

SECTION 1. IDENTIFICATION**1.1 Product identifier**

Product name : STYRON™ 5001HE
Product Form : Pellets or Granules

1.2 Recommended use of the chemical and restrictions on use

Recommended use : A polystyrene plastic - For industrial conversion as a raw material for manufacture of articles or goods. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

1.3 Manufacturer or supplier's details

Company name of supplier : Americas Styrenics LLC
Address : 24 Waterway Avenue
Suite 1200
The Woodlands, TX 77380 USA
Telephone : General Assistance: 1-844-512-1212
Email: : productsteward@amsty.com

1.4 Emergency Telephone

Chemtrec® : +1-800-424-9300
Local Chemtrec® : +1 703-741-5970
Environmental Management : +1-800-510-8510

SECTION 2. HAZARDS IDENTIFICATION**2.1 GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Not a hazardous substance or mixture.

2.2 GHS label elements

No labeling elements required.

2.3 Other hazards

Eye Contact : Solid or dust may cause irritation or corneal injury due to mechanical action. Elevated temperatures may generate vapor levels sufficient to cause eye irritation. Effects may include discomfort and redness.

Skin Contact : Under normal processing conditions, material is heated to elevated temperatures; contact with the material may cause thermal burns.

Inhalation : Dust may cause irritation to upper respiratory tract (nose and throat). Vapors/fumes released during thermal processing may cause respiratory irritation.

Ingestion : May cause choking if swallowed.

2.4 Additional Physical Information

If converted to small particles during further processing, handling, or by other means, may form combustible dust concentration in air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Substance / Mixture : Not Applicable

3.2 Components

| Chemical name | CAS-No. | Concentration (% w/w) |
|-------------------|-----------|-----------------------|
| Styrene, polymers | 9003-53-6 | >= 99 |

SECTION 4. FIRST AID MEASURES

4.1 First aid measures for different exposure routes

- General advice : Do not leave the victim unattended.
- If inhaled : Remove Person to fresh air and keep at rest in a position comfortable for breathing.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of eye contact : Remove contact lenses.
Rinse cautiously with water for several minutes.
Protect unharmed eye.
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Do not induce vomiting.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

- Most important symptoms and effects, both acute and delayed : None known.
- Ingestion : May cause gastrointestinal blockage

4.3 Immediate Medical Attention and Special Treatment

- Notes to physician : If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5. FIREFIGHTING MEASURES

5.1 Extinguishing media

- Suitable extinguishing media : In case of fire: Use water spray for extinction.
Use dry chemical powder for extinction.
Use carbon dioxide for extinction.
Use foam for extinction.
- Unsuitable extinguishing media : Pneumatic conveying and other mechanical handling operations can generate combustible dust.
To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is produced when product burns.

5.2 Physicochemical hazards arising from the chemical

- Hazardous combustion products : No hazardous combustion products are known

5.3 Advice for firefighters

- Further information : Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Unusual Fire & Explosion Hazards : Provide appropriate exhaust ventilation at places where dust is formed. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is produced when product burns.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions and Emergency Procedures

- Personal precautions, protective equipment and emergency procedures : Avoid dust formation.
Use personal protective equipment.

6.2 Methods for Clean Up

- Methods and materials for containment and cleaning up : Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

- Technical measures : Store with proper labeling.
- Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed.
Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is produced when product burns.
- Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the ap-

plication area.

7.2 Conditions for safe storage, including any incompatibilities

- Conditions for safe storage : Electrical installations / working materials must comply with the technological safety standards.
Keep in a well-ventilated place.
Keep in a dry place.
Store in accordance with good manufacturing practices (GMP).
- Materials to avoid : No materials to be especially mentioned.
- Further information on storage stability : No decomposition if stored and applied as directed.
- Special Packaging Rules : Store with proper labeling.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Personal protective equipment

- Respiratory protection : No personal respiratory protective equipment normally required.
- Eye protection : Safety glasses
- Skin and body protection : Protective suit
- Protective measures : Protective Clothing
Protective Glasses
Gloves



- Hand Protection : Consistent with general hygienic practice for any material, skin contact should be minimized. Use gloves with insulation for thermal protection, when needed. Use gloves to protect from mechanical injury. Selection of gloves will depend on the task.
- Hygiene measures : General industrial hygiene practice. Wash hands before smoking or eating

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Physical and Chemical Properties

- Physical State : solid
- Appearance : Pellets or Granules
- Color : Clear
- Odor : Odorless to mild
- Odor Threshold : No test data available

| | | |
|--|---|-------------------------------------|
| pH | : | Not applicable |
| Flash point | : | Not applicable |
| Evaporation rate | : | No test data available |
| Upper explosion limit / Upper flammability limit | : | Not applicable |
| Lower explosion limit / Lower flammability limit | : | Not applicable |
| Vapour pressure | : | Not applicable |
| Relative vapour density | : | Not applicable |
| Relative density | : | 1.04 - 1.06 Method: Estimated. |
| Partition coefficient: n-octanol/water | : | No data available for this product. |
| Viscosity | : | |
| Viscosity, kinematic | : | Not applicable |
| Molecular formula | : | No data available |

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Reactivity : No decomposition if stored and applied as directed.

