SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier
Product Name: SolaStay® S1

Other means of identification
Product Code: H044
Synonyms: 2-Propenoic acid, 2-cyano-3-(4-methoxyphenyl)-3-phenyl-, 2-ethylhexyl ester

Recommended use of the chemical and restrictions on use
Recommended Use: No information available.

Details of the supplier of the safety data sheet
Manufacturer Address
The Hallstar Company
120 S. Riverside Plaza, Suite 1620
Chicago, IL 60606
Telephone: (877) 427-4255

Emergency telephone number
Company Phone Number: (708) 594-5999
Emergency Telephone: Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification
OSHA Regulatory Status
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label elements

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance
Synonyms: 2-Propenoic acid, 2-cyano-3-(4-methoxyphenyl)-3-phenyl-, 2-ethylhexyl ester.

<table>
<thead>
<tr>
<th>Substance</th>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylhexyl Methoxycrylene</td>
<td>947753-66-4</td>
<td>100</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures
Eye contact  
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact  
Wash skin with soap and water.

Inhalation  
Remove to fresh air.

Ingestion  
Clean mouth with water and drink afterwards plenty of water.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards arising from the chemical  
No information available.

Protective equipment and precautions for firefighters  
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions  
Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions  
See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment  
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up  
Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling  
Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions  
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials  
None known based on information supplied.

8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Control parameters

Exposure Guidelines  
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Controls  
Showers  
Eyewash stations  
Ventilation systems.

Individual protection measures, such as personal protective equipment
Eye/face protection: No special technical protective measures are necessary.

Skin and body protection: No special technical protective measures are necessary.

Respiratory protection: If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations: Handle in accordance with good industrial hygiene and safety practice.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>liquid</td>
<td>Odor mild characteristic odor</td>
</tr>
<tr>
<td>Appearance</td>
<td>light amber</td>
<td>Odor threshold No information available</td>
</tr>
<tr>
<td>Color</td>
<td>light amber</td>
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<tr>
<td>Property</td>
<td>Values</td>
<td>Remarks • Method</td>
</tr>
<tr>
<td>pH</td>
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<td></td>
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<tr>
<td>Melting point / freezing point</td>
<td>No information available</td>
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<tr>
<td>Boiling point / boiling range</td>
<td>646-694 K</td>
<td></td>
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<tr>
<td>Flash point</td>
<td>251 °C</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
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<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
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<td></td>
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<tr>
<td>Flammability Limit in Air</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
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<tr>
<td>Lower flammability limit:</td>
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<tr>
<td>Vapor pressure</td>
<td>2.5 x 10^-8 Pa</td>
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<tr>
<td>Vapor density</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Relative density</td>
<td>1.08 @ 20.0 ± 0.5 °C</td>
<td></td>
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<tr>
<td>Water solubility</td>
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<tr>
<td>Solubility in other solvents</td>
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<td></td>
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<tr>
<td>Partition coefficient</td>
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<td></td>
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</table>

**Other Information**

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>VOC Content (%)</td>
<td>No information available</td>
</tr>
<tr>
<td>Density</td>
<td>No information available</td>
</tr>
<tr>
<td>Bulk density</td>
<td>No information available</td>
</tr>
<tr>
<td>Volatility</td>
<td>No information available</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**Reactivity**

No data available.

**Chemical stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to avoid**

Extremes of temperature and direct sunlight.

**Incompatible materials**

None known based on information supplied.
Hazardous Decomposition Products
None known based on information supplied.

### 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

**Product Information**
No data available.

**Inhalation**
No data available.

**Eye contact**
No data available.

**Skin contact**
LD50 (rat): >2000 mg/kg. The test material did not induce a response indicative of a phototoxic reaction in humans.

**Ingestion**
LD50 (rat) was estimated to be greater than 2000 mg/kg bodyweight (Globally Harmonised Classification System - Unclassified).

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation**
The test material did not indicate a potential for dermal irritation or allergic contact sensitization under the conditions of the test.

**Serious eye damage/eye irritation**
The test material produced a maximum group mean score of 11.0 and was classified as a minimal irritant (Class 3 on a 1 to 8 scale) to the rabbit eye according to the Kay and Calandra classification system.

**Sensitization**
The test material was considered to be a non-sensitizer under the conditions of the test.

**Germ cell mutagenicity**
The test material was non-mutagenic under the conditions of the test.

**Carcinogenicity**
No information available.

**Reproductive toxicity**
No treatment-related effects were detected on mating performance or fertility in parental animals and no significant effects were detected in the F1 offspring. NOEL: 1000 mg/kg/day.

**STOT - repeated exposure**
The oral administration of undecenyl methoxycrylene to rats by gavage at a maximum dose level of 1000 mg/kg/day did not result in any toxicologically significant effects of treatment. The minor effects detected in this study were not considered to represent an adverse effect of treatment. NOAEL: 1000 mg/kg/day for systemic toxicity.

### 12. ECOLOGICAL INFORMATION

**Ecotoxicity**
Not readily biodegradable; Algal Growth Inhibition Test (Desmodesmus subspicatus) EC50 >= 0.013 mg/l, NOEC = 0.013 mg/l.
Acute Toxicity (Daphnia magna) 21 day EC50 >= 0.016 mg/l, NOEC = 0.0048 mg/l, LOEC = 0.016 mg/l.

**Persistence and degradability**
PHOTOTRANSFORMATION IN AIREPIWIN AOP Program indicates that the test substance will undergo hydroxyl radical induced photodegradation in the atmosphere with a half-life estimated at 0.268 days or 3.212 hours. BIODEGRADATION IN WATER: The test material attained 4% degradation after 28 days and therefore cannot be considered to be readily biodegradable under the conditions of the OECD Guideline No. 301B.

**Bioaccumulation**
No information available.

**Other adverse effects**
No information available

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**
Disposal of wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Do not reuse container.

14. TRANSPORT INFORMATION

DOT

Not regulated

ICAO (air)

Not regulated

IMDG

Not regulated

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Inventory</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>-</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Complies</td>
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<tr>
<td>ENCS</td>
<td>-</td>
</tr>
<tr>
<td>IECSC</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>-</td>
</tr>
<tr>
<td>PICCS</td>
<td>-</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
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Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Hazard Category</th>
<th>No</th>
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<tbody>
<tr>
<td>Acute health hazard</td>
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</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

CWA (Clean Water Act)

CERCLA
US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

<table>
<thead>
<tr>
<th>Issue Date</th>
<th>06-Apr-2017</th>
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<tr>
<td>Revision Date</td>
<td>09-Jul-2018</td>
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Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet