

Promalin® Plant Growth Regulator Solution

SDS# VBC-0114 Revision 2

ISSUED 2/22/16

[Classification according to OSHA; 29 CFR § 1910.1200, (3/12/2012)]

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY**1.1 Product Identifier****MATERIAL NAME:** Promalin® Plant Growth Regulator Solution**Synonyms:** Fascination™ Plant Growth Regulator Solution**EPA Reg No.:** 73049-41**Code Number:** 16345, 58086**List Number:** 02571, 02572**Substance Registration Number(s)[REACH]:** N/A**1.2 Relevant Identified Uses and Uses Advised Against****Identified Uses:** Pesticide (Plant Growth Regulator)**Uses Advised Against:** It is a violation of Federal law to use this product in a manner inconsistent with its FIFRA pesticide labeling.**1.3 Details of the supplier of the Safety Data Sheet****Supplied By:** Valent BioSciences Corporation
870 Technology Way
Libertyville, Illinois 60048, USA**1.4 EMERGENCY TELEPHONE NUMBERS****Emergency Health or Spill:**

Outside the United States: (+1) 651-632-6184

Within the United States: 877-315-9819

2. HAZARDS IDENTIFICATION**2.1 Classification of the Substance or Mixture**Acute Aquatic Toxicity – Category 3 (*Lemna gibba*).**2.2 Labeling Elements****Symbol(s)**

None

Signal Word

WARNING

Hazard Statement(s)May be harmful to aquatic life (*Lemna gibba*)

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2.3 Precautionary Statement:

Prevention

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum or using tobacco.

Avoid release to the environment

Response

Do not flush to sewer.

Disposal

Dispose of contents/container in accordance with local/regional/national regulations.

Storage

Stored in a cool, dry place.

2.4 Other Hazards

None identified.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Component Name	(Classification)	Percent
1214-39-7	6-benzyladenine	Oral toxicity, Category 4 Acute Aquatic Toxicity, Category 1 (<i>Algae/Lemna gibba</i>)	1.8
468-44-0 and 510-75-8	Gibberellins A4 and A7	Eye irritation, Category 2B	1.8
77-92-9	Citric acid (anhydrous)	Serious Eye Damage/Eye Irritation, Category 2	0.5
Trade Secret	Other ingredients	Not classified	95.9

4. FIRST AID MEASURES

4.1 Description of First Aid Measures

GENERAL: In all cases of doubt, seek medical attention.

EYES: Remove from source of exposure. Flush with copious amounts of water. Remove contact lenses, if present and easy to do, after the first 5 minutes, then continue rinsing. If irritation persists or signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

SKIN: Remove from source of exposure. Take off contaminated clothing. Flush with copious amounts of water. If irritation occurs or signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary.

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INGESTION: Remove from source of exposure. Move person to fresh air. Do NOT induce vomiting. If signs of toxicity occur, seek medical attention. Provide symptomatic /supportive care as necessary.

INHALATION: Remove from source of exposure. If signs of toxicity occur, seek medical attention. Provide symptomatic/supportive care as necessary. If person is not breathing, call 911, then give artificial respiration.

4.2 Most important Symptoms and Effects, both Acute and Delayed**Acute**

May cause mild eye irritation.
May cause mild skin irritation.

Delayed

No information on significant adverse effects

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Treat symptomatically and supportively

5. FIRE FIGHTING PROCEDURES**5.1 Extinguisher Media****Suitable Extinguisher Media**

Dry chemical, water spray, foam or carbon dioxide. Use appropriate medium for the underlying cause of the fire.

Unsuitable Extinguisher Media

None known

5.2 Specific Hazards Arising from the Chemical**Thermal decomposition products**

Carbon oxides, nitrogen oxides

5.3 Advice to Firefighters**Protective Equipment and precautions for firefighters**

Fire fighter should wear full-face, self-contained breathing apparatus and impervious protective clothing. Fire fighters should avoid inhaling combustion products. See Section 8 (Exposure Controls / Personal Protection)

Fire & Explosive hazard

Not expected to be flammable. Does not possess explosive properties.
Flash point: 226 °F (108 °C)
Auto-ignition temperature: 741 °F (394 °C)

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6. ACCIDENTAL RELEASE MEASURES**6.1 Personal Precautions, Protective Equipment and Emergency Procedures**

Applicators and other handlers must wear long-sleeved shirt and long pants, waterproof gloves and shoes plus socks.

6.2 Environmental Precautions

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Dispose of excess product and wash-waters according to local regulations. Do not contaminate water when disposing equipment wash-waters or rinsate. Avoid release to the environment and do not flush to sewer.

