

## Role of 70% Alcohol in Halal Disinfectant Used

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**Abstract.** At the end of 2019, a new disease caused by a virus emerged and attacked the respiratory system, this disease is known as the novel coronavirus disease 2019 (Covid-19). Covid-19 can spread through particles from the sufferer's sneeze or cough that stick to other objects such as clothing or electronic devices from surrounding people. Covid-19 first spread very rapidly in China and is currently spreading to other parts of the country. This pandemic is one of the things that people are worried about, but it can prevent various things. There are many ways to prevent the transmission of Covid-19, one of which is by using disinfectants. Disinfectants are chemicals used to kill or reduce the number of unwanted microorganisms, such as bacteria, fungi, and viruses. One of the active ingredients that is often used in making disinfectants is alcohol. Alcohol is effective against both Gram positive and Gram negative including resistant pathogens such as Methiciline Resistant Staphylococcus Aureus (MRSA) and Vancomycin Resistant Enterococci (VRE), Micobacterium tuberculosis, and various other fungi and viruses. The purpose of this paper is to see the halal use of disinfectants that use alcohol. This disinfectant is made in several stages, namely first 50 mL of 99.8% acetic acid with 250 mL of distilled water and 700 mL of 98% alcohol into a stirred tank. The stirring motor is turned on and the mixture is stirred for 15-20 minutes. While stirring add 50 mL of liquid soap (sunlight). To get the desired disinfectant content. After 15-20 minutes the stirring tank is turned off and the disinfectant product is ready for use. The purpose of making this disinfectant is as an ingredient for the spraying process as a preventive measure against the coronavirus, killing or inhibiting the proliferation of bacteria and viruses. As well as efforts to improve hygiene to prevent the spread of the Coronavirus (Covid-19). One of the steps is spraying in vital places or public facilities. This disinfectant spraying work program is useful to anticipate the spread of the Covid-19 virus. In addition, this activity is expected to provide comfort to the community, especially in the South Sulawesi area in doing outdoor activities. In connection with the above, the use of disinfectants containing alcohol is allowed or lawful to use.

**Keywords:** Covid-19; Disinfectant; Alcohol

### 1. Introduction

In the latter part of 2019, a new disease, the covid-19, is spreading rapidly in China and now spreading to other parts of the country. Present-day medical workers have studied the virus and have made it possible to find the appropriate steps to prevent and limit its wider and faster spread. Covid-19 can spread through particles from sneezing or coughing by a person who clings to other objects, such as clothing or electronic devices from those around him. The use of disinfectant and antiseptic in covid-19 contagion prevention People, therefore, need precautions for the covid-19 outbreak. Covid-19 will be inactive if exposed to ultraviolet light and high temperatures and lipophilic (fat-soluble) disinfectants, namely: ether, ethanol, chlorine, peroxyacetic acid, and chloroform [1]. This pandemic is one of the few things people are concerned about, but it's preventable in many ways. There are many ways to prevent these covid-19 infections, including disinfectants [2]. Since WHO upgraded the status of Covid-19 globally to a pandemic, the Indonesian government has made efforts to increase vigilance, especially in terms of handling and preventing the spread of cases, by issuing Covid-19 Handling Protocols for various sectors. This is an embodiment that the government is present and ready to face Covid-19 [3].

For a moment, we could see there was an organizational control for all living things on Earth. Hadits sanitized by no al binary. 3907 and al marifah thing. Authentic 456 best describes the situation

above. From 'Abdullah bin Amru, says: "Don't you kill frogs because their voice is tasbih. Do not you also kill bats because, Like the teachings of the messenger of god. When the plague hits, it's still building Positive thoughts, good prejudices, optimism, endeavors, and laughter. Messenger of God. It says, "God hath not given down a disease, but he hath put down its antidote." (HR. Bukhari). Messenger of God. Anticipating the spread of a disease, the prophet has also found, ordered, and implemented a quarantine system. This covid-19 plague is nothing more than the rebuke of the almighty god and his mercy to keep men in mind the incomparable power of god. To be prejudiced, to think positively, and to be optimistic in his love, God will soon undo this trial in an extended period of time are consistent with the governmental directive and are optimistic about coping with the covid-19 pandemic [4].

