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APPLICATION OF MOLECULAR SIEVE IN VIEW OF CLEANER TECHNOLOGY

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ABSTRACT

Molecular sieve materials such as zeolite and activated carbon have unique selectivity for controlling pollution in our environment. Both can address environmental needs, for example in the removal of SO_2 and NO_x from industrial flue gases and from automotive exhausts. Law and regulations restricting pollutant emissions were the main consideration in determining the best available control technology, in which zeolite will undoubtedly play a role.

Zeolite essentially exploits the high silica content for the adsorption of volatile organics. As Indonesia has an abundant source of naturally occurring zeolite and carbon precursor material, Indonesia has a big opportunity to develop the application of these two kinds material. Application of natural zeolite could remove the NO_x by nearly 100% and composites of activated carbon could be used to limit abundance of CFC's which is an ozone-depleting substance. Application of these materials will be discussed in this paper. Other applications evaluated were impregnated activated carbon for mercury removal and waste water treatment; properties of impregnated activated carbon will also be discussed.

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