

## Evaluasi penggunaan pendekatan healthmap dalam mengkaji risiko bahan kimia, proyek konstruksi LNG, perusahaan X, tahun 2007

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### Abstrak

#### <b>ABSTRAK</b><br>

Pendahuluan: Upaya pencegahan sakit akibat kerja karena paparan bahan kimia dapat dilakukan melalui program kesehatan kerja yang berbasis risiko. Kajian risiko penting bagi Proyek Konstruksi LNG. Pekerjaan yang bersifat jangka pendek, jumlah tenaga kerja yang besar, lokasi proyek di daerah terpencil dan dengan jenis pekerjaan yang sangat bervariasi serta dikerjakan secara simultan (SIMOPS) dapat menimbulkan berbagai macam risiko kesehatan kerja melalui paparan berbagai macam bahaya kesehatan termasuk bahan-bahan kimia.

Metode: Penelitian ini bersifat deskriptif dengan melakukan evaluasi penggunaan pendekatan HealthMap dalam mengkaji risiko bahan kimia pada Proyek Konstruksi LNG di Perusahaan X yang dilakukan pada tahun 2007. Evaluasi dilakukan dengan cara membandingkan hasil kajian risiko yang diperoleh melalui pendekatan HealthMap dengan hasil kajian risiko yang diperoleh melalui Studi Literatur. Hasil penelitian: Identifikasi Hazard. Beberapa hazard bahan kimia tidak teridentifikasi seperti benlium, karbon monoksida, debu, gas, isocyanates. Tidak teridentifikasinya hazard tersebut karena kurangnya kompetensi pelaksana dan tidak tersedianya alat bantu. Kajian Paparan. Faktor ketidakpastian cukup besar karena tidak tersedianya data paparan, kesulitan menentukan besar relatif paparan dan terbatasnya informasi untuk mengestimasi tingkat paparan. Kajian dan Prioritisasi Risiko. Tingkat risiko lebih ditentukan dari aspek konsekuensi atau dampak kesehatan. Prioritisasi dilakukan untuk menyesuaikan dengan kemampuan proyek dalam melakukan tindak-lanjut.

Kesimpulan Identifikasi Hazard. (1) Pemberian alat bantu berupa daftar periksa dapat membantu proses identifikasi hazard. (2) Kompetensi pelaksana identifikasi hazard mempengaruhi hasil identifikasi. (3) Proses prioritas pada tahap identifikasi hazard mengakibatkan tidak terujinya beberapa hazard bahan kimia pada tahapan selanjutnya. Kajian Paparan. (1) Penentuan tingkat paparan yang berdasarkan nilai ambang batas sulit untuk dipahami oleh karyawan yang non-specialist. (2) Kajian paparan dilakukan dengan hanya mempertimbangkan besar relatif paparan berisiko. (3) Terdapat tingkat ketidakpastian yang tinggi dalam menentukan besar paparan tanpa data pengukuran lingkungan kerja. Kajian dan Prioritisasi Risiko. (1) Penentuan tingkat risiko berdasarkan tingkat hazard atau paparan yang lebih tinggi sudah

tepat. (2) Diperlukan kekuatan analisa assessor dalam menentukan tingkat risiko. (3) Hasil HealthMap belum bisa dijadikan basis yang kuat dalam pengembangan manajemen dan program kesehatan kerja. (3) HealthMap sebagai screening awal dalam kajian risiko dapat membantu perusahaan agar dapat lebih efisien dan efektif dalam melakukan manajemen risiko.

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<b>ABSTRACT</b><br>

Introduction: Occupational illnesses due to exposure to chemicals can be prevented through risk-based occupational health programs. Therefore, risk assessments are important during the construction phase of the LNG project. A variety of occupational health risks, including exposure to chemicals, can be the result of:

- ~ Short-term work activities,
- » Large numbers of workers,
- » Remote area locations,`
- ~ Various types of work performed simultaneously (SIMOPS).

Method: This research, conducted in 2007, is descriptive in nature and was carried out by evaluating the implementation of the "HealthMap" approach in assessing chemical risks during the construction phase of the LNG project at Company X. This evaluation was conducted by comparing the results of the health risk assessment from the HealthMap approach and literature.

Research results: Hazard Identification: Several chemical hazards were not identified, such as beryllium, carbon monoxide, dust, gas, and isocyanates due to a lack of competent skills of the personnel involved and unavailability of hazard identification tools. Exposure Assessment: There was a great deal of uncertainty due to an unavailability of data regarding exposure, difficulties in estimating the populations at risk and limited information available to estimate the exposure levels in the workplace. Risk Assessments and Prioritizations: Risk levels were determined by focusing more on the consequences rather than the effects of the hazards themselves. Prioritizations were determined to ensure that the project is capable of implementing the risk control programs.

Conclusions: Hazard Identification: (1) A checklist as a tool to identify hazards is necessary to optimize this process. (2) The competencies of personnel who carry out the hazard identifications are critical in ensuring that the results are accurate. (3) Prioritization processes during the hazard identification may result in the overlook of chemical hazard review in the next stage.

Exposure Assessment: (1) Determining the exposure levels based on threshold limit value is difficult for non-specialist personnel to understand. (2) Exposure assessments are conducted by merely considering the relative numbers of people at risk. (3) There is still a great deal of uncertainty about how to determine the exposure levels without any access to workplace environmental monitoring data.

Risk Assessments and Prioritizations; (1) Determining risk levels based on more stringent level between the effects of hazards and exposure would be more suitable. (2) Personnel with more highly developed analytical skills are required to determine the risk levels. (3) The HealthMap results are not adequate as a basis for developing occupational health management and programs. (3) Using HealthMap as a preliminary screening to assess health risks can assist the company in becoming more efficient and effective in managing risks.

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