

ABSTRACT

Industries combustion process, nowadays, have use the fossil as it fuels, thus most of the sulfur will be emitted as sulfur dioxide (SO₂). As known in tofu industry, soy hulling process were using diesel fuel and soy boiling were using firewood and lubricating oil, which both of this processes produce SO₂ emission. Former survey by researcher found some complaint al local resident around industries with distance about ± 300 m. from 30 respondent, there were 5 people (16,67%) with throat irritation, 7 people (23,33%) with chronic chough and 3 people (10%) with eye irritation.

This research purposed to learn the influence of using the “*Water Spoons Filter*” (WSF) smokestack model in case of SO₂ degradation rate at tofu industry in Sukun, Malang.

This research was an experimental research type with Laboratorium Test design which its result be analyzed descriptively and analytically by using the of *Paired Samples T Test*.

According to measurement result, mean of SO₂ emission rate before using this WSF smokestack were 24,949 mg/m³. Mean of SO₂ emission rate hereafter using this WSF smokestack were 11,402 mg/m³. The existence of the influence of using the WSF smokestack to degradation of SO₂ rate (p=0,036), with degradation value about 13,548 mg/m³ (55,06%). This SO₂ rate do not impinge permanent quality of emission air (SK Gubernur Kepala Daerah Tingkat I Jawa Timur No 129/1996).

Therefore, there,s an effect of using WSF smokestack model to degradation of SO₂ rate in tofu industry in Sukun, Malang. Suggested to tofu industry owner to use WSF smokestack model to emit the emission of its combustion process. WSF smokestack model can be used as alternative because didn't add high addition cost. To other researcher, it can be use as guidance to afford same kin research by modifying its form, substance or held a research about the efficiency of it.

Keyword : The WSF Smokestack model, degradation of SO₂ rate.