



# STYRON™ 421 Natural Polystyrene

## Safety Data Sheet

Revision Date: 05/08/2016

Version:2.5

Americas Styrenics LLC encourages and expects you to read and understand the entire SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

### SECTION 1 : Product And Company Identification

#### 1.1. Product Identifier

Product Name : STYRON™ 421 Natural Polystyrene

Product Form : Pellets or Granules

#### 1.2. Relevant 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. Supplier Information

Americas Styrenics LLC  
Suite 1200  
24 Waterway Avenue  
The Woodlands, TX 77380  
USA

Telephone: : 844-512-1212

Email: : productsteward@amsty.com

#### 1.4. Emergency Telephone

Chemtrec® : 800-424-9300

Local Emergency Contact : 800-510-8510

### SECTION 2 : Hazard Identification

#### 2.1. GHS Classification

##### GHS Classification

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### 2.2. GHS Label Elements

##### GHS-US Labelling

No labelling required

#### 2.3. Other Hazards

Eye Contact : Solid or dust may cause irritation or corneal injury due to mechanical

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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

Not Applicable

### 3.2. Mixture

Name	CAS - No.	%	GHS Classification
Styrene, 1,3-butadiene copolymer	9003-55-8	>= 95	No labelling required
White mineral oil (petroleum)	8042-47-5	<= 5	No labelling required

## Section 4 : First Aid Measures

### 4.1. Description of Preventative and First Aid Measures

- Eye Contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- Skin Contact : If molten material comes in contact with the skin, do not apply ice but cool under ice water or running stream of water. DO NOT attempt to remove the material from skin. Removal could result in severe tissue damage.
- Inhalation : IF INHALED: Remove Person to fresh air and keep at rest in a position comfortable for breathing.
- Ingestion : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

### 4.2. Important Symptoms and Effects

- Eye Contact : No Additional Information.
- Skin Contact : No Additional Information.
- Inhalation : No Additional Information.

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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: Fire-Fighting Measures

### 5.1. Extinguishing Media

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 : No Additional Information.

### 5.2. Specific Hazards

During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon dioxide. Carbon monoxide.

### 5.3. Advice for Firefighters

Special Fire Fighting Procedures : No Additional Information.

Protective Equipment for Firefighters : Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Unusual Fire & Explosion Hazards : 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.

## Section 6: Accidental Release Measures

### 6.1. Personal Precautions and Emergency Procedures

General Measures : Spilled material may cause a slipping Hazard

#### 6.1.1 For Non-Emergency Personnel

Emergency Procedures : No Additional Information.

#### 6.1.2 For Emergency Responders

Protective Equipment : Use personal protective equipment as required. Refer to Section 8, Exposure Controls.

Emergency Procedures : No Additional Information.

### 6.2. Environmental Precautions

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No Additional Information.

### 6.3. Methods for Clean Up

Spill Cleanup Methods : Sweep up. Recover spilled material if possible. Collect in suitable and properly labeled containers. Refer to Section 13, Disposal Considerations.

### 6.4. Reference to Other Sections

Refer to Section 8, Exposure Controls.  
Refer to Section 13, Disposal Considerations.

## Section 7 : Handling and Storage

### 7.1. Precautions for Safe Handling

Precautions for Safe Handling : 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. Avoid breathing dust/fume/vapors. Workers should be protected from the possibility of contact with molten resin. Do not get molten material in eyes, on skin or clothing. Dust can be ignited by static discharge. Keep away from heat/sparks/open flames. No smoking.

Hygiene Measures : Refer to Section 8, Exposure Controls.

### 7.2. Conditions for Safe Storage

Technical Measures : Ground/bond container and receiving equipment. Take precautionary measures against static discharge.

Storage Conditions : Store in a well-ventilated place. Store in a dry place. Store in accordance with good manufacturing practices (GMP)

Incompatible Materials : No data available for this product.

Storage Area : Keep container tightly closed in a cool, well-ventilated place.

