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# Disinfectant Concentrations and Contact Times for EPA's List of Products Effective against Novel Coronavirus SARS-CoV-2, the Cause of COVID-19

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The World Health Organization has named the COVID-19 outbreak associated with transmission of the novel coronavirus SARS-CoV-2 a public health emergency of international concern. First reported from Wuhan, China, in December 2019, the virus has rapidly spread across continents, with more than 100,000 confirmed cases and more than 3,400 deaths worldwide by early March 2020. The outbreak poses a potent economic threat as well as a public health crisis.

All healthcare providers, including (but not limited to) hospitals, ambulatory/surgical centers, long-term care facilities, physician practices, clinics, and dentistry offices, should be assessing

their preparedness and identifying antimicrobial products effective against SARS-CoV-2. The U.S. Centers for Disease Control and Prevention's (CDC) [Interim Infection Prevention and Control Recommendations for Patients with Confirmed Coronavirus Disease 2019 \(COVID-19\) or Persons Under Investigation for COVID-19 in Healthcare Settings](#) states:

Routine cleaning and disinfection procedures (e.g., using cleaners and water to pre-clean surfaces prior to applying an EPA-registered, hospital-grade disinfectant to frequently touched surfaces or objects for appropriate contact times as indicated on the product's label) are appropriate for COVID-19 in healthcare settings, including those patient-care areas in which aerosol-generating procedures are performed. Products with EPA-approved emerging viral pathogens claims are recommended for use against COVID-19.

On March 3, 2020, the U.S. Environmental Protection Agency (EPA) published [List N: EPA's Registered Antimicrobial Products for Use Against Novel Coronavirus SARS-CoV-2, the Cause of COVID-19](#). Manufacturers of reusable, noncritical medical devices and equipment may recommend the use of certain generic disinfectants (e.g., sodium hypochlorite) at certain concentrations. But List N contains just EPA registration numbers and product brand names.

To help you more easily determine whether any products on the list match manufacturer disinfectant recommendations, we've created a table listing the disinfectant concentrations and contact times for products in List N. To compile this information, we searched EPA product registrations, amendments, master labels, and other applications.

Please note that this table is two entries shorter than List N, which contains duplicate listings for two registration numbers (1839-83, 6836-289).

<b>Disinfectant Concentrations and Contact Times for Products Effective against Novel Coronavirus SARS-CoV-2</b>				
<b>EPA Reg. No.</b>	<b>Primary Registered Product Name</b>	<b>Active Disinfectant</b>	<b>Disinfectant Concentration (by weight)</b>	<b>Disinfectant Contact Time (min)</b>
<a href="#"><u>1677-129</u></a>	Oxonia Active	Hydrogen peroxide	27.5%	Not specified
		Peroxyacetic acid	5.8%	
<a href="#"><u>1677-226</u></a>	Virasept	Hydrogen peroxide	3.130%	2
		Octanoic acid	0.099%	
		Peroxyacetic acid	0.050%	
<a href="#"><u>1677-235</u></a>	Bath & Tile Disinfecting Cleaner	Sodium hypochlorite (bleach)	2.15%	Not specified
<a href="#"><u>1677-237</u></a>	OxyCide	Hydrogen peroxide	27.5%	3