6.3 Methods and Materials for Containment and Cleaning Up

Wear appropriate personal protective equipment. Soak up product with inert absorbent material (earth, sand, vermiculite). Sweep up and shovel into suitable containers for disposal. Do not flush to sewer.

6.4 Reference to Other Sections

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations. See Section 13 for Disposal Considerations.

US Regulations may require reporting spills of hazardous materials: See Section 15: REGULATORY INFORMATION for details on reportable quantities, if any.

7. HANDLING AND STORAGE**7.1 Precautions for Safe handling**

Avoid contact with eyes and clothing. Wash thoroughly after handling. Do not eat, drink or smoke while working with product, obey reasonable safety precautions and practice good housekeeping.

7.2 Conditions for Safe Storage, Including Incompatibilities

Store in a cool, dry place.

Incompatibilities

None Known

7.3 Specific End Use(s)

Pesticide (Plant Growth Regulator)

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters

Component Exposure Limits

None

Derived No Effect Levels (DNELs)

No DNELs available

Predicted No Effect Concentrations (PNECs)

No PNECs available

8.2 Exposure Controls

Appropriate Engineering Controls

Provide general ventilation.

SKIN PROTECTION:

Wear impervious protective clothing, including boots and gloves. Wear gloves made of impervious materials. Wash thoroughly with soap and water after handling.

EYE PROTECTION:

Wear goggles, safety glasses with side shields or full-face shield when splashing or spraying of materials is likely.

RESPIRATORY PROTECTION:

Where respiratory protection is warranted, use dust/mist filtering respirator (MSHA/NIOSH approved number prefix TC-21C or a NIOSH approved respirator with any N, P, R or HE filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, slightly viscous liquid	Odor:	Odorless
pH:	3.88 (1% dilution)	Boiling Point:	Not Determined
Melting Point:	Not Applicable	Solubility (H ₂ O):	Not Determined
Specific Gravity:	Not Determined	Relative Density:	1.05
Auto Ignition Temperature:	741 °F (394 °C)	Oxidizing properties:	Does not possess oxidizing properties
Flammability:	N/A (liquid)	Flash point:	226 °F (108 °C)
Vapor Density:	Not Determined	Explosive properties:	Does not possess explosive properties
Acidity:	0.593% (as H ₂ SO ₄)	Persistent foaming:	No foam at 0 & 10 min.
Kinematic Viscosity:	68.4 cS (at 20 °C) 22.1 cS (at 40 °C)	Surface tension:	68.2 mN/m at 21 °C (1 g/L)

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10. CHEMICAL STABILITY AND REACTIVITY**10.1 Reactivity**

Material does not pose a significant reactivity hazard.

10.2 Chemical Stability

Stable under ordinary conditions of use and storage. Spontaneous reaction not possible.

10.3 Possibility of Hazardous Reactions

Does not undergo hazardous polymerization

10.4 Conditions to Avoid

None known

10.5 Incompatible Materials

None known

10.6 Hazardous Decomposition Products

Carbon oxides and unidentified organic compounds.

11. TOXICOLOGICAL INFORMATION**11.1 Information on Toxicological Effects of the Final Formulation:****LIKELY ROUTES OF EXPOSURE**

Eye Contact:	Yes
Skin Contact:	Yes
Inhalation:	Yes
Ingestion:	No

ACUTE EFFECTS Product Toxicology StudiesORAL TOXICITY: LD₅₀ >5,050 mg/kg bw (rat)DERMAL TOXICITY: LD₅₀ > 5,050 mg/kg bw (rabbit)INHALATION TOXICITY: LC₅₀ > 6.0 mg/L (rat, 4-hrs)

CORROSIVENESS: Not corrosive

DERMAL IRRITATION: Mildly irritating (PII: 0.2)

OCULAR IRRITATION: Mildly irritating (rabbit)

DERMAL SENSITIZATION: Not a sensitizer (Guinea pig, Maximization test)

MUTAGENICITY INFORMATION: Components of this product are not listed as mutagens.

CARCINOGENICITY INFORMATION: Components of this product are not listed as carcinogenic by NTP, IARC or OSHA.

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DEVELOPMENTAL/REPRODUCTIVE TOXICITY: Components of this product are not listed as pathogens.

