

1. Product identification

Product use: Plant signal molecules

MSDS number: NZBC-602

Effective date: August 1, 2011

PulseSignal™ II plant signal technology for pea & lentil

2. Composition:

Component	CAS number	% (w/w)
Hesperitin	41001-90-5	0.0063
Naringenin	67604-48-2	0.0025
Other ingredients	Not available	>99

3. Hazard identification:

NFPA: Health – 1, Flammability – 0, Reactivity – 0

Potential health effects:

Primary entry routes: Oral (swallowing)

Eyes: May cause minor mechanical irritation

Skin: No known hazard

Inhalation: No known hazard

Ingestion: No known hazard

Medical conditions aggravated by exposure:

No known hazard

Target organs: None

Chronic effects: Not a likely hazard

Cancer: Not a likely hazard

Birth defects: Not available

Reproductive effects: Not available

Mutagenic effects: Not available

4. First aid measures:

Eyes: Flush eyes with water for at least 15 minutes.

Get medical attention if irritation persists

Skin: Wash with soap and water

Inhalation: Remove person to fresh air. Get medical attention if irritation persists

Ingestion: No treatment necessary

5. Fire-fighting measures:

Flash point: None

Auto-ignition temperature: Not available

Explosive limits:

LEL: Not applicable UEL: Not applicable

Extinguishing media:

Use media suitable for the surrounding fire

Unusual fire or explosion hazards: None known

Fire fighting instructions: No special requirements

6. Accidental release measures:

Contain the spill with any available absorbent medium and store in a suitable container until proper disposal can be arranged.

7. Handling and storage:

Storage requirements: Store in original container in a cool, dry place. Avoid repeated freeze/thaw cycles. Shake well before use. Open package only when ready to use. Use before expiration date printed on package

Handling precautions: No special handling requirements. Follow normal hygiene and housekeeping standards for agricultural products

8. Exposure controls, personal protection, and exposure limits:

Hesperitin: Not available

Naringenin: Not available

Ventilation: Special ventilation is not required for the normal handling and use of this product when following the label instructions

Eyes: Safety glasses with side shields recommended.

Respirator: None required when used according to label instructions

Contaminated equipment: Clean application equipment with detergent and water after use

Comments: Practice general personal hygiene after using this product. After handling any chemical or biological product, wash arms, hands and face with soap and water before eating, drinking or smoking

9. Physical and chemical properties:

Physical state: Liquid

Water solubility: Soluble

Color: Yellow to brown

% Volatile (volume): Not available

Odour: Mild

Specific gravity: 1.0 g/cc

Melting point: Not available

Vapor pressure: Not available

Boiling point: 102 °C (216 °F)

Vapor density: Not available

Freezing point: -4 °C (25 °F)

pH: 6 to 8

In Case of Emergency Call: 1-888-744-5662

Available 24 hours a day 7 days a week from April 1st to June 15th,
otherwise available from 8:00am to 4:30pm CST, Monday to Friday.

10. Stability and reactivity:

Stability: Stable

Conditions to avoid: None

Hazardous polymerization: Will not occur

Incompatibility: Acids, bases, oxidizers, reducers, disinfectants, fungicides, and/or biocides may inactivate.

Hazardous products of decomposition:

Oxides of carbon

11. Toxicological information:

Eye effects/eye irritation: No data available

Acute oral effects: LD₅₀ (oral-rat) : >5000 mg/kg

Acute inhalation effects: No data available

Acute dermal effects: LD₅₀ (dermal-rabbit) : >2000 mg/kg

Skin irritation: Non-irritating

Skin sensitization: Not a skin sensitizer

12. Ecological information:

Toxicity to bees: Not available. Not a likely hazard

Toxicity to fish: Not available. Not a likely hazard

Toxicity to birds: Not available. Not a likely hazard

13. Disposal considerations:

This product may be disposed of by placement in any landfill approved for domestic waste.

14. Transportation information:

This product is not regulated as a hazardous material for all modes of transportation within the U.S. and Canada.

Hazard class: Not applicable

15. Regulatory information:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

Proposition 65: Contains no components subject to warning requirements.

Master reference: On file

MSDS status: New MSDS

16. Other information:

Prepared by: M. Sonier

This information may not be adequate for every application and therefore it is up to the user to determine the suitability of this information based on conditions of use, storage or local regulations.

Notice: The information contained in this Material Safety Data Sheet is presented in good faith and is believed to be accurate as of the effective date shown above. However, no other warranty, expressed, or implied, is given. Laws, regulations, and/or third party rights may prevent customers from importing, using, processing and/or reselling the products described herein in a given manner. Without separate written agreement between the customer and Novozymes to such effect this document does not constitute a representation or warranty of any kind and is subject to change without further notice.

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