



## HAND HYGIENE AND FIRE SAFETY IN HEALTHCARE FACILITIES GO HAND IN HAND *Alcohol-based Hand Sanitizer Storage and Dispensers*

### **Patients and residents of healthcare facilities count on you to keep them safe.**

Hand hygiene is a critically important prevention measure in all healthcare settings. Each year between 1 and 3 million residents of nursing homes or skilled nursing facilities develop healthcare acquired infections and as many as 380,000 people die of these infections.<sup>1</sup> Among hospitalized patients, on any given day, about 1 in 31 has an healthcare-associated infection.<sup>2</sup> Alcohol-based hand sanitizer (ABHS) effectively kills most germs carried on the hands of healthcare workers and is recommended for use by the CDC.

### **Healthcare facilities must ensure fire safety when alcohol-based hand sanitizer is used.**

ABHS contains ethyl alcohol, which readily evaporates at room temperature into an ignitable vapor, and is considered a flammable liquid. Although the incidence of fires related to ABHS is very low, it is vital that ABHS is stored safely and that dispensers are installed and maintained correctly.

### **Local and State Officials have authority to enforce fire safety laws and standards in healthcare facilities.**

Building officers, local, and state fire marshals work together to protect patients and residents by enforcing fire safety rules. Fire safety includes activities that reduce sources of ignition, ensures storage of flammable liquids in a safe manner, and establishes methods for quick exits in case of fire. Building officers and local fire marshal may work together to make sure ABHS dispensers are accessible and in locations that do not increase the chances of igniting or spreading a fire.

### **The Centers for Medicaid and Medicare Services (CMS) requires healthcare facilities to follow the Life Safety Code.**

Adherence to the National Fire Protection Association (NFPA) Life Safety Code 101 was adopted by CMS as a minimum fire safety requirement for facilities that receive Medicaid or Medicare reimbursement. The Life Safety Code contains national standards for the storage of ABHS, as well as placement and function of dispensers. When facilities use ABHS all of the criteria listed in Table 1 must be met.

### **Work with your local fire official.**

Healthcare facilities may contact their local fire officials to ensure that requirements related to the installation of ABHS have been met. Local fire officials often inspect commercial buildings, and may be required to do so. In healthcare facilities, they may be very receptive to planning these tours to meet their requirement, refresh their familiarity with the structure, and identify vulnerabilities. There are several advantages to the healthcare facilities initiating the request of such a tour including building relationships and demonstrating a commitment to safety.



This material was developed by CDC. The Clean Hand, Count Campaign, made possible by a partnership between the CDC Foundation, GOJO and Staples.

[www.cdc.gov/handhygiene/firesafety/index.html](http://www.cdc.gov/handhygiene/firesafety/index.html)

