



## **ODOUR NEUTRALIZER SPRAY-A SOLUTION TO MINIMIZE THE SOLID WASTE**

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### **ABSTRACT**

With increase in population every single day, and urbanisation and industrialization the solid waste produced by the nation is huge. Every year the amount of solid waste produced is 1.6 billion tones and is expected to be 19 billion tonnes by the year 2025. odour affects human being in a number of ways, strong, offensive and unpleasant smell can interfere with persons enjoyment and also result in serious health issues. This unpleasant odours also affect the nearby surrounding and the fumes which release after burning contains hydrogen sulphide and a mixture of harmful gases which results in very high increase in pollution and people are suffering with respiratory problems.

### **KEYWORDS**

- Solid waste
- Atomizer
- Landfills

### **1 INTRODUCTION**

Odour means the perception of smell, the unpleasant smell which is due waste collected at roadside areas and also in the landfills may have serious health issues on workers working in that region and also affect the human life in nearby area.



This is because the waste contains both the solid and liquid waste which after the decomposition by microorganisms it gets rotten and continuously produce unpleasant odour. The municipal corporation workers come everyday and collect the waste. It is very difficult to work in that environment even with covering their faces. Undesirable air contributes to the air quality concerns and affect human lifestyle. Odour is undoubtedly the most complex of all air pollutions. Odour has different characteristics so it is very important to manage odours instead of risking human health.

## **2. AVAILABLE TECHNIQUES TO REDUCE ODOUR**

### **1. Green belt development**

Green belt is used to form surface capable of sorbing and forming sinks for odour gases, leaves with vast area in tree crown, sorbs pollutant on their surface thus effectively reduce their concentration in the ambient air and source emission.

### **2. Adsorption**

There are systems that use activated alumina impregnated with Potassium-Permanganate for adsorption. The alumina absorbs the odour of the substance so that the permanganate can oxidize them, usually to carbon-dioxide, water, nitrogen and sulphur dioxide depending on their composition. The alumina bed is replaced progressively as the permanganate is exhausted. This has advantage over carbon because no further treatment is needed; and may of set the cost alumina.

3. Nozzles, sprayers and atomizers that spray ultrafine particles of water or chemicals can be used along the boundary lines of area sources to suppress odours

Rotary atomizer is one such technique widely recommended for effective control of odour in case of area sources. The atomizer uses centrifugal actions by a spinning inner mesh to force droplets on to an outer mesh which "cuts" the water into atoms. There are a large number of chemicals and proprietary products that claim to reduce odour when they are applied to area sources.



### 3.MATERIAL AND SOLUTION

As we all know both lemon and baking soda are traditional odour eaters .In order to make an odour neutralizer spray ;

1.Mixed water, baking soda,lemon juice in a large bowl and stir or whisk together.Some aldehydes which also act as a fragranceThe ingredients may fizz a little,so wait a few minutes until they stop fizzing. Vinegar is highly acidic,which enables to killed bacteria and the bonus is most people have them on hand and they are super inexpensive! Pour the mixture into clean spray bottle and shake well,spray your area that needs refreshing 2-3 times per day to get rid of odours.This ingredients are sufficient to eliminate industrial waste as well as household waste without the need for harsh chemicals or masking fragrances ,this solution can be dispersed through oscillating fan and systems,vaporization,atomisation nozzles,and even spread on waste being transferred by trucks.The most significance benefit of odour control for landfills is the ability to remove theproblems in ways that are safe for everyone and to avoid an a issues neighbouring residents.

Lemons have powerful antibacterial properties it can also destroy the bacteria of malaria,cholera,diphtheria,typhoid.Blood vessels are strengthened by the VITAMIN P(BIOFLAVINODS) in lemon thus prevents internal haemorrhage.



### 4.PROCEDURE

Take water ,baking soda and lemon juice.Mix all components in large bowl and stir or whisk together.



Pour the mixture into a clean spray bottle and shake well. Spray your area that needs refreshing 2-3 times per day to get rid of odours!

4-8 drops of essential oil, 1/2 cup of alcohol

You can also add some aldehydes, ketones, cloverleaf for the fragrance. These components are blended together, and mixed with a variety of gelling ingredients.

#### **5. LIMITATIONS;**

- If swallowed it's very harmful.
- It may cause an allergic reaction when it comes in contact with the skin.
- It may cause eye irritation.
- If inhaled deeply then it can be fatal.
- It contains POLYMERIC BIGUANIDE HYDRO- CHLORIDE, may produce an allergic reaction.
- Specific target organ toxicity-repeated exposure.
- Low oral toxicity, but injection may cause irritation of Gastro-intestinal track.

#### **6. PRESENT AND FUTURE SCOPE;**

[1] It can be widely used in railway platforms where waste generated is more. It will be very helpful for the workers working there.

[2] It will be very beneficial for high scale chemical industries as they have to face different odours throughout the process.

[3] The most important use is in the landfills where the government still uses very expensive techniques.

#### **7. CONCLUSION;**

[1] For effective Odour Control, Odour neutralizer is an economical and effective solution.

[2] It is harmless to Human and Environment.

[3] It is used to reduce the volume of municipal solid waste thereby increasing the capacity of the landfill.



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#### **REFERENCES**

- [1] Chemical Engineering Transactions, vol 30,2012
- [2] Guidelines on Odour Pollution and its control, Ministry of Environment and Forest Govt. of India, 2008
- [3] Odour product, evaluation and Control, (2002)
- [4] Odour Sampling;Techniques and strategies for the Estimation of Odour Emission rates from Different Source Types ,by Laura capeli (2013)