

Safety Data Sheet

Compliant with Regulations (EC) No. 1907/2006, (EC) No 1272/2008 (CLP)

Version 1.14

PHOTON® SG

Revision Date 1st January 2024

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

Trade names	: PHOTON 50SG
Product Identifier	: Blend of Potassium salts of dicarboxylic acids
Synonyms	:
Product Use	: Agricultural Use - Fertilizer
Company	: Crop Microclimate Management Inc. P.O. Box 15389 Wilmington, NC 28408 USA
Telephone	: +1 919-624-6182/4490
Fax	: N/A
E-Mail Address	: info@cropstress.com
Emergency Telephone	: +1 919-624-6182
Product Type	: Solid. [Granules]

2. HAZARDS IDENTIFICATION

OSHA/HCS Status	: this material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
Classification of substance	: Combustible Dusts : Serious eye damage/eye irritation – Category 2B
GHS Label Elements	
Signal Word/Pictogram	: Warning
Hazardous classification	: May form combustible dust concentrations in air. Causes eye irritation
Precautionary Statements	
General	: Read label before use. Keep out of the reach of children. If medical advice is needed, have product container label at hand.
Prevention	: Wear eye or face protection. Wash hands thoroughly after handling.
Response	: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and if easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Supplemental Label Elements	: Keep container tightly closed. Keep away from heat, hot surfaces, sparks, open and flames and or ignition sources. No smoking. Prevent dust accumulation.
Hazards not otherwise Classified	: Fine dust clouds may form explosive mixtures with air. Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient name	CAS number	%
Azelaic acid(C9)	123-99-9	44 – 46
Undecanedioic acid (C11)	1852-04-6	2.8 -3
Sebacic acid (Decanedioic acid, C10)	111-20-6	1 - 1.2
Suberic acid (Octanedioic acid,C8)	505-48-6	0.4 – 0.6

Any concentration shown as a range is to protect confidentiality or is due to batch variation. There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

4. FIRST AID MEASURES

Eye Contact	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention.
Inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie or belt or waistband.
Skin Contact	: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomiting does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in the recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: Causes eye irritation
Inhalation	: Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

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Skin contact : No known significant effects or critical hazards.

Ingestion : May be irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following: irritation; watering; redness
Inhalation : Adverse symptoms may include the following: respiratory tract irritation; coughing.
Skin contact : No specific data
Ingestion : No specific data

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments : No specific treatment
Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media : Use dry chemical powder.
Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : Fine dust clouds may form explosive mixtures with air.

Hazardous thermal Decomposition products : Decomposition products may include the following: carbon dioxide; carbon monoxide

Special protective actions for firefighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from the fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for firefighters : Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

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- | | |
|---------------------------|---|
| For emergency responders | : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| Environmental precautions | : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). |

Methods and materials for containment and cleaning up

- | | |
|--------------|---|
| Small spill | : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor. |
| Eye contact | : immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. If irritation persists, get medical attention. |
| Inhalation | : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |
| Skin contact | : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| Ingestion | : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as collar, tie, belt or waistband. |

Most important symptoms/effects, acute and delayed

Potential acute health effects

- | | |
|--------------|--|
| Eye contact | : Causes eye irritation. |
| Inhalation | : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. |
| Skin contact | : No known significant effects or critical hazards. |

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Ingestion : May be irritating to mouth, throat and stomach.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:

- Irritation
- Watering
- Redness

Inhalation : Adverse symptoms may include the following:

- Respiratory tract irritation
- Coughing

Skin contact : No specific data.

Ingestion : No specific data.

