

:: ADVISORY ::

There are different disinfection protocols, but in trying times like a pandemic when there is a immense strain on resources, alcohol and bleach are acceptable chemical disinfectants, if used appropriately and in consonance with the mode of transmission of the disease. Further the guidelines of the MOH& FW, GOI, besides world bodies like the WHO, on modes of disinfection etc should be followed wherever steps for containment are taken up by the Department in consort with the DDMA. It is widely accepted that the disease spreads through inhalation of respiratory droplets from an infected person or by touch of the nose, mouth or the eyes if one's hands are contaminated. Hence the containment protocol will have to be in appropriate to the mode of transmission and also prioritised accordingly.

The Department has been actively involved in sanitisation activities all over the state but an appropriate approach, defined protocol and optimum utilisation of resources is of utmost importance. Consequently, it is felt that a Standard Operating Procedure (SOP) for the department with respect to sanitization, consequent to the COVOD-19 outbreak is the need of the hour. ***However this is no way makes it obligatory for the Department to engage in such activities, except dissemination of domain expertise, unless specifically entrusted by the Deputy Commissioners cum Chairman DDMA in areas which pertain to the core competence of the Department.*** In this connection the guidelines of the ministry can be referred to for the following sectors and may thereby be considered as an integral part of the SOP. The procedure for sanitization as per the ground realities will be as per **Annexure-I**.

- (i) **Outdoor areas:** - Since the outdoors are exposed to sunshine and have ample circulation of air there are fewer risks. However frequently touched objects like Chairs , tables, counter tops and railings of Bus stands, Railway stations, roads etc require frequent disinfection with a cloth dipped in alcohol or bleach solution. However, in specific cases if deemed necessary by the Deputy Commissioners large scale disinfection can be done in super spreader hot spots or deemed containment zones.
- (ii) **Indoor areas :** -Office spaces, including conference rooms should be cleaned every evening after office hours or early in the morning before the rooms are occupied. All indoor areas such as entrance lobbies, corridors and staircases, escalators, elevators, security guard booths, office rooms, meeting rooms, cafeteria should be mopped with a disinfectant with 0.1% hypochlorite solution or phenolic disinfectants. High contact surfaces such elevator buttons, handrails / handles and call buttons, escalator handrails, public counters, intercom systems, equipment like telephone, printers/scanners, and other office should be disinfected. Further ATMs, Fair price shops and any facility with a high footfall should also be disinfected but restricted primarily to surfaces of high contact. For metallic surfaces like door handles, security locks, keys etc which can be corroded if bleach is used, 70% alcohol can be used.
- (iii) **Quarantine facilities :** - As per protocol of National Centre for Disease Control (NCDC) under the Ministry of Health and Family welfare.

- (iv) Illustrative examples for making hypochlorite solutions of different strengths situations and with sprayers, pumps, fire Brigades etc is enclosed as A-I
- (v) In the light of the above and considering the fact that the pandemic can be defeated if each and every individual adhere to the social norms and observe hygiene as prescribed, the Department should scale up IEC by judiciously using the infrastructure and resources developed under SMB. Disinfection works may also be carried out as per protocol and SOP in tandem with the DDMA.

The Department shall also make leaflets to promote good practices like handwashing, advantage of wearing masks as per the latest guidelines of the GOI and proper coughing etiquette. These can be distributed to GPs presidents for wide circulation and to vulnerable groups like sanitation workers, and worker from other essential services who need to take most care.

Bleaching powder should not in principle be distributed in bulk unless required by the DDMA. However small quantities in plastic sachets with instruction booklet for preparation of hypochlorite solution can be provided to institutions for disinfection of frequently touched area.

Fund already released under SBM (G) can be utilised for IEC activities as deemed necessary by the Executive Engineers and subsequently submit UCs to be eligible for additional funds.

Finally all departmental worker are requested to observe all safety protocol while carrying out activities in public spaces.

Chief Engineer (PHE), Water, Assam,
Hengerabari, Guwahati-36

ANNEXURE -I

PROTOCOL &PROCEDURE OF DISINFECTION

	Recommended Strength	Object to be disinfected
(A)	0.5 % (5000 ppm) Chlorine solution	Excreta
		Bodies
		Spills of Blood or body fluids
(B)	0.05 % (500 ppm) Chlorine solution	Surfaces
		Medical equipments
		Beddings
		Reusable PPE

The following Chemicals can be used for sanitization activities with appropriate strength.

- (i) Bleaching powder
- (ii) Calcium Hypochlorite
- (iii) Sodium Hypochlorite

Use of Sodium Hypochlorite for disinfection in medical facilities and to sterilise frequently touched objects is common under normal circumstances, but considering the fact that it is not freely available in the market nor in the stock of the Department, bleaching powder which is equally effective will have to be used. Sodium hypochlorite can be made by mixing sodium carbonate with bleaching powder but this too is increasingly difficult to procure. However, based on cost benefit view point It can be an option at the discretion of the Executive Engineer.

Mode of preparation of disinfectant solution from Bleaching Powder

- (i) From Bleaching powder (Assuming available chlorine to be 30%)
 - (a) Strength of solution : - 0.5 % i.e 5000 PPM

Considering 5000 ppm : - 5 gm is required per litre

Since Cl availability is 30%

Quantity of Bleaching powder required = $5/0.3 = 16.67$ gms per litre

If Cl availability is 25 %

Quantity of Bleaching powder required = $5/0.25 = 20$ gm per litre

(b) Strength of solution : - 0.05 % i.e 500 ppm

Quantity of Bleaching powder required is 30% and 1.67 gm per litre and 2 gms per litre

If the available chlorine is 30% and 25% respectively.

The quantum of bleaching powder to be used for preparation of the hypochlorous solution can be interpolated as per available chlorine in the particular consignment of bleaching powder proposed to be used. Hence every consignment of bleaching powder received should be tested to determine the available chlorine.

The solution prepared from bleaching powder should be utilised as soon as possible and invariably within 24 hrs so as to not compromise its efficacy . It is also affected by direct sunlight and hence should be stored in opaque plastic containers.

Use of Alcohol for disinfection

Ethyl alcohol (70%) is a powerful broad spectrum germicide and is considered generally superior to isopropyl alcohol can be used for disinfection of metal surfaces like door handles etc which are likely to be damaged by Cl.

(Sd/- N.P. Das)

Chief Engineer (PHE), Water, Assam,
Hengerabari, Guwahati-36