	Daily Disinfectant Cleaner	Peroxyacetic acid	5.8%	
<u>1677-238</u>	Peroxide Multi Surface Cleaner and Disinfectant	Hydrogen peroxide	8.0%	5
<u>1677-249</u>	XHC-IA	Isopropyl alcohol	62.7%	5
<u>1677-251</u>	Peroxide Disinfectant and Glass Cleaner RTU	Hydrogen peroxide	0.39%	5
<u>1839-220</u>	SC-RTU Disinfectant Cleaner	n-Alkyl (60% C <sub>14</sub> , 30% C <sub>16</sub> , 5% C <sub>12</sub> , 5% C <sub>18</sub> ) dimethyl benzyl ammonium chloride	0.15%	Not specified
		n-Alkyl (68% C <sub>12</sub> , 32% C <sub>14</sub> ) dimethyl ethylbenzyl ammonium chloride	0.15%	
<u>1839-248</u>	Stepan Spray Disinfectant Concentrate	Didecyl dimethyl ammonium chloride	16.84%	Not specified
<u>1839-83</u>	Detergent Disinfectant Pump Spray	n-Alkyl (60% C <sub>14</sub> , 30% C <sub>16</sub> , 5% C <sub>12</sub> , 5% C <sub>18</sub> ) dimethyl benzyl ammonium chloride	0.105%	2
		n-Alkyl (68% C <sub>12</sub> , 32% C <sub>14</sub> ) dimethyl ethylbenzyl ammonium chloride	0.105%	
<u>4091-21</u>	Condor 2	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	0.200%	1
		Octyl decyl dimethyl ammonium chloride	0.150%	
		Didecyl dimethyl ammonium chloride	0.075%	
		Diocetyl dimethyl ammonium chloride	0.075%	
<u>4091-22</u>	Raptor 5	Citric acid	2.50%	5
		n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	0.32%	
		Octyl decyl dimethyl ammonium chloride	0.24%	

		Didecyl dimethyl ammonium chloride	0.12%	
		Diocetyl dimethyl ammonium chloride	0.12%	
<u>42182-9</u>	Firebird F130	Ethanol	68.610%	0.17
		n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	0.276%	
		Octyl decyl dimethyl ammonium chloride	0.207%	
		Didecyl dimethyl ammonium chloride	0.104%	
		Diocetyl dimethyl ammonium chloride	0.104%	
<u>47371-129</u>	Formulation HWS-256	Didecyl dimethyl ammonium chloride	10.14%	Not specified
		n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	6.76%	
<u>47371-130</u>	Formulation HWS-128	Didecyl dimethyl ammonium chloride	5.07%	Not specified
		n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	3.38%	
<u>47371-131</u>	Formulation HWS-64	Didecyl dimethyl ammonium chloride	2.54%	Not specified
		n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	1.69%	
<u>47371-192</u>	Formulation HWS-32	Didecyl dimethyl ammonium chloride	1.27%	Not specified
		n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	0.85%	
<u>56392-7</u>	Dispatch Hospital Cleaner Disinfectant with Bleach	Sodium hypochlorite (bleach)	0.65%	1
<u>5813-105</u>	HBL	Sodium hypochlorite (bleach)	0.65%	1
<u>5813-110</u>	Oui-Oui	Hydrogen peroxide	2.20%	5
<u>5813-111</u>	CLB	Sodium hypochlorite (bleach)	6.0%	5
<u>5813-114</u>	CLB I	Sodium hypochlorite (bleach)	6.05%	5
<u>5813-115</u>	Whip	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	0.13000%	5
		Octyl decyl dimethyl ammonium chloride	0.09750%	
		Didecyl dimethyl ammonium chloride	0.04875%	