Special Packaging Rules : Store with proper labeling.

## Section 8: Exposure Controls

### 8.1. Control Parameters

None Established

### 8.2. Exposure Controls

Appropriate Engineering Controls : No Additional Information.

Personal Protective Equipment (PPE) : Protective Glasses, Protective Clothing, Gloves

Hand Protection : Consistent with general hygienic practice for any material, skin contact should be minimized. Use gloves with insulation for thermal protection,

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	when needed. Use gloves to protect from mechanical injury. Selection of gloves will depend on the task.
Eye Protection	: Wear safety glasses with side shields. If there is potential for exposure to particles which could cause eye discomfort, wear chemical goggles. If exposure causes eye discomfort, use a full-face respirator.
Skin Protection	: No precautions other than clean body-covering clothing should be needed.
Respiratory Protection	: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines.
Environmental Exposure Controls	: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.
Other Information	: Wash hands before smoking or eating

## Section 9 : Physical and Chemical Properties

### 9.1. Physical and Chemical Properties

Physical State	: Solid.
Color	: Natural
Odor	: Odorless to mild
Odor Threshold	: No test data available
pH	: Not applicable
Freezing Point	: Not applicable
Melting Point	: No test data available
Boiling Point (760 mmHg) and Boiling Range	: Not applicable
Flash Point	: Not applicable
Evaporation Rate	: Not applicable to solids
Flammability (solid, gas)	: No data available.
Flammability Limit - Upper (%)	: Not applicable
Flammability Limit - Lower (%)	: Not applicable
Vapor Pressure	: Not applicable
Relative Vapor Density (air=1)	: Not applicable
Relative Density (H2O=1)	: 1.04 - 1.06 Estimated.
Solubility in Water	: Negligible

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Partition coefficient: n-octanol/water	:	No data available for this product.
Autoignition Temperature	:	No test data available
Decomposition Temperature	:	No data available.
Viscosity	:	Not applicable
Molecular Weight	:	No test data available
Henry's Law Constant (H)	:	No Additional Information.

### Section 10 : Stability and Reactivity

#### 10.1. Reactivity

None known.

#### 10.2. Stability

Stable under recommended storage conditions. See Storage, Section 7.

#### 10.3. Possibility of Hazardous Reactions

Hazardous polymerization will not occur

#### 10.4. 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

None known.

#### 10.6. 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. Information on Toxicological Effects

##### Acute Toxicity

Ingestion	:	Single dose oral LD50 has not been determined.
Skin	:	Typical for this family of materials. Estimated LD50, Rabbit > 2,000 mg/kg
Inhalation	:	The LC50 has not been determined.

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### Serious Eye Damage/Eye Irritation

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 Corrosion/Irritation

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

### Repeated Dose Toxicity

Additives are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

### Chronic Toxicity

#### Germ Cell Mutagenicity:

Genotoxicity in Vitro : No Additional Information.

Genotoxicity in Vivo : No Additional Information.

#### Carcinogenicity

No Additional Information.

#### Developmental Toxicity

No Additional Information.

#### Reproductive Toxicity

No Additional Information.

#### Target Organ Toxicity

Specific Target Organ Toxicity (Single Exposure) : No Additional Information.

Specific Target Organ Toxicity (Repeated Exposure) : No Additional Information.

Aspiration Hazard : No Additional Information.

Potential Adverse Human Health Effects : No Additional Information.

Symptoms/Injuries After Inhalation : No Additional Information.

Symptoms/Injuries After Skin Contact : No Additional Information.

Symptoms/Injuries After Eye Contact : No Additional Information.

Symptoms/Injuries After : No Additional Information.

