SUMMARY

(In accordance with 40 CFR part 152, this summary is available for public release after registration)

STUDY TITLE

Strain Review for *Delftia acidovorans,* the Source Organism for *aad-12*

DATA REQUIREMENTS

None

AUTHOR(S)

J.M. Lira

STUDY COMPLETED ON

14 April 2010

PERFORMING LABORATORY

Discovery Research
Dow AgroSciences LLC
9330 Zionsville Road
Indianapolis, Indiana 46268-1054

LABORATORY STUDY ID

JML100001

Strain Review for *Delftia acidovorans*, the Source Organism for *aad-12*

SUMMARY

The taxonomy and habitat, history of food use, and allergenicity and toxicity of *Delftia acidovorans* is summarized. *Delftia acidovorans* is the source organism for the *aad-12* gene.

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Strain Review for *Delftia acidovorans*, the Source Organism for *aad-12*

DATA REQUIREMENTS

None

AUTHOR(S)

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STATEMENT OF NO DATA CONFIDENTIALITY CLAIMS

Compound: AAD-12

Title: Strain Review for Delftia acidovorans, the Source Organism for *aad-12*

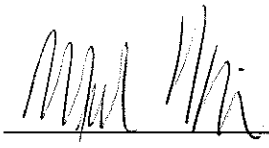
- STATEMENT OF NO DATA CONFIDENTIALITY CLAIMS:

  No claim of confidentiality, on any basis whatsoever, is made for any information contained in this document. I acknowledge that information not designated as within the scope of FIFRA sec. 10(d)(1)(A), (B), or (C) and which pertains to a registered or previously registered pesticide is not entitled to confidential treatment and may be released to the public, subject to the provisions regarding disclosure to multinational entities under FIFRA sec. 10(g).

Company: Dow AgroSciences LLC

Company Agent: M.S. Krieger

Title: Regulatory Manager

Signature: 

Date: 12 April 2010

THIS DATA MAY BE CONSIDERED CONFIDENTIAL IN COUNTRIES OUTSIDE THE UNITED STATES.

STATEMENT OF COMPLIANCE WITH GOOD LABORATORY PRACTICE STANDARDS

Title: Strain Review for *Delftia acidovorans,* the Source Organism for *aad-12*

Study Initiation Date: 03/01/2010

This report represents data generated after the effective date of the EPA FIFRA Good Laboratory Practice Standards.

United States Environmental Protection Agency
Title 40 Code of Federal Regulations Part 160
FEDERAL REGISTER, August 17, 1989

Organisation for Economic Co-Operation and Development
ENV/MC/CHEM(98)17, Paris January 26, 1998

This study does not meet requirements of 40 CFR Part 160.

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12 April 2010
Date

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Study Completion Date

QUALITY ASSURANCE STATEMENT

Compound: AAD-12

Title: Strain Review for *Delftia acidovorans*, the Source Organism for *aad-12*

Study Initiation Date: 03/01/2010 Study Completion Date: 04/14/2010

NON-GLP STUDY

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Title: Strain Review for *Delftia acidovorans*, the Source Organism for *aad-12*

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(Principle Investigator)

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Strain Review for *Delftia acidovorans*, the Source Organism for *aad-12*

ABSTRACT

The taxonomy and habitat, history of food use, and allergenicity and toxicity of *Delftia acidovorans* is summarized. *Delftia acidovorans* is the source organism for the *aad-12* gene.

INTRODUCTION

The taxonomy and habitat, history of food use, and allergenicity and toxicity of *Delftia acidovorans* is summarized. *Delftia acidovorans* is the source organism for the *aad-12* gene.

TAXONOMY AND HABITAT

Lineage (full): Bacteria; Proteobacteria; Betaproteobacteria; Burkholderiales; Comamonadaceae; Delftia

The current taxonomic classification for the bacterial strain that *aad-12* was derived from is *Delftia acidovorans* MC1. This strain was isolated from herbicide-contaminated building rubble (Muller et al., 1999), and shown to degrade a number of phenoxyalkanoic herbicides. This type species was originally classified as *Pseudomonas acidovorans* and then *Comamonas acidovorans*. It was later reclassified as *Delftia acidovorans* based on an analysis of 16S rRNA (Wen *et al.*, 1999). This species is a non glucose-fermenting, gram-negative, non spore-forming rod prevalent in soil and fresh water. Some species have also been isolated from activated sludge and clinical specimens.

HISTORY OF FOOD USE

Delftia acidovorans can be used to transform ferulic acid into vanillin and related flavor metabolites (Yoon *et. al.* 2005). This utility has led to a history of safe use for *D. acidovorans* in the food processing industry. For example, US Patent 5,128,253 "Bioconversion process for the production of vanillin" was issued on July 7, 1992 to Kraft General Foods (Labuda *et al.*, 1992).

This strain also produces polyhydroxyalkanoates that are being developed as biomaterials for medical applications (Sudesh 2004)

TOXICITY AND ALLERGENICITY

There are limited reports of *D. acidovorans* causing infections in compromised patients (Horowitz et. al. 1990). There are no reports of this strain producing any allergens.

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