



Original Research Article

Disinfectant activity of compound VG1: Part-IV

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ABSTRACT

Earlier we had reported the synthesis of compound VG1 in part 1 of the paper. We here report the disinfectant activity of the compound VG1 conducted at Laboratory Level through advanced techniques.

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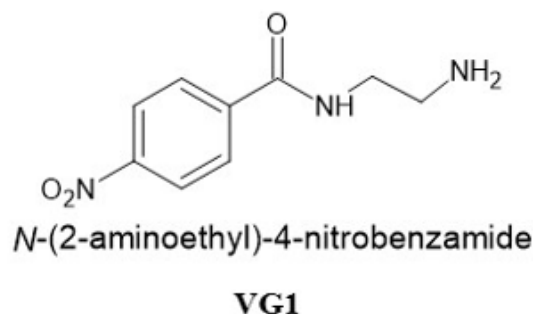
1. Introduction

Disinfectant¹ is defined as agent that prevents the growth or propagation of bacteria or microorganisms including viable spores on inanimate objects.

Synthesis was performed for compounds VG1 and VG2 which are chemically 4-nitro-benzamides. VG1 compound is shown in the figure below which is chemically N-(2-aminoethyl)-4-nitrobenzamide. The compounds were confirmed by TLC, FT-IR and ¹H-NMR.

The spectral data and synthesis procedures of VG1 and VG2 had been reported in Part-I of this paper.²

We here report the disinfectant activity of the compound VG1 conducted in our laboratories.



2. Materials and Methods

2.1. Compound VG1

This is chemically N-(2-aminoethyl)-4-nitrobenzamide and has been synthesized by known literature procedure and published in Part-I of this paper.

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3. Disinfectant Activity/ Screening

0.02 grams of Compound VG1 was dissolved in 3.0 grams of Propanol and 4.5 grams of 2-Propanol and stored in spraying bottle and sprayed only once over the time intervals of 30, 60, 90 seconds on standard bacterial load culture plate/petri dish.

3.1. Microbial culture

Petri containing standard Bacterial Load was prepared according to the standard bacterial procedures. The strains contained all mixture of bacteria and not of one specific type to include in the bacterial load. The compound VG1 was sprayed at the intervals of 60, 90 seconds and swabs were collected post exposure for the same which were further evaluated for the bacterial load by bacterial culture and sensitivity method. The results have been given in the Table 1. Water was used as control, branded solution of disinfectant (X) was used as Standard and was used as Vehicle. The Test solution being VG1 0.02 grams in 10 grams of ethanol. The Bacterial sensitivity was determined by bacterial culture method in CFU (colony forming units) / ml at Manipal Trutest Pathology Labs Pune.

Table 1: Showing colony forming units (CFU) of isolate culture at 30 and 60 seconds

Material	CFUAt 60 seconds	CFUAt 90 seconds
Water	2228	2225
Vehicle	2230	2228
X	1050	735
VG2	NIL	NIL

4. Results and Discussion

As per Table 1, the compound VG1 showed significant disinfectant properties as compared to the standard Brand X and Vehicle used in the test.

5. Conclusion

Thus, VG1 has significant disinfectant property as compared to Standard Brand X.

6. Source of Funding

None.

7. Conflict of Interest

None.

References

- McDonnell G, Russell AD. Antiseptics and disinfectants: activity, action, and resistance. *Clin Microb Rev.* 1999;12(1):147–79.
- Gaikwad V. Synthesis of 4-nitro-benzamides for evaluation antimicrobial and disinfectant activity: Part-I. *Curr Trends Pharm Pharm Chem.* 2024;6(1):28–9.

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