

# ARCTECH inc.

PRESS RELEASE - AUGUST 10, 1989

## ARCTECH ANNOUNCES DEVELOPMENT OF ORGANIC BASE FERTILIZERS

ARCTECH, Inc. of Alexandria, Virginia, announced today the development of a liquid organic base from natural high carbonaceous materials for use in fertilizers. Utilizing proprietary technology, **ARCTECH** has reproduced the active ingredient in soil organic matter, **humic acid**, using a variety of sources such as coal, shale, peat, etc.

This breakthrough will allow the introduction of economically viable organic base fertilizers with high nutrient values that are currently associated with inorganic plant foods. Today, most organic fertilizers have such a low nutrient content that large quantities are required to be used to sustain optimum plant growth.

Humic acid products are the key requirements for optimum fertility of the soil and are believed to convert inorganic nutrients to plant available forms and hence act as nutrient activators. Humic acids are generally formed by the action of soil microorganisms on the organic humus matter. ARCTECH's humic acid closely resembles the naturally occurring humic acid of the soil. The past difficulty of incorporating the humic acid into fertilizers to enhance plant uptake has now been overcome by this development.

By incorporating ARCTECH's organic base termed ACTOSOL™, liquid fertilizers can be economically developed that are organic and can be applied through conventional equipment. Dr. Daman Walia, President of ARCTECH stated, "The use of our proprietary technology to degrade these high carbonaceous materials into ready to use liquids is the first step toward totally organic fertilizers. The organic base material was the stumbling block in this development."

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**ARCTECH PRESS RELEASE (Cont.)**

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ARCTECH is introducing two of its liquid organic base plant foods. Both are ready to use, one is a lawn product called Lawn ACTOSOL™ and the other is a garden product, Garden ACTOSOL™. Each allows the consumer to grow his lawn and garden organically.

ARCTECH is a "spin-off" company from Atlantic Research Corporation organized to seek commercialization of its biological technologies developed over the last several years. Atlantic Research Corporation is the nation's leading aerospace company and recently became a subsidiary of SEQUA Corporation, a New York Stock Exchange Company with annual sales in excess of \$1.3 billion. ARCTECH is composed of highly trained professionals with its focus on development and commercialization of its biotechnologies. Recently ARCTECH was recognized by the management consulting group of ARTHUR YOUNG as among the nation's top six leading bioprocess companies. ARCTECH, in joint cooperation with a large southwestern utility, is developing a novel process of biological conversion of coal to natural gas. Other significant developments are under study utilizing carbonaceous material in the production of alcohols for automobile fuel. ARCTECH researchers also received a congressional award for developing sulfur eating microorganisms to address the acid rain problem.

For further information, call Terry Seymour at 703/642-4075, ARCTECH, Inc., 5390 Cherokee Avenue, Alexandria, Virginia 22312.