

# FORMALDEHYDE

## NATIONAL SECURITY APPLICATIONS



Formaldehyde is a critical building block and an essential ingredient in producing resilient, advanced, and high-reliability products used across the United States' national security enterprise. It has a long history of safe use in the national security sector. According to Rep. Jack Bergman (MI), Chair of the House Armed Services Intelligence and Special Operations Subcommittee, "EPA... risk evaluation activities for formaldehyde... would not only have enormous economic impacts across dozens of industries and impact the competitiveness of American manufacturers, but also threaten national security."<sup>1</sup>

### Here are some common uses of formaldehyde in national security:



**1 Munitions/Ballistics:** Formaldehyde is needed to make munitions and ballistics as well as used in the production of tires and other materials. Without the ability to produce formaldehyde domestically, the US would be forced to source it from other countries.



**5 Theater Military Bases:** Many theater military bases utilize sustainable wood products created with formaldehyde, like plywood, particleboard, and fiberboard, to build barracks, offices, and other structures. Shipping containers used to transport these materials and build temporary base structures are also treated with formaldehyde-derived polymers.<sup>4</sup>



**2 Military Equipment:** Formaldehyde-based resins are used to produce lightweight, durable equipment that can reduce carry weights by as much as 20 pounds. This reduced weight helps increase user agility and safety in accordance with the U.S. Department of Defense War Fighting Science and Technology Plan.<sup>2</sup>



**6 Military Vehicles:** In the automotive industry, formaldehyde-based technologies are used to make interior molded and under-the-hood components that allow for higher fuel efficiency by reducing vehicle weight. It is also used in the production of highly durable exterior primers, clear coat paints, tire-cord adhesives, brake pads and fuel system components.<sup>1</sup>



**3 Military Uniforms:** Military uniforms and gear are made with formaldehyde-based resins to enhance their durability and resistance to wear and tear, improve crease resistance, and increase the flame retardancy of military-issue textiles. Military textiles treated with formaldehyde also show improved infrared camouflage capabilities.<sup>3</sup>



**7 Decontamination:** Formalin, a solution of formaldehyde in water, is used by the military as a decontaminant to neutralize biological threats, including bacterial spores.<sup>5</sup>



**4 Anti-Corrosive:** In military storage facilities, formaldehyde may be used as an anti-corrosive treatment to maintain equipment and vehicle readiness.



**8 Food Supply:** Outside of the U.S. Defense Department, formaldehyde also helps protect our country's food supply, which is key to our national security. It is used in the agricultural industry for various purposes including crop protection and crop nutrition products, like slow-release fertilizers, herbicides, and pesticides. Formaldehyde can also treat animal feed and help prevent salmonella and African Swine Fever.<sup>6</sup>

<sup>1</sup> Bergman, Jack. "Bergman Presses Biden EPA on Unrealistic and Unachievable Standards." Received by Secretary of Defense Lloyd J. Austin III and EPA Administrator Michael S. Regan, 19 Sept. 2023. <https://bergman.house.gov/news/documentsingle.aspx?DocumentID=1121>

<sup>2</sup> SAE Media Group. "Designing with Plastics for Military Equipment." Mobility Engineering Technology, 11 Apr. 2018, [www.mobilityengineeringtech.com/component/content/article/adt/pub/features/articles/28784](http://www.mobilityengineeringtech.com/component/content/article/adt/pub/features/articles/28784).

<sup>3</sup> Degenstein, Lauren M., et al. "Smart textiles for visible and IR camouflage application: State-of-the-art and microfabrication path forward." *Micromachines*, vol. 12, no. 7, 2021, p. 773, <https://doi.org/10.3390/mi12070773>.

<sup>4</sup> U.S. Army Public Health Command. Formaldehyde – Deployment Occupational and Environmental Health Concerns, [phc.amedd.army.mil/PHC%20Resource%20Library/Formaldehyde%20FS%2055-012-1011.pdf](http://phc.amedd.army.mil/PHC%20Resource%20Library/Formaldehyde%20FS%2055-012-1011.pdf). Accessed 23 Oct. 2023.

<sup>5</sup> Army Medical Department Center & School, Fort Sam Houston. Multiservice Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Decontamination, Apr. 2006, [apps.dtic.mil/sti/tr/pdf/ADA523781.pdf](http://apps.dtic.mil/sti/tr/pdf/ADA523781.pdf).

<sup>6</sup> American Chemistry Council. *Formaldehyde is essential to safety and economic stability in food, agriculture sectors.* <https://www.americanchemistry.com/content/download/12415/file/Formaldehyde-Is-Essential-to-Safety-and-Economic-Stability-in-Food-Agriculture-Sectors.pdf>