		Dioctyl dimethyl ammonium chloride	0.04875%	
<u>5813-21</u>	Tackle	Sodium hypochlorite (bleach)	1.84%	0.5
<u>5813-40</u>	Pine-Sol Spray 19054	n-Alkyl (60% C <sub>14</sub> , 30% C <sub>16</sub> , 5% C <sub>12</sub> , 5% C <sub>18</sub> ) dimethyl benzyl ammonium chloride	0.1375%	Not specified
		n-Alkyl (68% C <sub>12</sub> , 32% C <sub>14</sub> ) dimethyl ethylbenzyl ammonium chloride	0.1375%	
<u>5813-79</u>	CDQ	n-Alkyl (60% C <sub>14</sub> , 30% C <sub>16</sub> , 5% C <sub>12</sub> , 5% C <sub>18</sub> ) dimethyl benzyl ammonium chloride	0.184%	0.25
		n-Alkyl (68% C <sub>12</sub> , 32% C <sub>14</sub> ) dimethyl ethylbenzyl ammonium chloride	0.184%	
<u>5813-89</u>	Swan	Sodium hypochlorite (bleach)	2.4%	Not specified
<u>63761-10</u>	Sterilex Ultra Step	Sodium carbonate peroxyhydrate	12.1%	10
		n-Alkyl (95% C <sub>14</sub> , 3% C <sub>12</sub> , 2% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	1.9%	
<u>63761-8</u>	Sterilex Ultra Disinfectant Cleaner Solution 1	Hydrogen peroxide	6.30%	10
		n-Alkyl (60% C <sub>14</sub> , 30% C <sub>16</sub> , 5% C <sub>12</sub> , 5% C <sub>18</sub> ) dimethyl benzyl ammonium chloride	3.00%	
		n-Alkyl (68% C <sub>12</sub> , 32% C <sub>14</sub> ) dimethyl ethylbenzyl ammonium chloride	3.00%	
<u>675-54</u>	Lysol Brand Heavy Duty Cleaner Disinfectant Concentrate	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	3.44%	5
<u>67619-12</u>	CPPC Tsunami	Sodium hypochlorite (bleach)	0.55%	1
<u>67619-16</u>	Cobalt	Sodium hypochlorite (bleach)	2.4%	10
<u>67619-17</u>	Shield	Sodium hypochlorite (bleach)	1.84%	0.5
<u>67619-21</u>	Carb	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	0.2520%	0.5
		Octyl decyl dimethyl ammonium chloride	0.1890%	
		Didecyl dimethyl ammonium chloride	0.0945%	

		Diocetyl dimethyl ammonium chloride	0.0945%	
<u>67619-24</u>	Blondie	Hydrogen peroxide	1.4%	0.5
<u>67619-25</u>	Dagwood	Hydrogen peroxide	1.4%	0.5
<u>67619-29</u>	Saginaw	Ethanol	66.34%	5
		Dipropylene glycol	5.31%	
<u>67619-30</u>	GNR	Sodium hypochlorite (bleach)	0.39%	1
<u>67619-31</u>	PPD CDQ	n-Alkyl (60% C <sub>14</sub> , 30% C <sub>16</sub> , 5% C <sub>12</sub> , 5% C <sub>18</sub> ) dimethyl benzyl ammonium chloride	0.184%	0.25
		n-Alkyl (68% C <sub>12</sub> , 32% C <sub>14</sub> ) dimethyl ethylbenzyl ammonium chloride	0.184%	
<u>67619-32</u>	PPD Puma	Sodium hypochlorite (bleach)	8.25%	5
<u>67619-33</u>	Stream	Hydrogen peroxide	2.20%	Not specified
<u>67619-37</u>	ELF	n-Alkyl (60% C <sub>14</sub> , 30% C <sub>16</sub> , 5% C <sub>12</sub> , 5% C <sub>18</sub> ) dimethyl benzyl ammonium chloride	0.25%	2
		n-Alkyl (68% C <sub>12</sub> , 32% C <sub>14</sub> ) dimethyl ethylbenzyl ammonium chloride	0.25%	
<u>67619-38</u>	Puff	n-Alkyl (60% C <sub>14</sub> , 30% C <sub>16</sub> , 5% C <sub>12</sub> , 5% C <sub>18</sub> ) dimethyl benzyl ammonium chloride	0.15%	2
		n-Alkyl (68% C <sub>12</sub> , 32% C <sub>14</sub> ) dimethyl ethylbenzyl ammonium chloride	0.15%	
<u>6836-140</u>	Lonza Formulation S-21F	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	2.20%	1
		Octyl decyl dimethyl ammonium chloride	1.65%	
		Didecyl dimethyl ammonium chloride	0.99%	
		Diocetyl dimethyl ammonium chloride	0.66%	
<u>6836-152</u>	Lonza Formulation DC-103	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	0.034%	1
		Octyl decyl dimethyl ammonium chloride	0.025%	
		Didecyl dimethyl ammonium chloride	0.015%	