Hand sanitizer is a liquid product that is used without using water. It serves as a healthy, fresh aromatic giver in the hands. It can kill germs, which are now widely enjoyed by communities for hygiene and health of the hands, and prevent contamination of germs during food consumption. The use of hand sanitizer is growing, not only for maintaining hand health but for more practical purposes such as in restaurants, fast-food restaurants, public toilets, hospitals, and in dal. As for the excess of the hand, sanitizer can kill germs relatively quickly. It contains alcohol compounds (ethanol, propanol, isopropanol) with a reduced concentration of 60% to 80% and a phenol (chlorhecine, triclosan). The substances contained in hand sanitizer have specialized mechanisms by denizing and coagulation of the protein of germ cells. The way hand sanitizer is applied to people are willing to take it only when they are outdoors. At home it is encouraged to keep hands washed with soap, since hand sanitizer is the stuff that makes the skin dry if used continuously. Currently, the use of hand sanitizers is increasing, the majority of people buy products that are advertised without looking at the effectiveness of a hand sanitizer, as in what concentration and what ingredients are added to make it quite effective [5].

A disinfectant is a chemical that kills or decreases an unexpected number of microorganisms, such as bacteria, fungi, and viruses. A disinfectant commonly used in tissue cultures is based on alcohol. A disinfectant is defined as a chemical or physical influence used to prevent infections or contaminants of such organisms as bacteria and viruses and to kill or decrease the number of microorganisms or other disease germs [6]. A disinfectant is a cleaning liquid generally made from hydrogen peroxide, creosote, or alcohol which aims to kill bacteria, viruses, germs, and other harmful microorganisms found in the room or surface of inanimate objects. Disinfectants are usually used to clean the surfaces of objects that are touched by many people [7]. Disinfectant is commonly used as a form of hand infection on the floor, room, equipment, and clothing. During a particular time, disinfectant is used as one way in the sterilization or release of germs. In the process of disinfectant, there are two ways.

In chemistry, referred to by alcohol is an organic compound that, in its molecular structure, has a hydroxyl cluster (oh). However, alcohol in everyday life (also in this writing) refers to ethanol or ethyl alcohol with a chemical formula. Alcohol is a rice-free liquid, lighter than water, flammable, 5 mixing with water, volatile, boiling point 78" c, and can dissolve fats and various organic compounds. As a chemical, alcohol use is widespread. Alcohol is used as a solvent to dilute various organic (medicinal) materials in the laboratory, supplying potent (alkaloid, glycoside, flavanoid) in plants known as suppositories of the galenic, synthetic agents of ether and Esther in the laboratory and chemical disinfectant, and fuel [8].

Prevention of spreading the disease is one of which involves disinfecting with disinfectant. An active 40-80% alcohol disinfectant can hinder bacteria growth [9]. A disinfectant is an antiseptic in which dead matter is found as an active ingredient of the- alcohol (60-90%), isopropyl (70-90%), and n-propanolol (60-70%), which has been proven to be effective in killing germs. It also contains other anti-bacterial materials such as triclosan, glycerol, or other antimicrobial agents. Alcohol is effective against both positive grams and Therman- negative grams.

## 2. Research Methods (customize to activity)

For this study to be conducted is qualitative, and where a disinfectant is performed in the chemical engineering operation laboratory (otk) FTI UMI Makassar, with a 98% alcohol base, and 99.8% acetic acid. The tools used in making this disinfectant are measuring cups 1000 ml, cups 1000 ml, 500 ml cups, large tanks, stirrers, stirrers and hoses. And are made with a few steps; at first, 50 ml of acetic acid, 99.8%, equal to 250 ml, and 98% alcohol of 700 ml into the stir-churning tanks. The mixer was started, and the mixture was stirred for 15-20 minutes. While mixing, add 50 ml of liquid soap (sunlight). After 15 to 20 minutes of stirring, the tank is turned off for the desired amount of disinfectant, and a disinfectant product is ready to be applied. Here is a picture of the production of a disinfectant in the FTI UMI Makassar chemical engineering lab.