10.2 Stability

Chemical stability : No decomposition if stored and applied as directed.

10.3 Possibility of Hazardous Reactions

Possibility of hazardous reactions : Stable under recommended storage conditions. No hazards to be specially mentioned.

10.4 Conditions to Avoid

Conditions to avoid : Store at temperatures not exceeding 300°C/572°F.
Exposure to elevated temperatures can cause product to decompose

10.5 Incompatible Materials

Incompatible materials : None known.

10.6 Hazardous decomposition products

Hazardous decomposition products : Decomposition products depend upon temperature, air supply and the presence of other materials. Processing may release fumes and other decomposition products. At temperatures exceeding melt temperatures, polymer fragments can be released. Fumes can be irritating. Decomposition products can include and are not limited to: Combustible gases.

SECTION 11. TOXICOLOGICAL INFORMATION**11.1 Acute toxicity**

Not classified based on available information.

Product:

- Acute oral toxicity : Remarks: Single dose oral LD50 has not been determined.
- Acute inhalation toxicity : Remarks: The LC50 has not been determined.
- Acute dermal toxicity : Remarks: Typical for this family of materials. Estimated LD50, Rabbit > 2,000 mg/kg

11.2 Skin corrosion/irritation

Not classified based on available information.

Product:

- Remarks : Under normal processing conditions, material is heated to elevated temperatures; contact with the material may cause thermal burns.

11.3 Serious eye damage/eye irritation

Not classified based on available information.

Product:

- Remarks : Solid or dust may cause irritation or corneal injury due to mechanical action. Elevated temperatures may generate vapor levels sufficient to cause eye irritation. Effects may include discomfort and redness.

11.4 Respiratory or Skin Sensitization**Skin Sensitization**

Not classified based on available information.

Respiratory Sensitization

Not classified based on available information.

Product:

- Remarks : Not Classified.

11.5 Germ cell mutagenicity

Not classified based on available information.

Product:

- Genotoxicity in vitro : Remarks: Not Classified.
- Genotoxicity in vivo : Remarks: Not Classified.

11.6 Carcinogenicity

Not classified based on available information.

Product:

- Remarks : Not Classified.

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

11.7 Reproductive toxicity

Not classified based on available information.

11.8 Specific Target Organ Toxicity (STOT) - Single Exposure

Not classified based on available information.

Product:

Remarks : Not Classified

11.9 Specific Target Organ Toxicity (STOT) - Repeated Exposure

Not classified based on available information.

Product:

Remarks : Not Classified.

11.10 Repeated dose toxicity

Product:

Remarks : Not Classified.

11.11 Aspiration toxicity

Not classified based on available information.

Product:

Not Classified.

11.15 Further information

Product:

Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Components:

Styrene, polymers:

- Toxicity to fish : LL50 (Leuciscus idus (Golden orfe)): > 10,000 mg/l
Exposure time: 96 h
Test Type: static test
- LC50 (Lepomis macrochirus (Bluegill sunfish)): > 10,000 mg/l
Exposure time: 96 h
Test Type: static test
- LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l



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Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : LL50 (Daphnia magna (Water flea)): > 100 mg/l
Test Type: static test
Not expected to be acutely toxic to aquatic organisms.

Styrene, polymers:

Toxicity to fish : LL50 (Leuciscus idus (Golden orfe)): > 10,000 mg/l
Exposure time: 96 h
Test Type: static test

LC50 (Lepomis macrochirus (Bluegill sunfish)): > 10,000 mg/l
Exposure time: 96 h
Test Type: static test

LL50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : LL50 (Daphnia magna (Water flea)): > 100 mg/l
Test Type: static test
Not expected to be acutely toxic to aquatic organisms.

12.2 Persistence and degradability

Components:

Styrene, polymers:

Biodegradability : This water-insoluble polymeric solid is expected to be inert in the environment.

