

ABSTRAK

Faisal Sahabuddin. NIM: 811409118. Dengan skripsi berjudul “Kadar Debu Semen Di Bagian Gudang PT.Hasjrat Abadi Kota Gorontalo”. Jurusan Kesehatan Masyarakat Fakultas Ilmu-Ilmu Kesehatan dan Keolahragaan Universitas Negeri Gorontalo.

Salah satu dampak negatif dari industri semen adalah pencemaran udara oleh debu. Debu yang dihasilkan oleh kegiatan industri semen terdiri dari debu yang dihasilkan pada waktu pengadaan dan debu selama pengangkutan bahan baku ke pabrik dan bahan jadi ke luar gudang, termasuk pengantongannya. Bahan pencemar tersebut dapat berpengaruh terhadap lingkungan dan manusia.

Penelitian ini bertujuan mengukur kadar debu semen dan untuk mengetahui perbandingan dimana 2 titik yang di tentukan dalam pengukuran yaitu di dalam maupun di luar gudang semen.

Penelitian ini dilakukan pada bulan April tahun 2013. Pengumpulan data dilakukan dengan wawancara dengan responden, dan pengukuran kadar debu menggunakan *EPAM 5000* dengan hasil dalam satuan mg/Nm^3 dikonversi dalam satuan $\mu\text{g}/\text{Nm}^3$ dilakukan pengukuran selama 1 jam, serta pengukuran suhu, kelembaban, kecepatan angin menggunakan *Termohidro*. Analisis data dilakukan dengan metode gravimetrik yang di tangani langsung tim analisis BTKLPPM Manado.

Hasil penelitian ini menunjukkan kadar debu semen di bagian dalam gudang dengan suhu $34,4^\circ\text{c}$, kelembaban 62,5 %, kecepatan angin 0,1 m/s, dan kadar debu semen yang di peroleh $763 \mu\text{g}/\text{Nm}^3$. Sedangkan hasil kadar debu semen di bagian luar gudang semen dimana suhu $33,0^\circ\text{c}$, kelembaban 57,7% dan kadar debu semen yang di peroleh $471 \mu\text{g}/\text{Nm}^3$. Telah diketahui di dalam maupun di luar gudang semen PT.Hasjrat Abadi dimana di dalam gudang lebih tinggi kadar debu yang di hasilkan yakni $763 \mu\text{g}/\text{Nm}^3$ dibandingkan luar gudang kadar debu yang dihasilkan $471 \mu\text{g}/\text{Nm}^3$, namun dinyatakan di dalam maupun di luar gudang semen kadar debu yang di hasilkan telah melebihi baku mutu atau nilai ambang batas yakni $230 \mu\text{g}/\text{Nm}^3$ sesuai PP. NO.41 TAHUN 1999.

Oleh karena itu diperlukan pengawasan penggunaan APD secara ketat dan di harapkan untuk pihak instansi yang terkait memberikan program pengendalian debu. serta dalam gudang di adakan ventilasi atau dengan mesin untuk penerapan pengendalian debu seperti teknik basa.

Kata kunci: kadar debu

ABSTRACT

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One of negative impacts of cement industry is can causes the air contamination. The dust of cement industry consists of cement's dust that caused by the supplying process and also when the process of transport the cement to the factory and to the outside of the storehouse. The substance of the cement's dust can influence the environment and human life.

This research aimed to measure cement's dust intensity and to identify the comparison between indoor and outdoor cement's dust intensity.

The research was held in April 2013. The data were collected by interviewing the research correspondents and measuring cement's dust intensity using *EPAM 5000*. The result was using mg/Nm^3 value which were converted into $\mu\text{g}/\text{Nm}^3$ in one-hour-measurement involved temperature measurement, humidity measurement, and wind-speed by using *Termohidro*. The data analysis applied gravimetric method which was directly controlled by Manado BTKLPPM analysis team.

The research findings showed that the cement's dust intensity inside the storehouse at 34.4°C temperature, 62.5% of humidity, 0.1 m/s of wind-speed produced $763 \mu\text{g}/\text{Nm}^3$ of the cement's dust intensity. Meanwhile, the measurement at the outside of the storehouse with 33.0°C of the temperature and 57.7% of humidity produced $471 \mu\text{g}/\text{Nm}^3$ of cement's dust intensity. It was identified that the cement's dust intensity inside the storehouse at PT.Hasjrat Abadi was higher that intensity outside of the storehouse. Unfortunately, both result overreached the maximum limit of the quality standard that was $230 \mu\text{g}/\text{Nm}^3$ based on PP.NO.41 TAHUN 1999.

Therefore, the control of the use of APD is needed and it is expected that the stake-holder the dust-control program. Besides, it is suggested to provide ventilation inside of the storehouse and to apply the basic-technique on machine application.

Keyword: Dust Intensity