Image 1 Process of making a disinfectant

During the time of the pandemic, communities battled for antiseptic and disinfectant to prevent the spread and spread of the covid-19. Simple materials can be prepared when antiseptic and disinfectant are difficult to obtain. According to Professor Arif Sumantri, a disinfectant liquid and an antiseptic may be prepared using an acidic substance diluted with other ingredients because vinegar has a low pH that kills viruses.

## 3. Results and Discussion

Covid-19 is a disease caused by a strain of coronavirus that attacks the respiratory system. The coronavirus was actually first identified in the 1960s. Generally found in animals of different species, such as camels, cows, cats, and bats. But what is happening now is a new strain of the coronavirus, covid-19. It has reached the epidemiological criteria known today as the global pandemic because it has successfully infected over 100,000 people in over 100 countries.

The data now obtained in Indonesia contains about 10,000 confirmed cases, with the number of patients cured, about 1000 died 647; worldwide, it is confirmed that about 3 million with the number of people are infected with covid-19 total of about 743 thousand and some 190 thousand dead. With this number of infected communities, preventive measures must be taken to avoid further spread. People still strongly believe that the infection of the covid-19 can be avoided simply by abstaining from the disease, which can be spread through particles clinging to the surrounding material. Viruses can be transmitted from 12 to 12 feet [1 to 2 m] through coughing or sneezing. Another method of viral transmission is by hand contact or an environment like the one with the virus.

When sanitation is not taken care of, it is widespread. Suppose a person infected with the covid virus sneezes and is not covered with a tissue or in a toilet sleeve can pass it on to those around him, or

if the infected person sneezes. His hands get hold of an object in public, and if someone else gets hold of it, it could cause a transmission of the disease.

One way to prevent contagion and its spread is to keep oneself and the environment clean. Keeping yourself and the environment clean can be done by disinfectant. A disinfectant is a substance that kills pathogens in the environment. Disinfectants usually contain glutaraldehyde and formaldehyde. Their use had previously been more of a medical responsibility, but it could now be used in hospitals and homes. Different types of antiseptics and disinfectants according to Lachenmeier 26: 1) Aldehyde: formaldehyde, glutaral; 2) Guanid: chlorhexidine, poli heksametilen guanid; 3) Cetrimide; 4) Benzalkonium compound; 5) Oxide; 6) Halogene; and 7) Iodo Phosphorus. The danger is summed up in Table 1 [2].

Table 1. Types of antiseptics and disinfectants with their dangers (lachenmeier 26)

No	Sort	Danger
1	Aldehyd	Tumor, teratogenic, fertility, cardiovascular, gastrointestinal, respiratory
2	Gunaid	Skin, immune system, respiration
3	Cetrimide	The immune system
4	Benzalkonium	Immune system and sensors
5	Etilen Oksida	Increased risk of adverse drug reaction
6	Halogen	Teeth, skin
7	Iodofosfor	The skin, the immune system

Besides these types, there are also substances capable of becoming disinfectants with The composition is as follows:

1. Core ingredients that can be used as a disinfectant: 98% alcohol and 99.8% acetic acid
2. Used additives: 95% glacial, liquid soap, essential oil

The effect of not using a disinfectant appropriate to its disinfectant could be the most common to produce irritation. Irritation may result in skin irritation, respiratory tract, and eyes and can cause poisoning. But based on the types of antiseptic and disinfectant, there are evidently dangers of individual kinds.

## 4. Conclusions

The results of this operation and the making of this disinfectant have been deemed successful because the resulting disinfectant has been used in several areas of hospitals, offices, and other public services.

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