Accessible Version: <https://www.cdc.gov/handhygiene/firesafety/index.html>

**Table 1. NFPA 101 Life Safety Code Requirements for the use of Alcohol Based Hand Sanitizer Dispensers,**

<b>Criteria</b>	<b>Requirement</b>
Hand ,ub ,olutjon ,	Mu, t not , xce, d 95% alcohol cont, nt by volum. (Th, C, nt, fo, Dis, a, Cont,ol and , P, v, ntjon , comm, nd, that ABHS contain at lea, t 60% alcohol.) ,
Maxjmum d, p, n, flujd , capacity ,	1.2 lit, (41 ounce, 0.32 gal) fo, d, p, n, jn ,oom, co, do, and a, a, op, n to , co, ido, . , 2.0 lit, (67 ounce, 0.53 gal) fo, d, p, n, jn ,u, t, of ,oom, , pa, at, d f, om co, ido, . ,
Maxjmum quantjty jn , a, o, ol conta, n, ,	18 oz., lim, t, d to L, v, l 1 a, o, ols, a, d, f, n, d by NPFA 30 B. ,
Maxjmum quantjty of , ABHS allow, d jn- u, (, , , , in d, p, n, ) ,	T, n gallon, (37.8 L) jn- u, out, d, of a , to, ag, cab, n, t wjth jn a ,ngle, , mok, , compa, tm, nt.* , On, d, p, n, p, , oom off co, ido, , NOT jnclud, d jn th, calculatjon. ,
M, njmum co, ido, wj dth ,	Sjx f, t (1830 mm) w, d, ,
ABHS d, p, n, d, tance,, f, om ,gn, tjon , ou, c, ,	On, -inch (25 mm) d, tance, (ho, izontal o, v, tjcal) abov, to th, , d, o, b, n, ath an ,gn, tjon , ou, ce,** , Not, : Wh, le, on, -inch , acc, ptabl, a mo, con, vat, v, app, oach , to, n, u, a d, tance, of, no le, than 6 jnch, (12.7 mm; ho, izontal o, v, t, cal, m, a, u, d f, om th, cent, of th, , d, p, n, ) b, tw, n ABHR d, p, n, and , ou, ce, of jgn, tjon. ,
ABHS d, p, n, , pa, atjon ,	Ho, izontal , pacing not le, than 48 jnch, (1220 mm). ,
Ca, p, t, d a, a, ,	Th, , mok, compa, tm, nt mu, t b, , quipp, d th, oughout wjth an app, ov, d automat, c, p, inkle, , y, t, m. ,
Op, atjon of th, d, p, n, ,	Th, d, p, n, , hall: , <ul style="list-style-type: none"> <li>• Not , lea, , t, cont, nt, , xc, pt wh, n th, d, p, n, , act, vat, d, , ith, manually o, , automatjcall, y by touch- f, actjvatjon. ,</li> <li>• Not d, p, n, mo, , olutjon than th, amount , qu, d fo, hand hygien, con, t, nt, wjth lab, l, n, t, uctjon, . ,</li> <li>• B, d, gn, d, con, t, uct, d and op, at, d jn a mann, that , n, u, accid, ntal o, , maliciou, act, vatjon , m, n, m, z, d. ,</li> <li>• B, t, t, d jn acco, dance, wjth th, manufactu, ' , ca, and u, , n, t, uctjon, , ach , t, m, a n, w, f, ll , , n, talle, d. ,</li> </ul> Any actjvatjon of th, d, p, n, , hall only occu, wh, n an obj, ct , plac, d wjthjn 4 jnch, , (100mm) of th, , n, o, . , An obj, ct plac, d wjthjn th, actjvatjon zon, and left jn place,, hall not cau, mo, than on, , actjvatjon. ,
Sto, age, out, d, of , d, p, n, ,	In , ach , mok, compa, tm, nt do not , to, out, d, of d, p, n, mo, than 5 gal (18.9 L) o, , an amount of ABHR that , xce, d, that wjch , n, c, a, y fo, no, mal majnt, nance, of th, , a, a, wh, ch, v, , le, . ,
Maxjmum quantjty fo, , to, age, jn a wa, hou, ,	Up to 120 gal (460 L). If n, d to , xce, d, to, age, of 120 gal (460 L), con, ult wjth f, offjcial. <sup>4</sup> ,

\*Smoke, compa, tm, nt: A, pac, w, th, n a bu, ld, ng , nclo, d by , moke, ba, on all, d, , nclud, ng th, top and bottom.<sup>5</sup>

\*\*Sou, c, of ,gn, t, on: Appl, anc, o, , qu, pm, nt that, b, cau, of th, , nt, nd, d mod, of u, o, op, at, on, a, capabl, of p, ov, d, ng , uff, c, nt th, mal, n, gy to ,gn, t, flammabl, ga, -a, m, xtu. .<sup>5</sup> Exampl, , nclud, wall outl, t, th, mo, tat, and appl, anc, . ,

R, fe, nc, : ,

1. [http://www.cdc.gov/longt\\_mcar/\\_nd\\_x.html](http://www.cdc.gov/longt_mcar/_nd_x.html) ,
2. [http://www.cdc.gov/hai/data/\\_nd\\_x.html](http://www.cdc.gov/hai/data/_nd_x.html) ,
3. Nat, onal F, P, ot, ct, on A, oc, at, on [NFPA]. *NFPA 101 Life Safety Code*. 2018 edition. Quincy, MA: National Fire Protection Association; 2018. Available at: <https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=101>
4. NFPA. *NFPA 30 Flammable and Combustible Liquids Code*. 2018 edition. Quincy, MA: National Fire Protection Association, 2018. Available at [NFPA]. NFPA glossary of terms. [https://www.nfpa.org/-/media/Files/Codes-and-standards/Glossary-of-terms/glossary\\_of\\_terms\\_2019.ashx?la=en](https://www.nfpa.org/-/media/Files/Codes-and-standards/Glossary-of-terms/glossary_of_terms_2019.ashx?la=en). Updated February 2019. Accessed February 14, 2019.
5. National Fire Protection Association [NFPA]. NFPA glossary of terms. [https://www.nfpa.org/-/media/Files/Codes-and-standards/Glossary-of-terms/glossary\\_of\\_terms\\_2019.ashx?la=en](https://www.nfpa.org/-/media/Files/Codes-and-standards/Glossary-of-terms/glossary_of_terms_2019.ashx?la=en). Updated February 2019. Accessed February 14, 2019.