		Diocetyl dimethyl ammonium chloride	0.010%	
<u>6836-266</u>	Bardac 205M-10	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	4.00%	1
		Octyl decyl dimethyl ammonium chloride	3.00%	
		Didecyl dimethyl ammonium chloride	1.80%	
		Diocetyl dimethyl ammonium chloride	1.20%	
<u>6836-278</u>	Bardac 205M- 14.08	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	5.632%	1
		Octyl decyl dimethyl ammonium chloride	4.224%	
		Didecyl dimethyl ammonium chloride	2.534%	
		Diocetyl dimethyl ammonium chloride	1.690%	
<u>6836-289</u>	Bardac 205M RTU	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	0.0184%	1
		Octyl decyl dimethyl ammonium chloride	0.0138%	
		Didecyl dimethyl ammonium chloride	0.0083%	
		Diocetyl dimethyl ammonium chloride	0.0055%	
<u>6836-302</u>	Bardac 205M-2.6	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	1.040%	1
		Octyl decyl dimethyl ammonium chloride	0.780%	
		Didecyl dimethyl ammonium chloride	0.468%	
		Diocetyl dimethyl ammonium chloride	0.312%	
<u>6836-305</u>	Bardac 205M-23	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	9.2160%	1
		Octyl decyl dimethyl ammonium chloride	6.9120%	
		Didecyl dimethyl ammonium chloride	4.1472%	
		Diocetyl dimethyl ammonium chloride	2.7648%	
<u>6836-313</u>	Lonza Disinfectant Wipes	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	0.093%	Not specified
		Octyl decyl dimethyl ammonium chloride	0.069%	

		Didecyl dimethyl ammonium chloride	0.042%	
		Diocetyl dimethyl ammonium chloride	0.028%	
<u>6836-340</u>	Lonza Disinfectant Wipes Plus 2	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	0.1212%	10
		Octyl decyl dimethyl ammonium chloride	0.0909%	
		Didecyl dimethyl ammonium chloride	0.0545%	
		Diocetyl dimethyl ammonium chloride	0.0364%	
<u>6836-349</u>	Lonzagard RCS-256 Plus	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	8.90%	3
		Octyl decyl dimethyl ammonium chloride	6.67%	
		Didecyl dimethyl ammonium chloride	4.00%	
		Diocetyl dimethyl ammonium chloride	2.67%	
<u>6836-361</u>	Nugen MB5A-256	Diocetyl dimethyl ammonium chloride	16.11%	5
		n-Alkyl (67% C <sub>12</sub> , 25% C <sub>14</sub> , 7% C <sub>16</sub> , 1% C <sub>18</sub> ) dimethyl benzyl ammonium chloride	10.74%	
<u>6836-364</u>	Nugen MB5N-256	Diocetyl dimethyl ammonium chloride	21.05%	5
		n-Alkyl (67% C <sub>12</sub> , 25% C <sub>14</sub> , 7% C <sub>16</sub> , 1% C <sub>18</sub> ) dimethyl benzyl ammonium chloride	14.03%	
<u>6836-365</u>	Nugen MB5N-128	Diocetyl dimethyl ammonium chloride	10.53%	5
		n-Alkyl (67% C <sub>12</sub> , 25% C <sub>14</sub> , 7% C <sub>16</sub> , 1% C <sub>18</sub> ) dimethyl benzyl ammonium chloride	7.02%	
<u>6836-70</u>	Bardac 205M-7.5	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	3.00%	1
		Octyl decyl dimethyl ammonium chloride	2.25%	
		Didecyl dimethyl ammonium chloride	1.35%	
		Diocetyl dimethyl ammonium chloride	0.90%	
<u>6836-75</u>	Lonza Formulation S-21	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	2.20%	1



