

Product Safety Labs

PRODUCT

Wood's Rooting Compound

STUDY TITLE

Physical and Chemical Characteristics: Flammability

DATA REQUIREMENT

U.S. EPA Product Properties Test Guidelines, OPPTS 830.6315

AUTHOR

Catherine Wo, PhD

STUDY COMPLETED ON

February 20, 2013

PERFORMING LABORATORY

Product Safety Labs

LABORATORY STUDY NUMBER

35135

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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 10(g).

Submitter: _____

Date: _____

Name of Signer: _____

Name of Company: Earth Science Products Corp.

GOOD LABORATORY PRACTICE COMPLIANCE STATEMENT

Wood's Rooting Compound

This study meets the requirements of 40 CFR Part 160: U.S. EPA (FIFRA), 1989. Specific information related to the characterization of the test substance as received and tested is the responsibility of the study Sponsor (see Test Substance section).

Study Director: Catherine Wo

Date: Feb. 20, 2013

Name of Signer: Catherine Wo, PhD

Name of Company: Product Safety Labs

Sponsor: _____

Date: _____

Name of Signer: _____

Name of Company: Earth Science Products Corp.

Submitter: _____

Date: _____

Name of Signer: _____

Name of Company: Earth Science Products Corp.

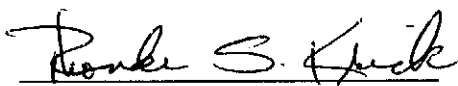
QUALITY ASSURANCE STATEMENT

The Product Safety Labs' Quality Assurance Unit has reviewed this final study report to assure the report accurately describes the methods and standard operating procedures, and that the reported results accurately reflect the raw data of the study.

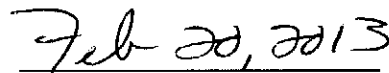
QA activities for this study:

QA Activity	Date Conducted	Date Findings Reported To Study Director And Management
Protocol review	Jun 21, 2012 ¹ ; Jan 2, 2013	Jun 21, 2012; Jan 2, 2013
In-process inspection: <i>Sample Prep for Flammability</i>	Dec 11, 2012	Dec 11, 2012
Raw data audit and Draft report review	Jan 2, 2013	Jan 2, 2013

Final report reviewed by:



Rhonda S. Krick, BS.
Quality Assurance Auditor
Product Safety Labs



Date

¹ PSL's "generic" protocol used for this study was reviewed by the Quality Assurance group on this date.

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PHYSICAL AND CHEMICAL CHARACTERISTICS: FLAMMABILITY

PROTOCOL NO.: P801

AGENCY: EPA (FIFRA)

STUDY NUMBER: 35135

SPONSOR: EARTH SCIENCE PRODUCTS CORP.
PO Box 327,
Wilsonville, Oregon 97070

TEST SUBSTANCE IDENTIFICATION: Wood's Rooting Compound
Lot #: 19

DATE RECEIVED: December 7, 2012

PSL REFERENCE NO.: 121207-1H

STUDY INITIATION DATE : December 10, 2012

DATES OF TESTING: December 11, 2012

NOTEBOOK NO.: 12-286: pages 44-54B; 55-66

1. PURPOSE

The objective of this study was to determine the flammability of Wood's Rooting Compound in order to meet physical and chemical properties data requirements for product registration.

2. MATERIALS

A. Test Substance (see Section 6, Amendment 2)

The test substance, identified as Wood's Rooting Compound, Lot #: 19, was received on December 7, 2012 and was further identified with PSL Reference Number 121207-1H. The test substance was stored at room temperature. The test was carried out on the test substance as received. Documentation of the methods of synthesis, fabrication, or derivation of the test substance is retained by the Sponsor.

The following information related to the characterization of the test substance was provided by the Sponsor unless otherwise noted:

Composition: Indole-3-Butric Acid – 1.03%
Naphthalene Acetic Acid – 0.66%
Isopropyl Alcohol – 36.67%
Water – 61.64%

Physical Description: Light yellow liquid

pH: 4.73

Solubility: Soluble in water.

Stability: Test substance was expected to be stable for the duration of testing.

Expiration Date: October 17, 2014

3. PROCEDURES

A. Flammability

The flammability of the test substance was tested according to US EPA OPPTS 830.6315, using the Pensky-Martens Closed Cup Technique (PMA-4) according to The American Society for Testing & Materials (ASTM) D93 Test Method. The temperature (°C) at which the tester detected a flashpoint was recorded.

4. STUDY CONDUCT

This study was conducted at Product Safety Labs' (PSL) test facility at 2394 US Highway 130, Dayton, New Jersey, 08810. The Study Director for this study was Catherine Wo, PhD. The primary chemist for this study was Lisa Lee, MS. This study was conducted to comply with the Good Laboratory Practice (GLP) regulations as defined in:

- 40 CFR 160: U.S. EPA GLP Standards: Pesticide Programs (FIFRA), 1989

and based on the following testing guidelines:

- U.S. EPA Product Properties Test Guidelines, OPPTS 830.6315

5. QUALITY ASSURANCE

The final report was audited for agreement with the raw data records and for compliance with the protocol, Product Safety Labs Standard Operating Procedures and appropriate Good Laboratory Practice Standards. Dates of inspections and audits performed during the study and the dates of reporting of the inspection and audit findings to the Study Director and Facility Management are presented in the Quality Assurance Statement.

6. AMENDMENTS TO THE PROTOCOL

- 1) At the Sponsor's request, the Sponsor contact was changed from Irene Boone to Molly Hickman.
- 2) At the Sponsor's request, the pH was changed from 4.73 to 3.61 (1% by mass).

7. DEVIATIONS FROM THE PROTOCOL

None.

8. FINAL REPORT AND RECORDS TO BE MAINTAINED

Information on equipment maintenance and calibration, storage, usage, and disposition of the test substance, and all other records that would demonstrate adherence to the protocol will be maintained. Facility records which are not specific to the subject study will be maintained by the testing facility and archived according to PSL SOP.

The original, signed final report will be forwarded to the Sponsor. A copy of this signed report, together with the protocol and all raw data generated at Product Safety Labs, is maintained in the Product Safety Labs Archives. PSL will maintain these records for a period of at least five years. After this time, the Sponsor will be offered the opportunity to take possession of the records or may request continued archiving by PSL.

9. RESULTS AND CONCLUSIONS

The test results are presented in Table 1.

SIGNATURE

Wood's Rooting Compound

I, the undersigned, declare that the methods, results and data contained in this report faithfully reflect the procedures used and raw data collected during the study.

Catherine Wo
Catherine Wo, PhD
Study Director
Product Safety Labs

Feb. 20, 2013
Date

TABLE 1: FLAMMABILITY RESULTS

Replicate #	Test Substance Weight (g)	Flashpoint (°C)		
		Individual	Mean	SD
1	50.15	21.0	21.0	± 0.0
2	50.85	21.0		
3	50.62	21.0		