Styrene, polymers:

Biodegradability : This water-insoluble polymeric solid is expected to be inert in the environment.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

Components:

Styrene, polymers:

Ozone-Depletion Potential : This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

Styrene, polymers:

Ozone-Depletion Potential : This substance is not in Annex I of Regulation (EC) No 1005/2009 on substances that deplete the ozone layer.

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Disposal methods

- Sewage Disposal Recommendation : Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point. Do not dump into sewers, on the ground, or into any body of water.
- Waste Disposal Recommendation : Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.
- Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
- Additional Information : FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device

SECTION 14. TRANSPORT INFORMATION

14.1 International Regulations

- UNRTDG**
Not regulated as a dangerous good
- IATA-DGR**
Not regulated as a dangerous good
- IMDG-Code**
Not regulated as a dangerous good

14.2 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

14.3 National Regulations

- 49 CFR**
Not regulated as a dangerous good
- 49 CFR**
Not regulated as a dangerous good

14.4 Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

15.1 US Federal Regulations

CERCLA Reportable Quantity

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|--------------|----------|--------------------|-----------------------------|
| Ethylbenzene | 100-41-4 | 100 | 100 (F003) |

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

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 : No SARA Hazards

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.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

| | | |
|--------------|----------|----------------|
| Styrene | 100-42-5 | >= 0 - < 0.1 % |
| Ethylbenzene | 100-41-4 | >= 0 - < 0.1 % |

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

| | | |
|--------------|----------|----------------|
| Styrene | 100-42-5 | >= 0 - < 0.1 % |
| Ethylbenzene | 100-41-4 | >= 0 - < 0.1 % |

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

This product does not contain any priority pollutants related to the U.S. Clean Water Act

15.2 US State Regulations

Massachusetts Right To Know

| | |
|---------|----------|
| Styrene | 100-42-5 |
|---------|----------|

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

| | |
|-------------------|-----------|
| Styrene, polymers | 9003-53-6 |
| Styrene | 100-42-5 |
| Ethylbenzene | 100-41-4 |

Maine Chemicals of High Concern

| | |
|---------|----------|
| Styrene | 100-42-5 |
|---------|----------|

Vermont Chemicals of High Concern

| | |
|--------------|----------|
| Styrene | 100-42-5 |
| Ethylbenzene | 100-41-4 |

Washington Chemicals of High Concern

| | |
|--------------|----------|
| Styrene | 100-42-5 |
| Ethylbenzene | 100-41-4 |

California Prop. 65

WARNING: This product contains a chemical(s) , which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

In April 2016, the Office of Environmental Health Hazard Assessment's (OEHHA) Proposition 65 Department proposed an NSRL of 27 µg/day for styrene.

The objective of the warning statement above is to comply with the Prop 65 statute.

| | |
|--------------|----------|
| Styrene | 100-42-5 |
| Ethylbenzene | 100-41-4 |

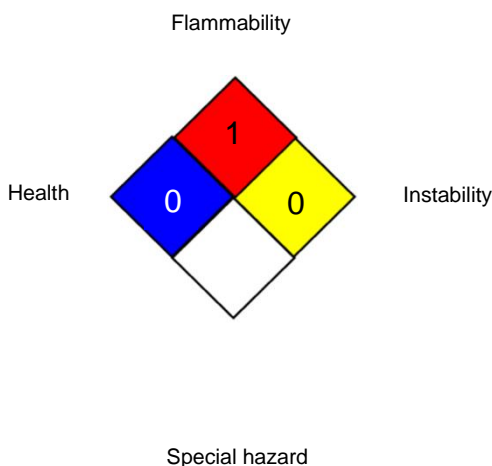
In March 2008, the Office of Environmental Health Hazard Assessment's (OEHHA) Proposition 65 Department proposed an NSRL of 54 µg/day (inhalation) for ethylbenzene.

In April 2016, the Office of Environmental Health Hazard Assessment's (OEHHA) Proposition 65 Department proposed an NSRL of 27 µg/day for styrene.

The objective of the warning statement above is to comply with the Prop 65 statute. For guidance on Prop 65 labeling requirements for your products, please refer to the workbook published by the Plastics Foodservices Packaging Group available by calling the Customer Information number found on page 1 of this SDS.

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

- | | | |
|------|---|--|
| TSCA | : | All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30 |
| DSL | : | All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed. |

SECTION 16. OTHER INFORMATION
Further information
NFPA 704:

HMIS® IV:

| | | |
|------------------------|---|---|
| HEALTH | / | 0 |
| FLAMMABILITY | | 1 |
| PHYSICAL HAZARD | | 0 |

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

AIIC - Australian Inventory of Industrial Chemicals; 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; KECI - 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 Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative



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The information provided in this 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.

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