SAFETY DATA SHEET

Staybelite(TM) Resin-E Partially Hydrogenated Rosin

SECTION 1. IDENTIFICATION

Product name : Staybelite(TM) Resin-E Partially Hydrogenated Rosin

Product code : 75378-00, P7537801, P7537802, P75378SP, E7537801, P75378S1, P75378PC, P75378PS

Manufacturer or supplier's details

Company name of supplier : Eastman Chemical Company

Address : 200 South Wilcox Drive
           Kingsport TN 37660-5280

Telephone : (423) 229-2000

Emergency telephone : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

Recommended use of the chemical and restrictions on use

Recommended use : Adhesive
                  Coatings
                  Polymer additive
                  Cosmetic.

Restrictions on use : None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Combustible dust

GHS label elements

Signal Word : Warning

Hazard Statements : If small particles are generated during further processing, handling or by other means, may form combustible dust concentrations in air.

Precautionary Statements : Disposal:
P501 Dispose of contents/container to an approved waste disposal plant.

Other hazards

None known.
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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>hydrogenated rosin</td>
<td>65997-06-0</td>
<td>100</td>
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</tbody>
</table>

SECTION 4. FIRST AID MEASURES

If inhaled
- Move to fresh air.
- Treat symptomatically.
- If symptoms persist, call a physician.

In case of skin contact
- Wash off with soap and water.
- If symptoms persist, call a physician.
  - Cool skin rapidly with cold water after contact with molten material.
  - Do not peel solidified product off the skin.
  - Burns must be treated by a physician.

In case of eye contact
- In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

If swallowed
- Seek medical advice.

Most important symptoms and effects, both acute and delayed
- The molten product can cause serious burns.

Notes to physician
- Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
- Water spray
- Dry chemical
- Carbon dioxide (CO2)

Unsuitable extinguishing media
- Do not use a solid water stream as it may scatter and spread fire.

Specific hazards during firefighting
- Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Hazardous combustion products
- No hazardous combustion products are known

Further information
- Minimize dust generation and accumulation.

Special protective equipment for fire-fighters
- Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.
SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
- Wear appropriate personal protective equipment.
- Local authorities should be advised if significant spillages cannot be contained.

Environmental precautions:
- Avoid release to the environment.

Methods and materials for containment and cleaning up:
- Sweep up and shovel into suitable containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion:
- Minimize dust generation and accumulation.

Advice on safe handling:
- Wash thoroughly after handling.
- Use only in area provided with appropriate exhaust ventilation.
- Minimize dust generation and accumulation.

Conditions for safe storage:
- Keep tightly closed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters
Contains no substances with occupational exposure limit values.

Engineering measures:
- Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Respiratory protection:
- Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines. Wear respiratory protection when its use is identified for certain contributing scenario.

Hand protection

Remarks:
- Wear suitable gloves. When handling hot material, use heat resistant gloves.
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Eye protection: Safety glasses
Wear a face shield when working with molten material.

Skin and body protection: Wear suitable protective clothing.

Protective measures: Ensure that eye flushing systems and safety showers are located close to the working place.

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: pellets
Color: amber
Odor: slight, characteristic, pine
Odor Threshold: not determined
pH: not determined
Melting point/range: 131.4 - 161.8 °F / 55.2 - 72.1 °C
Boiling point/boiling range: 509 °F / 265 °C
Flash point: > 392 °F / > 200 °C
Method: open cup
Evaporation rate: not determined
Upper explosion limit / Upper flammability limit: not determined
Lower explosion limit / Lower flammability limit: not determined
Vapor pressure: 0.712 Pa (77 °F / 25 °C)
Relative vapor density: not determined
Relative density: 1.06 (77 °F / 25 °C)
Solubility(ies)
Water solubility: 0.00118 g/l (68 °F / 20 °C)
Partition coefficient: n-octanol/water: log Pow: 3.42
Autoignition temperature: not determined
Decomposition temperature: Thermal stability not tested. Low stability hazard expected at normal operating temperatures.

Viscosity:
- Viscosity, dynamic: not determined
- Viscosity, kinematic: not determined

Explosive properties: No data available

Oxidizing properties: No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity: None reasonably foreseeable.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Stable

Conditions to avoid: Minimize dust generation and accumulation.

Incompatible materials: Strong oxidizing agents

Hazardous decomposition products:
- Carbon monoxide
- Carbon dioxide (CO2)

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Not classified based on available information.

Product:
- Acute oral toxicity: Remarks: No data available
- Acute inhalation toxicity: Remarks: No data available
- Acute dermal toxicity: Remarks: No data available

Ingredients:

hydrogenated rosin:
- Acute oral toxicity: LD50 Oral (Rat): 5,000 - 10,000 mg/kg
  Remarks: Read-across from a similar material
- Acute dermal toxicity: LD50 Dermal (Rat): > 2,000 mg/kg
Skin corrosion/irritation
Not classified based on available information.