Large Spill : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Vacuum dust with equipment fitted with HEPA filter and place in a closed, labelled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency information and Section 13 for waste disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing dust. Avoid the creation of dust when handling to avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use on with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general

Occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking or smoking. Remove contaminated clothing and protective equipment

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before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage:

including any

Incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready to use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Occupational exposure limits : None

Appropriate engineering controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, drinking, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment by a qualified industrial hygienist indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. If contact is possible the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Skin Protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment by a qualified industrial hygienist indicates this is necessary. Considering the

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parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection	: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Other skin protection	: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Respiratory protection	: Use a properly fitted, particulate filter respirator complying with an approved standard, if a risk assessment indicates this is necessary. Respirator selection must be on the known anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	: Solid (granules)
Color	: White
Odour	: Mild of fatty acid
Melting point	: 101 – 102° (213.8 – 215.6°F)
Boiling point	: >260°C (>500°F)
Flash point	: Open cup: 215.5°C (419.9°F) [Cleveland Open]
Vapor pressure	: N/A
Solubility	: very soluble in water

10. STABILITY AND REACTIVITY

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable under normal conditions
Possibility of hazardous a	: Under normal conditions of storage and use, hazardous reactions will not occur.
Reactions	
Conditions to avoid	: Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing agents
Hazardous decomposition products	: under normal conditions of storage and use, hazardous decomposition products should not be produced.

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11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
EMEROX 1144	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
azelaic acid	LD50 Oral	Rat	>5 g/kg	-
sebacic acid	LD50 Oral	Rat	14375 mg/kg	-

Irritation/corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
azelaic acid	Eyes - Mild irritant	Rabbit	-	3 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

Information on the likely routes of exposure : Routes of entry anticipated: Dermal. Inhalation

General : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Numerical measures of toxicity

Acute toxicity estimates : not available

12. ECOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

Azelaic acid : Acute LC50 >100mg/l Fish 96 hours

Persistence and degradability : not available

Bioaccumulation potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Azelaic acid(C9)	1.57	238 to 288	low
Sebacic acid (Decanedioic acid, C10)	1.5	-	low

Other adverse effects : No known significant effects or critical hazards

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13. DISPOSAL CONSIDERATIONS

Disposal method

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

14. TRANSPORT INFORMATION

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	-	-	-	-	-

Special precautions for user

: **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

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15. REGULATORY INFORMATION

US Federal regulations : United States Inventory (TSCA 8b): All components are listed or exempted

SARA 302/304

Composition/information on ingredients

: No products were found

SARA 304 RQ

: Not applicable

SARA 311/312

Classification

: Fire hazard

: Immediate (acute) health hazard

Composition/information On ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
PHOTON®50SG	100	No	No	No	Yes	No
Azelaic acid	50	No	No	No	Yes	No

State regulations

Massachusetts

: None of the components are listed.

New York

: None of the components are listed.

New Jersey

: None of the components are listed.

Pennsylvania

: None of the components are listed.

Canadian Regulations

Canada Inventory

: All components are listed or exempted

WHMIS (Canada)

: Not controlled under WHMIS (Canada)

Canadian lists

CEPA Toxic Substances

: None of the components are listed.

Canadian ARET

: None of the components are listed.

Canadian NPRI

: None of the components are listed.

Alberta Designated Substances

: None of the components are listed.

Ontario Designated Substances

: None of the components are listed.

Quebec Designated Substances

: None of the components are listed.

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International lists

National Inventory

Australia	: All components are listed or exempted
China	: All components are listed or exempted
Europe	: All components are listed or exempted
Japan	: All components are listed or exempted
New Zealand	: All components are listed or exempted
Philippines	: All components are listed or exempted
Republic of Korea	: All components are listed or exempted

15. OTHER INFORMATION

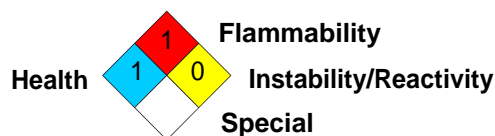
Hazardous Material Information System (U.S.A.)

Health	1
Flammability	1
Physical hazards	0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910. 1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.



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Notice to reader

Third Party Materials: Insofar as materials not manufactured or supplied by Crop Microclimate Management Inc. are used in conjunction with or instead of Crop Microclimate Management's materials it is the responsibility of the customer to obtain from the manufacturer or supplier all technical data and other properties relating to them. No liability can be accepted with respect to the use of the products described in this SDS in conjunction with materials from another supplier.

The material outlined in this SDS is not for use in food, feed or similar applications.

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