

**STUDY OF ENVIRONMENT POLLUTION AND HEALTH  
DUE TO THE EFFECT OF INDUSTRIAL LIQUID WASTE DISPOSAL  
IN THE COASTAL AREA OF ROOMO VILLAGE MANYAR DISTRICT  
GRESIK REGENCY PROVINCE OF EAST JAVA**

**ABSTRACT**

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This research was conducted in the coastal area of Roomo Village Manyar District Gresik Regency Province of East Java. The existence of a rapidly growing industry in Manyar District, especially in the Roomo Village is closely related to the presence of water pollution if its management is not in accordance with applicable rules. The objectives of this study were to (1) to examine the characteristics and distribution of industrial liquid waste, as well as the factors that influence it; (2) to examine the influence of industrial liquid waste on the pollution level of industrial wastewater and environmental health; and (3) formulate an environmental management strategy for pollution control and environmental health.

The method of research is using survey method, and for sampling of water by purposive sampling. Analysis of environmental damage and pollution of the coastal area by comparing the environmental quality standard in accordance with the Decree of the Minister of Environment Number 51 Year 2004 and Decree of the Minister of Environment Number 179 Year 2004 on Water Quality Standard and environmental scale issued by Canter & Hill, 1981. Analysis of the effect of pollution on environmental health consists of biotic, abiotic, and culture. Biotic health is done by comparing the parameters associated with the standard of living fish, mangrove, and earthworms. Abiotic health assessed water quality criteria based on total suspended solid (TSS), and for public health, interviews were compared with secondary data.

The result of data analysis and research in the field shows that almost all parameters do not meet the standard of seawater quality standard. Industrial liquid waste distribution is influenced by coastal morphology, coastline, wind direction, sea currents direction. The level of pollution is mostly obtained "sufficient" quality / scale criteria. In terms of fish health is considered less good for fisheries interests, and almost all sample points do not meet the mangrove quality standards, soil parameters do not meet the standards of growth and the proliferation of earthworms. Abiotic Health results obtained from the criteria of "poor" water quality on all sample points. And for public health, many diseases are felt by the community due to industrial activity and the disposal of liquid waste.

**Keywords:** *industrial liquid waste, coastal areas, environmental pollution, environmental health*

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## KAJIAN PENCEMARAN DAN KESEHATAN LINGKUNGAN AKIBAT PENGARUH PEMBUANGAN LIMBAH CAIR INDUSTRI DI WILAYAH KEPESISIRAN DESA ROOMO KECAMATAN MANYAR KABUPATEN GRESIK PROVINSI JAWA TIMUR

### INTISARI

Oleh:

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Penelitian ini dilaksanakan di wilayah kepebisiran Desa Roomo Kecamatan Manyar Kabupaten Gresik Provinsi Jawa Timur. Keberadaan industri yang semakin pesat perkembangannya di Kecamatan Manyar, khususnya di Desa Roomo ini berkaitan erat dengan adanya pencemaran air apabila pengelolaannya tidak sesuai dengan aturan yang berlaku. Tujuan penelitian ini adalah (1) mengkaji karakteristik dan sebaran limbah cair industri, serta faktor-faktor yang mempengaruhinya; (2) mengkaji pengaruh limbah cair industri terhadap tingkat pencemaran limbah cair industri dan kesehatan lingkungan; dan (3) merumuskan strategi pengelolaan lingkungan untuk pengendalian pencemaran dan kesehatan lingkungan.

Metode penelitian yaitu menggunakan metode survey, dan untuk pengambilan sampel air secara *purposive sampling*. Analisis kerusakan lingkungan dan pencemaran wilayah kepebisiran dengan cara membandingkan skala baku mutu lingkungan sesuai Keputusan Menteri Lingkungan Hidup Nomor 51 Tahun 2004 dan Keputusan Menteri Lingkungan Hidup Nomor 179 Tahun 2004 (ralat) tentang Baku Mutu Air Laut dan skala lingkungan yang dikeluarkan oleh Canter & Hill, 1981. Analisis pengaruh pencemaran terhadap kesehatan lingkungan terdiri dari kesehatan biotik, abiotik, dan *culture*. Kesehatan biotik dilakukan dengan cara membandingkan parameter-parameter yang terkait dengan standar kehidupan ikan, mangrove, dan cacing tanah. Kesehatan abiotik dilakukan penilaian kriteria kualitas perairan berdasarkan total bahan tersuspensi (TSS), dan untuk kesehatan masyarakat, dilakukan wawancara yang dibandingkan dengan data sekunder.

Hasil analisis data dan penelitian di lapangan menunjukkan bahwa hampir semua parameter tidak memenuhi standar baku mutu air laut. Sebaran limbah cair industri dipengaruhi oleh morfologi pantai, garis pantai, arah angin, arah arus laut. Tingkat pencemaran sebagian besar didapatkan kriteria kualitas/skala "cukup". Dalam hal kesehatan ikan dinilai kurang baik bagi kepentingan perikanan, dan hampir semua titik sampel tidak memenuhi baku mutu mangrove, parameter tanah tidak memenuhi standar terhadap pertumbuhan dan perkembangbiakan cacing tanah. Kesehatan Abiotik didapatkan hasil kriteria kualitas air "buruk" pada kesemua titik sampel. Dan untuk kesehatan masyarakat, didapatkan banyak penyakit yang dirasakan masyarakat akibat aktivitas industri dan pembuangan limbah cair.

**Kata Kunci:** *limbah cair industri, wilayah kepebisiran, pencemaran lingkungan, kesehatan lingkungan*

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