

## **ABSTRACT**

This research aims to develop and test the effectiveness of a moss-based air purification device called MossTech in filtering carbon monoxide (CO) in the air. Given that air pollution, particularly CO, can have adverse effects on human health, this research proposes the use of moss as an environmentally friendly and efficient natural filter medium. Experiments were conducted at the Kesatuan Bangsa School Laboratory, using a device equipped with a fan for air circulation and Christmas moss as a filter. Tests were conducted by comparing CO concentrations before and after moss installation. The experimental results show that the installation of moss can reduce CO concentrations by an average of about 50.6%, showing stable and consistent results. Validation of the device showed that it was functioning properly, with a properly calibrated CO sensor and controlled environmental conditions as per the experimental specifications. This reduction in CO concentration shows that MossTech can be a sustainable and environmentally friendly air purification solution that has the potential to be used in various applications such as households, offices, and public spaces.

Keywords: MossTech, air purification, moss, carbon monoxide (CO), environmentally friendly.