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"Carbon capture from vehicle exhaust"

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Abstract: Vehicle pollution is major cause of Air pollution. Particulate matter has been captured from different vehicle. A filter was prepared in which aluminum foil was wrapped inside the filter with two layer inside it. Filter containing particulate matter was dipped in SLS (Sodium laurel sulfate) surfactant solution of 800 ml with a concentration of 10 mm to separate particle present in aluminum foil paper and was filtered out. Filtered Particulate matter was immersed in CaCl2 solution to obtain Activated carbon. First of fresh powder of carbon to convert Rolling and the give the micro particle of carbon.It means all metal carbon particle convert to micro particle because micro particle make ink use. And 120 gm carbon was dissolve in 20 ml coconut oil and 40 ml Glycerin , where quantity of glycerin was taken is higher amount of compared to coconut oil .(coconut oil andglycerin worked as binding agent in this over all process. After that it is kept at room temperature for within 1 hour so that solution get Dissolved after getting dissolve ISO-PROPYL was dissolved in the solution and pure from ink.

Keywords: , carbon, coconut oil , CaCl2 , glycerin , filter , ISO-PROPYL, Sodium laurel sulfate .

1. INTRODUCTION

Air pollution continues to present one of the world's biggest health hazards to people everywhere, contributing to about 7 million premature deaths annually.1 2 600,000 of these deaths are children.

3 Compounding this staggering health crisis, air pollution is estimated to cost the global economy upwards of $2.9 trillion per year (3.3% of global GDP) due to fossil fuel emissions alone, while also contributing to a range of severe environmental problems.4

As we learn more about air pollution, we see how it affects our lives. From mental health, Alzheimer's, and loss of vision to vulnerability to diseases such as COVID-19, 2020 brought another year of new insights into the extent to which air pollution can impact people's health and wellbeing.5,6,7,

This report is based on the world's largest database of ground-based air pollution measurements, aggregating PM2.5 data published in real time from ground-based sensors hroughout 2020.

This data largely comes from governmental air monitoring stations as well as a growing network of non-governmental air quality monitors. Air pollution contributes to about 7 million early deaths annually,

while burdening the global economy upwards of $2.9 trillion per year.

1.1 Occurrence of carbon :-

i) Carbon is found in the atmosphere, inside the earth's crust and in all living organisms.

ii) Carbon is present in fuels like wood, coal, charcoal, coke, petroleum, natural gas, biogas, marsh gas etc.

2. LITERATURE REVIEW

2.1 Introduction

Environmental contamination as a result of modern industrial development is one of the century's most serious issues. In recent decades, and pollution to high in air . And chemical process to add and make a ink use to industry , printer , pen.

3 EXPERIMENTAL SECTION

3.1 Raw Material

3.1.1 Sodium laurel sulfate

3.1.2 Distilled water

3.1.3 Oil

3.1.4 Aluminum foil

3.2METHOD

A Filter was Collected from the market and was wrap with the Aluminum Foil Paper , that Electricity Would be generated and it attracts carbon particle.

Figure 3.2.1 (Filter)

Figure 3.2.2 (Aluminum foil with filer)

Figure 3.2.3 (Aluminum foil covered with filter)

Once the Filter was bounded With the Aluminum foil Paper Carbon Was captured from different vehicle (Tractor , JCB , Generator , Bus , Truck) Five Hours .

Figure 3.2.4 (JCB)

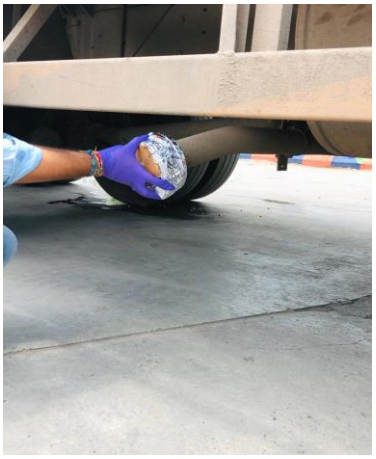

Figure- 3.2.5(Truck)

10 ml cacl2 solution was made in 1 liter of water filter containing carbon was Immersed in water for 24 hours . After 24 Hours Filter was kept for Drying (48 hours) and then it was filtered to remove the metal present in the carbon . And again kept for drying (48 hours) after filtered for heavy metal from carbon particle.

Figure-3.2.6

Figure- 3.2.7

And after drying and give the heavy material of particle in carbon.it is very dark particle and it particular particle size is 0.5 to 5 mm .

3.3 Ink procedure

First of fresh powder of carbon to convert Rolling and the give the micro particle of carbon . It means all metal carbon particle convert to micro particle because micro particle make ink use.

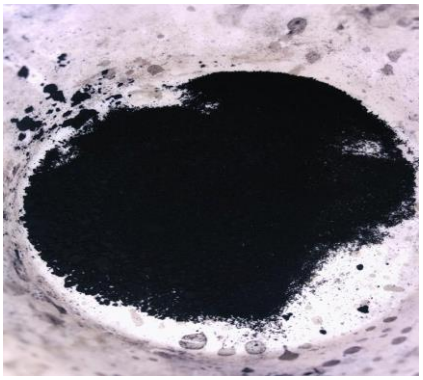

Figure 3.3.1(Carbon Particles)

Figure 3.3.2(Micro carbon particles)

Figure 3.3.3(INK+ isopropyl alcohol)

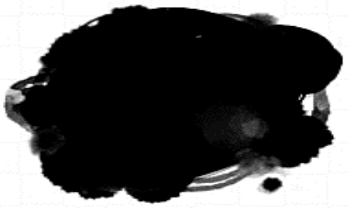

Figure 3.3.4(Spread on page)

Figure 3.3.5(INK)

4. Result and Discussion

TEST RESULT

	Quality Characteristics	Units	Result
1	Rolling Test	mm	0.5mm -5 mm
2	Oven test	°C	25°C -28°C
3	Viscosity	poise	0.01p
4	Dumping Test	nm	0.005nm

4.1 Rolling test

In Metal working rolling is a metal forming process in which metal stoke is passed through one or more pairs of rolls to reduce the thickness uniform, to impart a desired mechanical property. The concept similar to the rolling of dough. Rolling is classified according to the temperature the metal is below its recrystallization temperature. ROLL STANDS holding pairs of rolls are grouped together into rolling mills that can quickly process metal, typical steel , in to product such as structural steel.

4.2 Room Temperature (RT)

Room temperature is generally defined as the ambient air temperature is whatever environment being used for a given procedure more specifically, it is defined as 25-28°C (70-82°f), as some ambient temperatures.

4.3 Dumping Test

Dumping test is INK past to filter and check the heavy material and it is out from this dumping test.

5. CONCLUSIONS

The Pollution is increasing in all over INDIA And Gujarat so we get trying to Reduce pollution. we are making a ink out of the pollution that is happening now.it use in a paper industry also use in making a pen, marker pen ,Wall Drawing etc.

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