Editorial note

iMedPub Journals
www.imedpub.com

Der Chemica Sinica
ISSN 0976-8505

2021
Vol.12 No.1.4

DOI: 10.36648/0976-8505.12.1.4

Editorial note on Chemistry of hand sanitizers

Nikitha Yerram*

St. pious X degree and PG college for Women College, Hyderabad, Telangana, India

***Corresponding author:-** Nikitha Yerram, M.Sc. biochemistry St. pious X degree and PG college for Women College, Hyderabad Telangana, India E-mail:yerramnikitha21@gmail.com

Received date: January 05, 2021; **Accepted date:**January 20, 2021; **Published date:**January 25, 2021

Citation: Nikitha yerram editorial on Chemistry of hand sanitizers Der Chem Sin Vol.12,No.1:4

After the outbreak of novel corona virus, there is a rapid increase in the usage of hand sanitizers. They are seen as the best solution to keep our hand free from germs and viruses when there is a scarcity of soap and water in the nearby surroundings. The main component present in them is alcohol. Alcohol is the best antibiotic and antiviral agent with most efficiency. The percentage of alcohol in a hand sanitizer varies from brand to brand.

The chief components of a hand sanitizer include ethanol, glycerol, hydrogen peroxide and distilled water. However several different components can also be found depending upon the need and usage. Some of them contain natural components such as neem extracts to reduce the usage of chemicals.

The standard formulation prescribed by the WHO for the commercial production of sanitizers is of two different types. The 1st formulation includes the composition of ethanol(96)%,glycerol(98%),hydrogen peroxide(3%),distilled water in the ratio of 80:1:0.1:18.the second formulation includes the composition of isopropyl alcohol(99.8%),glycerol(96%),hydrogen peroxide(3%)in the ratio of 75:1:0.12:23.

A efficient hand sanitizer should contain at least 60% of alcohol to eliminate the bacteria and viruses. Some sanitizers are sold without alcohol but their efficiency might not be as good as the products containing alcohol. Hence, alcohol is the key ingredient in the manufacture of sanitizers.

The components that are present alcohol-free hand sanitizers are chemicals which are antimicrobial compounds like benzalkonium chloride that provide a lasting protection against bacteria. Hence they are not effective against the viruses which decrease its efficiency.
The alcohol based sanitizers are available commercially as liquid sanitizers and gel based sanitizers. The liquid sanitizers can be used for chemical purposes as they evaporate faster than the gel based sanitizers. The gel based sanitizers can be used for domestic purposes and they delay the alcohol evaporation time there by causing the alcohol to be in contact with surfaces for a longer time resulting in complete removal of the viral and bacterial agents. It basically contains alcohol in colloidal form.
The mode of action of alcohol based hand sanitizer includes the dissolving of the outer lipid membrane of the virus by the ethanol or isopropyl alcohol. This causes the disruption of the viral components.
The frequent use of sanitizers is not advisable as the alcohol might cause several adverse effects like dryness of skin,dryness of eyes as it disrupts the protective oil layer present in the skin .