SPECIAL TARGET ORGAN EFFECTS: Not applicable

ASPIRATION HAZARD: Not Applicable

REPEAT DOSE STUDIES: Not Applicable

12. ECOLOGICAL INFORMATION**12.1 Ecotoxicity (Data for the Final formulation)**

Fish: LC₅₀ (96-hr) >1,000 mg/L (Zebra Fish)

Bird: LC₅₀ >2,000 mg/kg bw (Japanese Quail)

Bees (Insects): LD₅₀ (48-hr) >100 mg/bee (contact, Honey bee)

LD₅₀ (48-hr) >100 mg/bee (oral, Honey bee)

Algae: E_bC₅₀ (96-hr) 123 mg/L (area under growth curve, *Pseudokirchneriella subcapitata*)

E_rC₅₀ (96-hr) 123 mg/L (growth rate, *Pseudokirchneriella subcapitata*)

E_yC₅₀ (96-hr) 123 mg/L (yield, *Pseudokirchneriella subcapitata*)

Aquatic Invertebrates: EC₅₀ (48-hr) >512 mg/L (*Daphnia magna*)

Aquatic Plants: EC₅₀ (7-d) 42 mg/L (frond yield, *Lemna gibba*)

EC₅₀ (7-d) 140 mg/L (frond number growth rate, *Lemna gibba*)

EC₅₀ (7-d) 73 mg/L (biomass yield, *Lemna gibba*)

EC₅₀ (7-d) 198 mg/L (biomass growth rate, *Lemna gibba*)

12.2 Persistence and Degradability

No data available

12.3 Bioaccumulation potential

No data available

12.4 Mobility in Soil

No data available

12.5 Results of PBT and vPvB assessment

Assessments not performed

12.6 Other adverse effects

None known

13. DISPOSAL CONSIDERATIONS**13.1 Waste Disposal Methods**

Dispose of product in accordance with federal, state, provincial, and local regulations. Prevent contamination of environment by wastes.

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US EPA WASTE NUMBER & DESCRIPTIONS:

There is no applicable EPA waste number. This product, if discarded, is not expected to be a characteristic or listed hazardous waste.

14. TRANSPORTATION INFORMATION

DOT STATUS: Not regulated
UN PROPER SHIPPING NAME: N/A
REMARKS: N/A

IATA/ICAO STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
REMARKS: N/A

IMDG STATUS: Not Regulated
PROPER SHIPPING NAME: N/A
REMARKS: N/A

15. REGULATORY INFORMATION**15.1 Safety, Health and Environmental Regulations / Specific Legislation**

TSCA STATUS: Exempt

CERCLA STATUS: Not regulated as hazardous

SARA STATUS: Acute: No Chronic: No Fire: No CDT: No

RCRA STATUS: Not regulated as hazardous

State Right-To-Know: Not Listed

Consult applicable national, state provincial or local laws to determine regulations, laws or ordinances which may be applicable.

OSHA HAZARD COMMUNICATION STANDARD: Not defined by the OSHA Hazard Communication Standard, 29 CFR

15.2 EPA Pesticide Regulations

EPA Registration Number 73049-41

EPA Pesticide Label signal word: CAUTION

Product must have EPA Approved Pesticide Label attached to or accompanying all containers.

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other

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important information, including directions and limitations for its use.

KEEP OUT OF REACH OF CHILDREN
CAUTION

PRECAUTIONARY STATEMENTS
HAZARD TO HUMANS & DOMESTIC ANIMALS
CAUTION

Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco.

ENVIRONMENTAL HAZARDS

For terrestrial uses: Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters or rinsate.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.

Pesticide Storage: Store below 75°F (24°C). Keep containers tightly closed when not in use.

Pesticide Disposal: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal: Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Once cleaned, some agricultural plastic pesticide containers can be taken to a container collection site or picked up for recycling. To find the nearest site, contact your chemical dealer or manufacturer, or contact Ag Container Recycling Council at 202-861-3144 or www.acrecycle.org. If recycling is not available puncture and dispose of in a sanitary landfill, or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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16. OTHER INFORMATION**NFPA Hazard Ratings**Health: 0
Flammability: 0
Instability: 0**HMIS Hazard Ratings**Health: 0
Flammability: 0
Instability: 00 = Minimal
1 = Slight
2 = Moderate
3 = Serious
4 = Extreme

REASON FOR ISSUE: Additional List number added

APPROVAL DATE: 2/22/16

SUPERSEDES DATE: 2/03/16

LEGEND: N/A = Not Applicable

N/L = Not Listed

C = Ceiling

(R) = Registered Trademark of Valent BioSciences Corp.

(TM) = Registered Trademark of Valent BioSciences Corp.

N/D = Not Determined

L = Listed

S = Short-term

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Valent BioSciences Corporation and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent BioSciences Corporation nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent BioSciences Corporation to confirm that you have the most current product label and SDS.

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABEL (attached to and accompanying the product container). This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom"). The product label provides information specifically for product use in the ordinary course. Use, storage and disposal of pesticide products is regulated by the EPA under the authority of FIFRA through the product label. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label. It is a violation of federal law to use an EPA-registered pesticide product in any manner inconsistent with its labeling.