		Octyl decyl dimethyl ammonium chloride	1.65%	
		Didecyl dimethyl ammonium chloride	0.99%	
		Diocetyl dimethyl ammonium chloride	0.66%	
<u>6836-77</u>	Lonza Formulation S-18	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	4.340%	1
		Octyl decyl dimethyl ammonium chloride	3.255%	
		Didecyl dimethyl ammonium chloride	1.953%	
		Diocetyl dimethyl ammonium chloride	1.302%	
<u>6836-78</u>	Lonza Formulation R-82	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	8.680%	1
		Octyl decyl dimethyl ammonium chloride	6.510%	
		Didecyl dimethyl ammonium chloride	3.906%	
		Diocetyl dimethyl ammonium chloride	2.604%	
<u>70627-24</u>	Virex II/256	Didecyl dimethyl ammonium chloride	8.704%	10
		n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	8.190%	
<u>70627-56</u>	Oxivir TB	Hydrogen peroxide	0.5%	1
<u>70627-58</u>	Oxy-Team Disinfectant Cleaner	Hydrogen peroxide	4.25%	5
<u>70627-60</u>	Oxivir Wipes	Hydrogen peroxide	0.5%	1
<u>70627-72</u>	Avert Sporicidal Disinfectant Cleaner	Sodium hypochlorite (bleach)	1.312%	1
<u>70627-74</u>	Oxivir 1	Hydrogen peroxide	0.5%	0.5
<u>70627-77</u>	Oxivir 1 Wipes	Hydrogen peroxide	0.5%	0.5
<u>71847-6</u>	KLORSEPT	Sodium dichloro-s-triazinetrione	48.21%	1
<u>71847-7</u>	Klorkleen 2	Sodium dichloro-s-triazinetrione	48.21%	1
<u>777-127</u>	Andes	Ethanol	58.00%	0.5
		n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> )	0.10%	

		dimethyl benzyl ammonium chloride		
<u>777-132</u>	Taj Mahal	Hydrochloric acid	9.50%	10
<u>777-70</u>	Lysol Brand Fresh Scent Cling Thick Liquid Disinfectant Toilet Bowl Cleaner	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	0.49%	0.5
		Octyl decyl dimethyl ammonium chloride	0.37%	
		Didecyl dimethyl ammonium chloride	0.22%	
		Diocetyl dimethyl ammonium chloride	0.14%	
<u>777-81</u>	Lysol Brand Disinfectant Toilet Bowl Cleaner	Hydrochloric acid	9.50%	10
<u>777-83</u>	Lysol Brand Disinfectant Bleach Plus	Sodium hypochlorite (bleach)	2.0%	0.5
<u>777-89</u>	Lysol Brand All Purpose Cleaner	n-Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium chloride	1.1856%	3
<u>777-99</u>	Brace	Ethanol	58.00%	0.5
		Alkyl (50% C <sub>14</sub> , 40% C <sub>12</sub> , 10% C <sub>16</sub> ) dimethyl benzyl ammonium saccharinate	0.10%	
<u>84368-1</u>	UrthPRO	Ethyl alcohol	29.4%	0.5
85150-1	PURELL Professional Surface Disinfectant Wipes	A search of the EPA Pesticide Product and Label System found no information for this EPA Registration Number.		
<u>88494-3</u>	Peak Disinfectant	Ethyl alcohol	72.50%	1
		Didecyl dimethyl ammonium chloride	0.33%	
<u>88494-4</u>	Peak Disinfectant Wipes	Ethyl alcohol	72.50%	1
		Didecyl dimethyl ammonium chloride	0.33%	
<u>9480-10</u>	Wonder Woman Formula B	Isopropyl alcohol	28.70%	1
		Ethyl alcohol	27.30%	
		Didecyl dimethyl ammonium chloride	0.61%	
<u>9480-12</u>	Wonder Woman	Isopropyl alcohol	28.70%	1

	Formula B Germicidal Wipes	Ethyl alcohol	27.30%	
		Didecyl dimethyl ammonium chloride	0.61%	
<u>9480-14</u>	Project Flash Spray	Hydrogen peroxide	4.04%	1

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