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**PENGENDALIAN PM-10 DALAM UDARA RUANG MELALUI
PENGEMBANGAN TEKNOLOGI TEPAT GUNA
AIR CLEANING DEVICE METODE ADSORBSI**

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PM-10 CONTROL IN THE AIR SPACE THROUGH THE DEVELOPMENT OF APPROPRIATE
TECHNOLOGY
FOR AIR CLEANING DEVICE ADSORPTION METHOD

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ABSTRACT

The Indonesian Ministry of Health's data and information center reports that forest and land (karhutla) fires in Indonesia in 2015 differ from previous years. The karhutla area is increasing, and the period is getting longer. In October 2015, ISPU in South Kalimantan reportedly reached 132 (unhealthy criteria). The impact on these unhealthy criteria in the form of symptoms of irritation of the eyes and respiratory tract, as well as for patients with heart disease there will be an increase in symptoms and complaints. 1) The thicker the smoke formed, the higher the PM.10 level in ambient air, and PM.10 becomes the dominant parameter in assessing ISPU in ambient air which is shrouded in haze 2) The smog that is formed contains Benzoprene, a solid with physical properties include: 1) colorless to light yellow; 2) not soluble in water; and 3) its presence in a very stable environment.3) Hazardous pollutants from outside the house will enter the house, because it is believed that around 11% of indoor pollution comes from outdoor pollution. The purpose of this study was to determine the ability of air purification equipment adsorption method to nourish indoor air through controlling the PM10 content in the room, and obtaining an appropriate technology development model in the form of air cleaning device adsorption method to reduce PM-10 air pollutants in space. This research method used a type or type of quasi-experimental design, with a sub-type of One Group Pre-test - Post-test Design. The results showed that at a confidence level of 95% there was enough statistical evidence to state that levels of PM.10 pollutants in the air space were not significantly different between rooms without ACD and space with ACD, with a reduction of 96.37% (α count = = 0.798 in vertical filter position, and not significantly different results obtained between the use of ACD with horizontal filter position (reduction of 97.22% with α count = 0.276) Therefore it is not recommended to use AF/TP ACD model (as studied) indoors if the outside air remains free to enter the room during the smog season. Appropriate technology by utilizing water as another adsorbent can be developed by controlling other disturbing factors.

Keywords : Air Cleaning Device, Karhutla Smoke Haze, PM.10 Air Pollutants
Literature : (1976 - 2015)

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