**Product:**
Remarks : No data available

**Ingredients:**
Hydrogenated rosin:
Species : Rabbit
Exposure time : 24 h
Result : slight

Serious eye damage/eye irritation
Not classified based on available information.

**Product:**
Remarks : No data available

**Ingredients:**
Hydrogenated rosin:
Species : Rabbit
Result : slight
Remarks : Read-across from a similar material

Respiratory or skin sensitization

**Skin sensitization**
Not classified based on available information.

**Respiratory sensitization**
Not classified based on available information.

**Product:**
Remarks : No data available

**Ingredients:**
Hydrogenated rosin:
Test Type : Skin Sensitization
Species : Guinea pig
Result : non-sensitizing

Germ cell mutagenicity
Not classified based on available information.
Genotoxicity in vitro:
- Test Type: Mutagenicity - Mammalian
  - Metabolic activation: +/- activation
  - Result: negative
  - Remarks: Read-across from a similar material
- Test Type: Mutagenicity - Bacterial
  - Metabolic activation: +/- activation
  - Result: negative
  - Remarks: Read-across from a similar material
- Test Type: Chromosome aberration test in vitro
  - Metabolic activation: +/- activation
  - Result: negative
  - Remarks: Read-across from a similar material

Carcinogenicity
Not classified based on available information.

Product:

Remarks: This information is not available.

IARC
No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA
No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

NTP
No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
Not classified based on available information.

Product:

Effects on fertility: Remarks: No data available

STOT-single exposure
Not classified based on available information.

Product:

Remarks: No data available

STOT-repeated exposure
Not classified based on available information.

Product:

Remarks: No data available
Repeated dose toxicity

**Ingredients:**

**hydrogenated rosin:**
Species: Rat  
NOAEL: 400 mg/kg  
Exposure time: 90 d  
Remarks: Read-across from a similar material

**Aspiration toxicity**
Not classified based on available information.

**Product:**
No data available

**Information on likely routes of exposure**

**Product:**
Inhalation: Remarks: None known.
Skin contact: Remarks: The molten product can cause serious burns.
Eye contact: Remarks: The molten product can cause serious burns.
Ingestion: Remarks: None known.

**SECTION 12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

**Ingredients:**

**hydrogenated rosin:**
Toxicity to fish: LL50 (Fish): < 10 mg/l  
Exposure time: 96 h  
Remarks: Read-across from a similar material

LL50 (Pimephales promelas (fathead minnow)): > 1,000 mg/l  
Exposure time: 96 h  
Remarks: Read-across from a similar material

Toxicity to daphnia and other aquatic invertebrates: EC50 (Daphnia magna (Water flea)): 726 mg/l  
Exposure time: 48 h  
Remarks: Read-across from a similar material

EL50 (Daphnia magna (Water flea)): 911 mg/l  
Exposure time: 48 h  
Remarks: Read-across from a similar material
Toxicity to algae: EL50 (Selenastrum capricornutum (green algae)): > 100 mg/l
Exposure time: 72 h
Remarks: Read-across from a similar material

Persistence and degradability

Ingredients:

hydrogenated rosin:
Biodegradability: Biodegradation: 89 %
Exposure time: 28 d
Remarks: Readily biodegradable, according to appropriate OECD test.

Bioaccumulative potential
No data available

Mobility in soil
No data available

Other adverse effects

Ingredients:

hydrogenated rosin:
Results of PBT and vPvB assessment: Not fulfilling vPvB (very persistent, very bioaccumulative) criteria.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues: Dispose of in accordance with local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

49 CFR
Not regulated as a dangerous good
SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards: Combustible dust

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

The ingredients of this product are reported in the following inventories:

- CH INV: On the inventory, or in compliance with the inventory
- DSL: On the inventory, or in compliance with the inventory
- AICS: On the inventory, or in compliance with the inventory
- NZIoC: On the inventory, or in compliance with the inventory
- ENCS: On the inventory, or in compliance with the inventory
- ISHL: On the inventory, or in compliance with the inventory
- KECl: On the inventory, or in compliance with the inventory
- PICCS: On the inventory, or in compliance with the inventory
- IECSC: On the inventory, or in compliance with the inventory
- TCSI: On the inventory, or in compliance with the inventory
- TSCA: On the inventory, or in compliance with the inventory

TSCA list
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.
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SECTION 16. OTHER INFORMATION

Further information

NFPA 704:

HMIS® IV:

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<tr>
<th>HEALTH</th>
<th>FLAMMABILITY</th>
<th>PHYSICAL HAZARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>/</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECl - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50% of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance
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Revision Date: 08/27/2018

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.

US / Z8