

General Questions & Answers :

1. Why Dr Clo not registered with NPRA (National Pharmaceutical Registration Agency)? Dr Clo claimed that it is able to eliminate COVID 19 by releasing ClO₂. Will NPRA take action if misleading claims are made?

Answer – Dr Clo is not required to register NPRA and MDA. Eliminate Covid 19 is supported by Seoul University & KR Biotech Co. Ltd lab reports.

2. Comparing Dr Clo to the disinfectant card (which also using ClO₂ gas), Pusat Racun Negara (Malaysia National Laboratory) made a statement that those cards are ineffective against virus and bacteria, and over dosage of gas will be harmful to the lung. Is Dr Clo products harmful for human?

Answer - Dr Clo emission of ClO₂ thru its globally patented nanotechnology is averagely 0.02ppm, well below approved level of 0.1ppm by WHO and US CDC safety guidelines. Only high concentration of ClO₂ is harmful for human. US Occupational Health and Safety (OSHA) sets permissible exposure limit (PEL) of 0.1 ppm for an 8 hour time weighted average (TWA), or 0.3ppm for any 15 minute short term exposure limit (STEL). There has never been any claims of Dr Clo being harmful to human for the past 6 years being sold globally.

3. Dr Clo US FDA registration, documents submitted are based on bacteria only, how can it kill virus now?

Answer - USFDA registration is based on bacteria while submitted. The fact that the product was not tested against viruses does not mean that the product is not effective against viruses. The role of FDA registration is to ensure product is safe for human. The fact that Dr Clo is registered as class 1 medical device, already proven so. Dr Clo is not a device to cure or treat specifically hence it doesn't require approval as per class 2 or class 3 product category.

The active agent in Dr Clo is chlorine dioxide. Chlorine dioxide has been shown to be effective against viruses Sanekata et al, 2010 found that the antiviral activity of chlorine gas was approximately 19 times higher than sodium hypochlorite, a disinfectant that is effective against bacteria, fungi and viruses.

Ref: Sanekata T, Fukuda T, Miura T, Morino H, Lee C, Maeda K, Araki K, Otake T, Kawahata T, Shibata T. Evaluation of the antiviral activity of chlorine dioxide and sodium hypochlorite

against feline calicivirus, human influenza virus, measles virus, canine distemper virus, human herpesvirus, human adenovirus, canine adenovirus and canine parvovirus. Biocontrol Sci. 2010 Jun;15(2):45-9. doi: 10.4265/bio.15.45. PMID: 20616431.

4. US Environmental Protection Agency lists of COVID 19 disinfectant – Dr Clo is not listed. Why?

Answer -

(i) The active agent in Dr Clo is chlorine dioxide. Many products that use chlorine dioxide as the active ingredient are listed with the USEPA.

(ii) Dr Clo has not applied for registration with the USEPA because it is not suited to USEPA needs.

5. If CLO₂ plus air and sunlight, it will quickly breakdown into chlorine gas and oxygen, and chlorine gas is harmful to human?

Answer – when CLO₂ plus sunlight, it will decomposes.

As mentioned earlier, CLO₂ will turn into chlorite ion when it come into contact with water, bear in mind, our respiratory system is always wet, When you inhale the gas, it will stimulate / affect our respiratory system, and lead to nose, throat and lung problems. Beside that, it will also damage red blood cells.is this correct?

Answer - CLO₂ is not safe in high concentration. Dr Clo emission averagely of 0.02ppm is far lower than WHO acceptable safe level. CLO₂ is used to disinfect drinking water with no greater than 0.8ppm. Chlorine dioxide is an oxidizing, not a chlorinating agent. CLO₂ penetrates the cell wall and reacts with amino acids in the cytoplasm within the cell, killing the microorganism instead harmful for human. And the fact that WHO endorse usage of product with 0.1ppm already ensure the safety for human usage of such qualified products.

It is not possible for CLO₂ to break into chlorine gas naturally unless going through a chemical process of high concentration of 100,000 ppm.

