



**3-decen-2-one Fact Sheet
March 15, 2013**

**Office of Pesticide Programs
U.S. Environmental Protection Agency**

3-decen-2-one (068403) Fact Sheet

Summary

3-decen-2-one is a biochemical pesticide active ingredient intended for postharvest use on stored potatoes as a sprout inhibitor. 3-decen-2-one is a naturally occurring biochemical substance that functions as a plant growth regulator, affecting plant growth by increasing tuber respiration. The use of 3-decen-2-one as a potato sprout inhibitor is not expected to cause any unreasonable adverse effects to human health or the environment.

I. Description of the Active Ingredient

3-decen-2-one is a biochemical pesticide active ingredient intended for postharvest use on stored potatoes as a sprout inhibitor. 3-decen-2-one is a naturally occurring biochemical substance, with a history of unremarkable human exposure. 3-decen-2-one functions as a plant growth regulator, affecting plant growth by increasing tuber respiration. Data on file indicate that 3-decen-2-one interferes with membrane integrity, which results in increased oxidative stress, desiccation, and rapid necrosis of the meristems and surrounding sprout tissues. Thus, 3-decen-2-one inhibits sprouting, with no observed effects on the potato, potato sweetening, or processing quality. 3-decen-2-one is approved by the U.S. Food and Drug Administration (FDA) for use as a synthetic agent and adjuvant that may be directly added to food under 21 CFR § 172.515.

II. Use Sites, Target Pests, and Application Methods

Use Sites:	Stored potatoes
Target Pests:	Plant growth regulator (sprout inhibitor)
Application Methods:	Thermal fog generator in a closed system

III. Assessing Risks to Human Health

Review of the required toxicity testing data and information indicate that 3-decen-2-one is of low acute toxicity (with the exception that it is an eye and skin irritant) and is not a developmental toxicant, a mutagen, or toxic via repeat oral exposure. There have been no reports of hypersensitivity incidents for 3-decen-2-one. Based on this information, no human health risks are expected when pesticide products containing 3-decen-2-one are used according to their respective label directions.

IV. Assessing Risks to the Environment

Significant exposure and risk to nontarget organisms is not expected for 3-decen-2-one because of the proposed indoor use pattern as a sprout inhibitor on potatoes. The end-use formulations will be introduced and dispersed as a vapor through air circulation systems in potato storage warehouse facilities and are not expected to be available to nontarget organisms.

V. Regulatory Information

This is the first registration of a product containing the new active ingredient, 3-decen-2-one. On December 8, 2009, EPA received an application filed by Technology Sciences Group, Inc. (TSG), 1150 18th Street, NW, Suite 1000, Washington, DC 20036, on behalf of Amvac Chemical Corporation (AMVAC), 4695 MacArthur Court, Ste. 1250, Newport Beach, CA 90660, to register the products, AMV-1018 Technical (EPA File Symbol No. 5481-LAI), AMV-1018 EP (EPA File Symbol No. 5481-LTR), AMV-1018 90EC (EPA File Symbol No. 5481-LTN), and AMV-1018 67.5EC (EPA File Symbol No. 5481-LAO) containing the new biochemical active ingredient, 3-decen-2-one under the provisions of section 3 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). The applicant withdrew AMV-1018 90EC (EPA File Symbol No. 5481-LTN) and AMV-1018 67.5EC (EPA File Symbol No. 5481-LAO) from consideration by EPA with the letter dated March 2, 2011. A notice of receipt (NOR) of this application, allowing for a 30-day comment period, was published in the *Federal Register* on March 10, 2010 (75 FR 11175) pursuant to the provisions of FIFRA section 3(c)(4). No comments were received following this publication.

VI. Applicant Information

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VII. Additional Contact Information

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