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Ingestion

### Section 12 : Ecological Information

#### 12.1. Toxicity

##### **Data for Component: Styrene, 1,3-butadiene copolymer (9003-55-8)**

Not expected to be acutely toxic to aquatic organisms. Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

##### **Data for Component: White mineral oil (petroleum) (8042-47-5)**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

#### **Fish Acute & Prolonged Toxicity**

LC50, Lepomis macrochirus (Bluegill sunfish), static test, 96 h, > 10,000 mg/l

LL50, Oncorhynchus mykiss (rainbow trout), static test, 96 h, > 100 mg/l

LL50, Leuciscus idus (Golden orfe), static test, 96 h, > 10,000 mg/l

#### **Aquatic Invertebrate Acute Toxicity**

LL50, Daphnia magna (Water flea), static test, , , > 100 mg/l

#### 12.2. Persistence and Degradability

##### **Data for Component: Styrene, 1,3-butadiene copolymer(9003-55-8)**

Based on information for a similar material:

##### **Data for Component: White mineral oil (petroleum)(8042-47-5)**

Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

#### **OECD Biodegradation Tests:**

Biodegradation	Exposure Time	Method	10 Day Window
0 - 24 %	28 d	OECD 301B Test	fail

#### **Indirect Photodegradation with OH Radicals:**

Rate Constant	Atmospheric Half-life	Method
8.28E-12 cm <sup>3</sup> /s	1.291 d	Estimated.

**Theoretical Oxygen Demand:** 3.50 mg/g

#### 12.3. Bioaccumulative Potential

##### **Data for Component: White mineral oil (petroleum)(8042-47-5)**

Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

**Bioconcentration Factor (BCF):** 1,900; Fish; Estimated.

#### 12.4. Mobility

**Henry's Law Constant (H):** No Additional Information.

#### 12.5. Other Adverse Effects

No Additional Information.



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### Section 13 : Disposal Considerations

- Sewage Disposal Recommendation : Do not empty into drains. 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.
- Additional Information : FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler. Reclaimer. Incinerator or other thermal destruction device.
- Ecology - waste materials : No Additional Information.

### Section 14 : Transportation Information

#### 14.1. UN Number

- CFR : Not Regulated
- ADR : Not Regulated
- TDG : Not Regulated
- IMDG : Not Regulated
- IATA : Not Regulated

#### 14.2. Proper Shipping Name

- CFR : Not Regulated
- ADR : Not Regulated
- TDG : Not Regulated
- IMDG : Not Regulated
- IATA : Not Regulated

#### 14.3. Additional Information

- CFR : Not Available
- ADR : Not Available
- TDG : Not Available
- IMDG : Not Available
- IATA : Not Available

### Section 15 : Regulatory Information

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### 15.1. US Federal Regulations

#### Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard : No  
Delayed (Chronic) Health Hazard : No  
Fire Hazard : No  
Reactive Hazard : No  
Sudden Release of Pressure Hazard : No

### 15.2. International Regulations

#### Notification Status

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

#### Ozone Depleting Potential:

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

### 15.3. US State Regulations

#### California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

WARNING: This product contains a chemical(s) known to the State of California to cause cancer.

Component	CAS #	Amount
Styrene	100-42-5	<= 400 PPM
Ethylbenzene	100-41-4	<= 125 PPM

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.

#### 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.

Component	CAS #	Amount
White mineral oil (petroleum)	8042-47-5	<= 5 %

#### Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:

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To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

### Section 16 : Other Information

Product Literature : Additional information on this product may be obtained by calling your sales or customer service contact.

Recommended Uses and Restrictions : Not Available

Revision : 05/08/2016  
5.2  
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

#### Legend

N/A : Not Available  
W/W : Weight/Weight  
OEL : Occupational Exposure Limit  
STEL : Short Term Exposure Limit  
TWA : Time Weighted Average  
ACGIH : American Conference of Governmental Industrial Hygienists, Inc.  
WEEL : Workplace Environmental Exposure Level  
HAZ\_DES : Hazard Designation  
Action Level : A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded.

*Americas Styrenics LLC urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific SDSs, we are not and cannot be responsible for SDSs obtained from any source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.*