6. Under animal testing, if in contact with high concentration of CLO₂ before and during birth, it will lead to slow brain development. Is this situation same to new birth baby?

Answer - High concentration is harmful. But Dr Clo is not harmful to human of all ages including babies as the emission rate is averagely 0.02ppm, well below the approved level of WHO.

7. If kids in contact with high concentration of CLO₂, will the consequences be worse than adults as the blood that carry oxygen quickly reduce and this lead to breathing difficulty?

Answer - Dr Clo emission is averagely 0.02ppm, below approved safe level by WHO and it won't cause breathing difficulty or any harm to human.

8. After looking at the product reports & instructions menu, CLO₂ is sensitive to sunlight and heat, why they suggest people to place it in the car?

Answer - sunlight and UV will weaken CLO₂. However, Dr Clo patented gel based formulae for automobile range enable it to withstand 80C and still effective unlike other CLO₂ liquid/powder based. This is the difference of Dr Clo compared to liquid/powder base CLO₂ products.

9. For it to cover a big area, logical thinking this Dr Clo must have high concentration of CLO₂ in order for it to cover a big area. But at the same time, we cannot inhale too much of CLO₂.

Answer – Average 0.02ppm nano particles allow it to cover a big area subsequently landed on surface.

10. Dr Clo has many international certifications but non from the Malaysia government, why not from Malaysia?

Answer - international certificates such as ISO are acceptable internationally, and there is no requirement for Malaysia government to test every single imported products.

11. If CLO₂ is so effective, why would the KKM (Malaysia FDA) made a statement claiming that the card type is not effective?

Answer- card type does not possess nanotechnology and gel based formulae that enable the device to disperse a stable and low emission of CLO₂ and they do not last in heat. The fact that card type is sold exclusively for user to hang on body for outdoor purposes, it mislead the efficacy of product, this is the reason.

12. Dr Clo mentioned that it can kill covid 19 and is registered with US FDA. Most of the Covid 19 case is spread via droplets, can it prevent droplet? If it cannot prevent droplet, how

can it claim to be a protective shield?

Answer - It cannot prevent droplets but it can kill the virus in the droplets.

13. Regarding the test in Japan. 4 types of bacteria is used in 2 chamber with the size of 1 meter cubic. With Dr Clo it can kill 99.99% of bacteria, how come the control sample, the bacteria count also drop some even without Dr Clo?

Answer - factors such as lifespan of bacteria could lead to bacteria count drop.

During the lab test, the reading of CLO₂ always undetected. If that the case, how to prove that CLO₂ can kill bacteria?

Answer - multiple and sufficient tests are done to prove and concur same results, this is due to its patented nanotechnology emission.

14. The method of the covid 19 lab test was done. Fill a container with water and add Dr Clo, and then pour the water into another container with Covid 19 virus, Why need to add water? Does it mean that to be effective you need to add water to the stick? But as mentioned, Dr Clo claims to release gas to act as a protection shield.

Answer - it is a universal method of test on virus. Nevertheless Dr Clo also passed a gas chamber test with covid-19 virus and H1N1 that we are awaiting for full report in English translation.

15. Registration with FDA as class 1 is the most basic level. Class 1 registration same as electric toothbrush, it is not harmful but at the same time it might not be helpful to kill covid 19, is this correct?

Answer - disinfectant products is class 1 medical device in FDA requirement. Dr Clo registration proves it qualifies as not harmful to human.

16. If the stick keeps releasing CLO₂ gas, when Dr Clo is keep in the fridge is it safe that we eat the food?

Answer - The European Food Safety Authority assessed the safety of chlorine dioxide generating sticks for domestic refrigerators and concluded that there were no safety concerns

associated with consumption of foods kept in those refrigerators.

