BROMOSORB™ ADSORPTION TECHNOLOGY FOR RECOVERY AND REUSE IN COMMERCIAL OPERATION

Prepared and Presented by: Vladan M. Veljovic

PRESENTATION SUMMARY

The first commercial Bromosorb unit in the world has been installed at the San Diego Unified Port District in 1995 and the first phase of acceptance testing has been performed with encouraging results.

This Bromosorb unit is designed to recover more than 95% of the available Methyl Bromide left in a 72,000 cu.ft. chamber after fumigation. A dilute stream of air and Methyl Bromide is circulated through the Bromosorb unit. The Methyl Bromide is adsorbed onto an inert zeolite material, called Halozite. For the next fumigation, the chamber is sealed and the Bromosorb unit desorbs the Methyl Bromide for reuse. The unit is automatically set to adsorb for 30 minutes and desorb for 15 minutes (leaving a further 15 min. for any Methyl Bromide make up). By utilizing a sophisticated analyzer which doubles as a mass measurement system, the fumigator is able to meet USDA protocols.

The unit underwent numerous cycles with 7 official tests, 1 on an empty chamber, 3 on a chamber with some pallets and cardboard box packaging and 3 on a chamber partially loaded with grapes as well as with pallets and packaging. Each test included a full cycle (adsorption and desorption). USDA and independent observation was present throughout the testing.

The Bromosorb unit was able to successfully achieve operating parameters without changing any conditions for fumigation prescribed in the USDA protocol. Further testing will be carried out in the next few months before the unit reverts to commercial operation.

Additional structural fumigation testing is in progress. These results will be incorporated into the presentation if the tests are concluded before the Conference in San Diego.

ABOUT THE AUTHOR

Vladan M. Veljovic is Manager, Commercial Development at Halozone Technologies Inc., Mississauga, ON. He has a B.S. in Mechanical Engineering from the University of Belgrade and 8 years experience in the development of environmental applications with adsorption and cryogenic technology. For the past 18 months he has been actively involved in the development of the Bromosorb technology for Methyl Bromide Recovery and Reuse.