

**ANALISIS RISIKO K3 (KESEHATAN DAN KESELAMATAN KERJA)
PADA BAGIAN BOILER DENGAN METODE HIRARC di PABRIK
GULA NGADIREJO KABUPATEN KEDIRI**

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ABSTRAK

Keselamatan dan kesehatan kerja (K3) menjadi faktor krusial dalam industri pengolahan gula, terutama di area berisiko tinggi seperti boiler yang rentan menimbulkan kecelakaan akibat suhu ekstrem, tekanan uap, kebisingan, dan paparan asap pembakaran. Penelitian ini bertujuan mengeksplorasi potensi bahaya, menilai tingkat risiko, dan mengevaluasi efektivitas pengendalian risiko K3 pada area *Boiler* Pabrik Gula Ngadirejo. Penelitian menggunakan pendekatan kualitatif deskriptif dengan teknik wawancara mendalam, observasi, dan dokumentasi. Tujuh informan terlibat, terdiri dari pekerja, mandor, dan petugas K3. Hasil menunjukkan bahwa bahaya dominan mencakup panas tinggi, semburan uap, kebisingan, dan asap bagasse. Penilaian risiko menempatkan ledakan akibat tekanan berlebihan sebagai risiko tertinggi dengan potensi dampak fatal. Pengendalian risiko dilakukan melalui penerapan SOP, penggunaan alat pelindung diri (APD), pelatihan keselamatan, dan inspeksi berkala. Namun, kepatuhan pekerja terhadap prosedur, khususnya penggunaan APD, masih menjadi tantangan utama. Penelitian ini memberikan temuan baru berupa keterkaitan langsung antara tingkat kepatuhan pekerja dan efektivitas pengendalian risiko, sehingga menghasilkan rekomendasi yang mengintegrasikan pendekatan teknis dan perilaku. Kesimpulan menyatakan perlunya peningkatan pengawasan, penegakan disiplin penggunaan APD, dan pelatihan berkelanjutan guna meminimalkan risiko kecelakaan kerja di area *Boiler*.

Kata Kunci: Keselamatan dan Kesehatan Kerja, HIRARC, Boiler, Kepatuhan Pekerja

OCCUPATIONAL HEALTH AND SAFETY (K3) RISK ANALYSIS IN THE BOILER SECTION USING THE HIRARC METHOD AT THE NGADIREJO SUGAR FACTORY, KEDIRI REGENCY

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ABSTRACT

Occupational safety and health (OSH) is a critical aspect in the sugar processing industry, especially in high-risk areas such as boilers, which are prone to accidents caused by extreme heat, steam pressure, noise, and combustion smoke exposure. This study aims to explore potential hazards, assess risk levels, and evaluate the effectiveness of OSH risk control in the boiler area of Ngadirejo Sugar Factory. A descriptive qualitative approach was used, employing in-depth interviews, field observations, and documentation. Seven informants participated, consisting of workers, supervisors, and safety officers. The findings show that the dominant hazards include high temperatures, steam bursts, noise, and bagasse smoke. Risk assessment identified explosions due to excessive pressure as the highest risk with potentially fatal impacts. Risk controls are implemented through SOP, personal protective equipment (PPE) usage, safety training, and regular inspections. However, worker compliance with procedures, particularly PPE usage, remains a major challenge. This study offers a new insight by directly linking worker compliance levels with the effectiveness of risk control, resulting in recommendations that integrate both technical and behavioral approaches. The conclusion emphasizes the need for increased supervision, strict PPE compliance enforcement, and continuous training to minimize the risk of workplace accidents in boiler operations.

Keywords: Occupational Safety and Health, HIRARC, Boiler, Worker Compliance