

Fire suppression solutions and best practices



For combustible handling equipment and storage systems



Our emphasis on safety

For us, nothing is more important than safety—not sales, not production, not profits. It is a commitment we all share and one that we share with our customers. We design and operate our gas facilities worldwide to the highest safety standards. Among our peers in the gas industry, Air Products consistently demonstrates world-class performance in preventing injuries. We continue to deliver record low recordable rates and are on a mission to be an industry leader in safety by continually reducing our injury rates.

Storage and handling of biomass fuels, such as wood pellets and coal, can present a significant fire risk if it is not managed properly. Since a silo fire can be extremely difficult to extinguish, it can lead to the complete loss of stored material and to an extended production loss by the plant—which can be devastating and expensive. At Air Products, nothing is more important than safety and our team of experts can review your set-up to recommend solutions to your operational challenges.

Solutions you can depend on

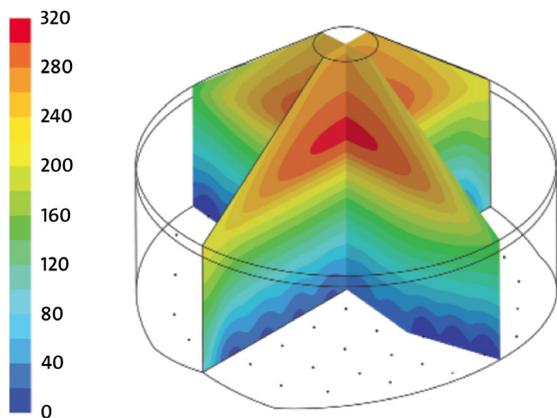
By proactively inerting your storage silos with nitrogen or carbon dioxide (separately or together), you can prevent and suppress silo fires. This preventative technique lowers the oxygen concentration in the storage area and reduces the build-up of other combustible gases in the silo headspace. Since combustion cannot be sustained below the limiting oxygen concentration of the biomass, the silo and its contents are protected.

By working with Air Products to design your gas inerting system, you can draw on our range of solutions, including computational modeling, gas supply and flow control systems, gas injection nozzles, temperature sensors, monitoring systems, and safety training. Our selection of proprietary gas injection nozzles can help to alleviate plugging from fine particles. We can design a system to monitor temperature, potential flame and oxygen concentration in your process. If a fire is detected, you can extinguish it rapidly through the introduction of the inert gas.

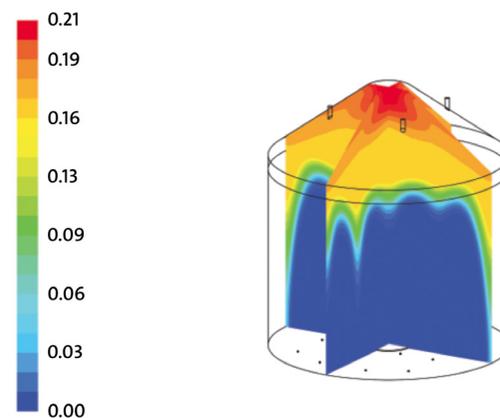
Modeling to simulate your operation

Air Products applications engineers can create computational fluid dynamic (CFD) models to simulate generation and spatial distribution of combustible gases within your system, using standard or material specific reaction models. We can even mimic your silos specific geometry. After our team determines how much gas is needed to keep your atmosphere below the flammability limit, they can determine the optimal number and placement of gas injection nozzles to help ensure uniform gas dispersion with optimal gas usage. Our team can also use CFD modeling to estimate how quickly the oxygen level can be reduced below the limiting oxygen concentration where a fire can't be sustained.

Volatile gas concentration in a silo



Transient oxygen distribution as nitrogen is injected into silo



The Air Products Advantage

With decades of experience, Air Products can design and implement a cost-effective inerting system that is customized for your operation to help you prevent and suppress silo fires. Contact us at a location near you to discuss your operation.

For more information,
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