



Hydrolysate Shipment Frequently Asked Questions

The [Blue Grass Chemical Agent-Destruction Pilot Plant](#) (BGCAPP) is safely destroying 523 tons of chemical agent located at the [Blue Grass Army Depot](#) (BGAD) near Richmond, Kentucky. A portion of the stockpile includes GB and VX nerve agent in rockets and projectiles. As BGCAPP neutralizes nerve agent, it creates a product called hydrolysate. A system originally intended to process the hydrolysate on site [encountered operational issues during testing](#) that would not have been resolved in time to meet the treaty commitment of Sept. 30, 2023. Therefore, after studies and coordination with the local community, the Assembled Chemical Weapons Alternatives (ACWA) program executive officer [made the decision to ship hydrolysate off site](#) for further processing at a permitted hazardous waste treatment, storage and disposal facility. Hydrolysate shipments began Oct. 7, 2021.

What is hydrolysate?

When chemical agent is neutralized, it produces a wastewater product known as hydrolysate. After nerve agent is drained from munitions, it is mixed with hot water and caustic. The resulting product, hydrolysate, is tested by laboratory analysts to ensure chemical agent destruction before being transferred to a storage tank. Hydrolysate has a high pH, making it comparable to a commercial drain cleaner or liquid bleach.

Where will hydrolysate be shipped and how will it be treated?

The systems contractor, [Bechtel Parsons Blue Grass](#), selected Veolia Environmental Services as the subcontractor to receive hydrolysate. This permitted treatment, storage and disposal facility near Port Arthur, Texas, has received and treated the same type of waste from several chemical weapons destruction facilities and operations since 2007. The hydrolysate will be treated by a standard industrial hazardous waste incineration process.

Is it safe to transport hydrolysate?

Yes. Hydrolysate has been previously shipped from other chemical demilitarization facilities in the U.S. and from BGAD. In 2009, 1,000 gallons of GB nerve agent hydrolysate was shipped from Kentucky to the Veolia facility near Port Arthur, Texas, as part of [Operation Swift Solution](#). In addition, all VX nerve agent hydrolysate from the Newport Chemical Agent Disposal Facility in Indiana was incinerated at Veolia. Most recently, the [Pueblo Chemical Agent-Destruction Pilot Plant](#) in Colorado shipped more than 842,000 gallons of mustard agent hydrolysate to Veolia for processing in 2018 and 2020. Safety of the workforce, community and environment is a top priority for the project. The utmost care and attention to detail will be followed when shipping hydrolysate from BGCAPP. Prior to shipment, the project completed a transportation risk assessment, and all applicable state laws and Department of Transportation regulations will be followed.

How much hydrolysate is projected to be shipped? How long will it take? How many trucks will be transporting the hydrolysate?

The BGCAPP facility is projected to produce approximately 1.8 million gallons of hydrolysate over a three-year period. It will require about 450 tanker truckloads through the end of munitions processing operations.

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How will the shipments be tracked, guarded, and monitored during transit?

The Department of Transportation has strict regulations about the care and travel of tanker trucks on the road. Trucks are inspected before travel and every two hours during the trip to ensure a safe load, and are tracked using a global positioning system, known as GPS. Drivers have commercial drivers' licenses with hazardous materials endorsements and are trained to Department of Transportation and Occupational Safety and Health Administration standards for emergency activities.

Is hydrolysate a dangerous substance?

Hydrolysate is a caustic liquid substance (high pH) similar to drain cleaner or bleach. Hazards include contact and inhalation. The hydrolysate will be shipped by trained personnel following strict procedures and using proper equipment.

Has emergency response been considered in the event of an accident during transit?

Yes. The utmost care and attention to detail will be followed when shipping hydrolysate via tanker trucks from Kentucky to Texas. All applicable regulations and emergency response procedures will be followed. However, if an accident were to occur, emergency responders are trained to handle spills of hazardous materials in accordance with applicable rules and regulations.

Does shipping hydrolysate off site require any approvals from environmental agencies?

Yes. On Oct. 15, 2020, BGCAPP submitted a permit modification request to the Kentucky Department for Environmental Protection (KDEP) to ship hydrolysate off site. On Sept. 23, 2021, KDEP approved the permit modification. The project also completed a transportation risk assessment as a requirement. Additionally, BGCAPP will continue to keep the local communities informed about off-site shipment planning.

What happens if the off-site facility has a problem and cannot accept the hydrolysate?

The BGCAPP Hydrolysate Storage Area tanks have ample capacity to hold hydrolysate generated at BGCAPP for a specified amount of time as outlined in environmental permitting by KDEP. This storage capacity and permitted flexibility combine to provide a substantial buffer against interruptions in nerve agent destruction that could otherwise result from interruptions in the transfer of hydrolysate to the off-site facility.

How can I stay informed about hydrolysate shipments?

Information about hydrolysate shipment is available on the PEO ACWA website: [Hydrolysate Shipments from BGCAPP](#). Information will also be provided at quarterly public meetings of the [Kentucky Chemical Demilitarization Citizens' Advisory Commission and Chemical Destruction Community Advisory Board](#) and in the BGCAPP [e-newsletter](#). Information may also be obtained by contacting the [Blue Grass Chemical Stockpile Outreach Office](#) at (859) 626-8944 or bgoutreach@iem.com.