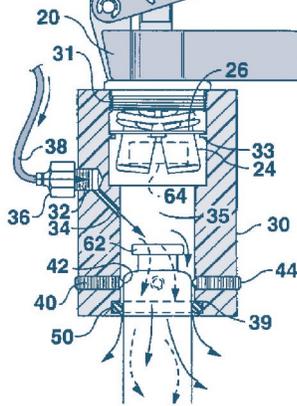




## Apparatus for Filling and Crimp Sealing a Vial with a Gaseous Sample



The Crimper Apparatus allows the use of small, inexpensive and transportable glass vials commonly used for solid and liquid sampling to be used for gas sampling. This device replaces the existing screw collar of a standard crimping tool (American Scientific) with a modified collar that allows gaseous samples to be collected and transported to an analytical laboratory using standard headspace vials. The collar permits operation of the crimping tool while also facilitating the introduction of a supply of gas into a storage vial. The introduced gas supply is used to purge ambient air from a collection chamber and an interior of the sample vial. Upon completion of the purging operation, the vial is sealed using the crimping tool.

### Background

The Savannah River National Laboratory (SRNL) gas sampling technology allows the use of small, inexpensive and transportable glass vials commonly used for solid and liquid sampling to be used for gas sampling. Improvements include the need for less sampling equipment, reduced cost of equipment, longer sample shelf life, and improved sample transportability. The apparatus also speeds analysis by easing automation.

The device was created to make gas sampling from environmental remediations simpler and more cost effective. In the process of adapting the soil and liquid vials to gas sampling the previous vial crimping device was found to be cumbersome and inadequate. The search for a simpler more effective method led to the development of the crimper apparatus.

### at a glance

- adapts existing technology for liquid and solid sampling to gas sampling.
- eliminates need for gas specific sampling equipment
- reduces sampling costs utilizing small disposable standardized glass vials
- increases sample shelf life and portability
- speeds results and reduces labor through automation of analysis

Existing technology includes Summa type canisters, and Tedlar bags. Summa canisters allow relatively long sample storage times and because of their rigid nature can be transported by air to distant laboratories. However, the units are expensive, approximately \$1,000 each and require special laboratory preparation and handling. Tedlar bags, while inexpensive to use, can not be transported via air because of their pliable construction, i.e., changes in atmospheric pressure during air travel may cause the bags to degas or introduce air and compromise a sample.

## Technology transfer

The Savannah River National Laboratory (SRNL) is the applied research and development laboratory at the Savannah River Site (SRS). With its wide spectrum of expertise in areas such as homeland security, hydrogen technology, materials, sensors, and environmental science, SRNL's cutting edge technology delivers high dividends to its customers.

SRNL and SRS are managed for the U.S. Department of Energy by Washington Savannah River Company (WSRC). WSRC is responsible for transferring technologies to the private sector so that these technologies may have the collateral benefit of enhancing the U.S. economic competitiveness.

## Partnering opportunity

WSRC invites interested companies with proven capabilities in this area of expertise to enter into a licensing agreement with WSRC to manufacture and market this device as a commercial product. Interested companies will be requested to submit a business plan setting forth company qualifications, strategies, activities, and milestones for commercializing this invention. Qualifications should include past experience at bringing similar products to market, reasonable schedule for product launch, sufficient manufacturing capacity, established distribution networks, and evidence of sufficient financial resources for product development and launch.

## for more information

**John Olschon**, Licensing Specialist

**Savannah River National Laboratory**  
Bldg. 773-41A, Rm. 239, Aiken, SC 29808

Phone: 803-725-8125 or 800-228-3843

Fax: 803-725-4988

E-mail: john.olschon@srnl.doe.gov

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