshold value. Significant differences were found between admission phase and post intervention phase in urinary phenol level and knowledge ( $P < 0,05$ ).

Conclusions and suggestions : The intervention study showed a significant decrease in urinary phenol concentration of subjects as well as an increase of knowledge. The enterprise was suggested to carry out monitoring project of the benzene vapor level in the working area every six month while the workers should be instructed to use mask regularly while working.