CSIR-Advanced Materials and Processes Research Institute, Bhopal

AMPRICARE:
Instantaneous hypochlorite generator using kitchen salt

Disinfectant Medium

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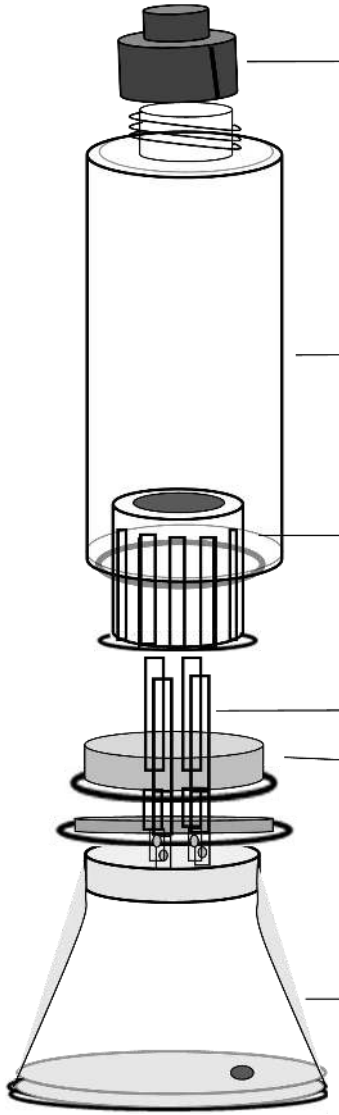
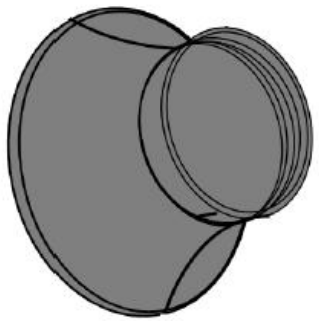
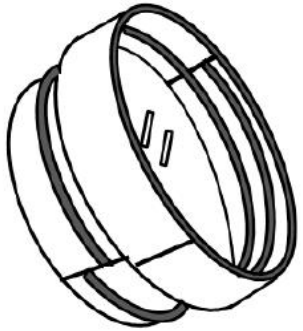
AMPRICARE: Instantaneous Hypochlorite Generator Using Kitchen Salt



Design of the Device

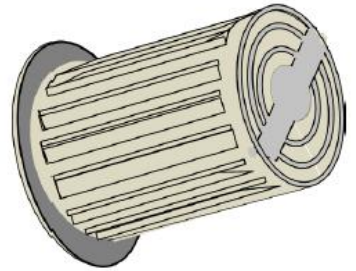


(A)

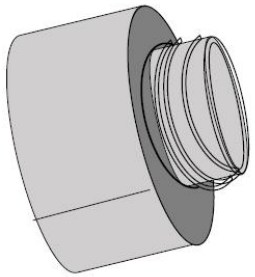


(B)

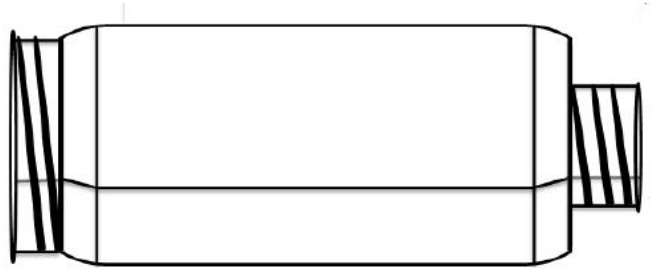
It has 4 holes at distance of 4mm.
4 electrodes (50 mm length,
10 mm width, 2mm thickness)
was exposed to the electrolyte.



(C)



(D)



(E)

Individual Components of the Developed Device

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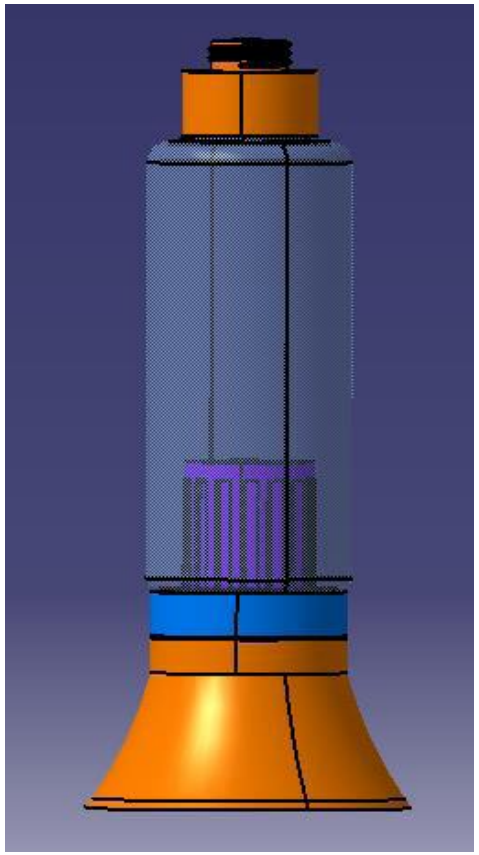

Table showing the strength of the hypochlorite solution obtained from device (according to IS 11673 (1992)

S. No.	Volume of H_2O (ml)	Salt added (grams)	Applied Potential (V)	Time (minutes)	Percentage of hypochlorite
1	250	10-15	5V-2A	5	0.01%
2	250	20-25	5V-2A	10	0.1%
6	250	30-35	5V-2A	20	1%

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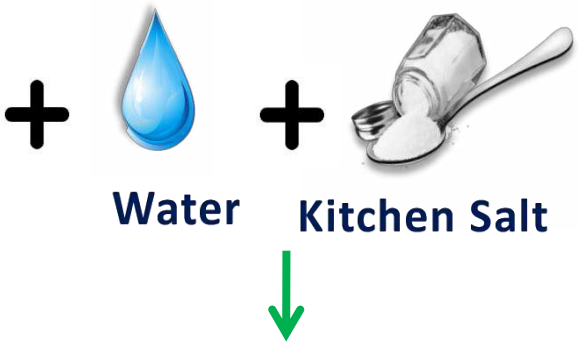

Cost

Calculation

Market available hypochlorite solution

Avg. cost for 5 liter of 5% solution cost ~ Rs. 400

So to make 250 ml of 1% solution cost ~ Rs. 5

AMPRICARE device hypochlorite solution

Salt: Cost of 1 Kg of kitchen salt~ Rs. 18
Electricity: Based on the fact that a charger takes 0.006-0.014 units for 2 hours, cost of electricity used would be ~ Rs. 0.32

So to make 250 ml of 1% solution cost ~ Rs. 1

Benefit

- *No storage requirement*
- *Production of hypochlorite on demand instaneously*
- *Only kitchen salt, water and mobile charger is required*
- *Safe to use as no added alkali to increase pH to prevent it from degradation*
- *Freshly prepared so no worry for the decomposition of the hypochlorite*
- *Can be taken anywhere like in travelling, in trains etc*
- *Low cost and can be customized.*

Patent filed; Portable household electrochlorination device for on spot generation of hypochlorite disinfectant, 0175NF2020

Thank-you