Ref: EFSA ANS Panel (EFSA Panel on Food Additives and Nutrient Sources added to food), 2016. Scientific opinion on the safety of gaseous chlorine dioxide as a preservative slowly released in cold storage areas. EFSA Journal 2016;14(2):4388, 18 pp. doi:10.2903/j.efsa.2016.4388

17. If CLO₂ is effective against Covid, then media, health authority should be recommending it to the public, why they are not?

Answer - Health authorities do not normally endorse a proprietary product

18. If each student carry one stick, 15 students in 1 class, is that considered safe or not?

Answer - If the 15 students are in a 600 sq ft room, one stick is 0.00012 ppm (Dr Clo 0.02ppm for 1 cubic metre space) If 15 students use 15 sticks, the concentration is 0.00179 ppm in a 600 sq ft space. For 15 students to hold 15 sticks and breach WHO recommendation of 0.1ppm, they have to be cramped in a 11 sq ft space. If 100 sticks is used in 600 sq ft space, exposure is 0.01194 ppm (well below WHO guideline)

WHO guideline is 0.1ppm exposure for 8 hours time weighted average (TWA). Dr Clo at 0.02ppm is safe for 40 hours TWA. And WHO thesis on CLO₂ states clearly that there is no scientific evidence of long term side effects of CLO₂ exposure if concentration is low. This excludes the fact that the space could be ventilated and expose to UV, whereby the CLO₂ decompose. And if the space is not ventilated at all, CLO₂ being heavier than O₂ would also land on surface in a shorter space of time.

Scientifically and theoretically user will not be able to breach the 0.1ppm threshold of 8 hours TWA which is how an invention or product made and commercialised within WHO guidelines, are considered safe for consumption.

19. If Dr Clo is used in an enclosed space like a car for about 4-5 hours, how can we be sure that by the end of the 5th hour, the concentration of CLO₂ emitted from the stick will still be at a safe level for inhalation?

Answer : Dr Clo device pass a strict efficacy test with stable delivery of 0.02 ppm averagely, even in compliance with strictest guidelines of EU. A sedan car is 2.83 cubic metre. 5 sticks in such volume of space is only 0.03586 ppm. This excludes the fact that the car could be ventilated and expose to UV, whereby the CLO2 decompose. Furthermore, without ventilation, CLO2 lands on car seats and surrounding for sanitisation.

20. Can Dr Clo product be hung on the body for disinfection?

Answer: Dr Clo is not meant for users to hang on their bodies. Dr Clo is light and portable, so users can carry to places where they can use to sterilise. The correct way to use the product is for indoor to sterilise air and surface within the coverage area.



CLO2 ppm Calculation Table for Dr Clo

	<i>Sedan Car (2.83 m³)</i>	<i>Room (170 m³) 600 square feet</i>	<i>Fridge (0.3 m³)</i>
1 stick	0.00717 ppm	0.00012 ppm	0.0667 ppm
5 stick	0.03586 ppm	0.0006 ppm	The European Food Safety Authority assessed the safety of chlorine dioxide generating sticks for domestic refrigerators and concluded that there were no safety concerns associated with consumption of foods kept in those refrigerators.
30 stick		0.0036 ppm	
100 stick		0.012 ppm	

** With assumption that the CLO2 does not decompose in the environment*

WHO guideline is 0.1ppm ClO₂ within 8 hours weighted average consider safe for human

0.1ppm is equal to 0.28mg / m³

$$\begin{aligned}
 0.1\text{ppm} \times 8 \text{ hours} &= 0.02 \text{ ppm Dr Clo} \times 40 \text{ hours} \\
 &= 0.056 \text{ mg} / \text{m}^3 \times 40
 \end{aligned}$$

	m ³	mg / m ³	PPM	Number of sticks				
				2	5	10	30	50
Car	2.83	0.019788	0.00717296	0.01435	0.03586	0.0717	0.2152	0.3586
Classroom	170	0.0003294	0.00011941	0.00024	0.0006	0.0012	0.0036	0.006
Fridge	0.3	0.1866667	0.06766494					
Bedroom	43	0.0013023	0.00047208	0.00094	0.00236	0.0047	0.0142	0.0236