

SECTION 1. IDENTIFICATION**1.1 Product identifier**

Product name : STYRON™ 668 Clear Polystyrene
Product Form : Pellets or Granules
Other means of identification : No data available

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 Canada, Inc.
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 Hazardous Products Regulations**

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	Common Name/Synonym	CAS-No.	Concentration (% w/w)
Styrene, polymers	Styrene, polymers	9003-53-6	>= 95
White mineral oil (petroleum)	White mineral oil (petroleum)	8042-47-5	<= 1.1

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 : Treat symptomatically.
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.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.
Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES**6.1 Personal Precautions and Emergency Procedures**

- Personal precautions, protective equipment and emergency procedures : Avoid dust formation.
Spilled material may cause a slipping Hazard

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.
- Advice on safe handling : For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application 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

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
White mineral oil (petroleum)	8042-47-5	(Mist.)	5 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)
		(Mist.)	10 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)
		(Mist.)	1 mg/m3	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)
		(Inhalable fraction.)	5 mg/m3	US. ACGIH Threshold Limit Values
		TWA (Mist)	5 mg/m3	CA AB OEL
		STEL (Mist)	10 mg/m3	CA AB OEL
		TWAEV (Mist)	5 mg/m3	CA QC OEL
		STEV (Mist)	10 mg/m3	CA QC OEL
		TWA (Mist)	1 mg/m3	CA BC OEL

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 : Not applicable to solids
- 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 : Not applicable
- 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.

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
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.

White mineral oil (petroleum):

- Toxicity to daphnia and other aquatic invertebrates : 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).

12.2 Persistence and degradability**Components:****Styrene, polymers:**

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

White mineral oil (petroleum):

- Biodegradability : 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.

12.3 Bioaccumulative potential**Components:****White mineral oil (petroleum):**

- Bioaccumulation : Species: Fish

Bioconcentration factor (BCF): 1,900
Method: Estimated.
Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

12.4 Mobility in soil

No data available

12.5 Other adverse effects

Product:

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.

White mineral oil (petroleum):

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**TDG**

Not regulated as a dangerous good

14.4 Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION**15.1 US Federal Regulations****NPRI Components** : Styrene
Ethylbenzene**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.

Canadian lists

No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION**Full text of other abbreviations**CA AB OEL : Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL : Canada. British Columbia OEL
CA QC OEL : Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for air-borne contaminants
CA AB OEL / TWA : 8-hour Occupational exposure limit
CA AB OEL / STEL : 15-minute occupational exposure limit
CA BC OEL / TWA : 8-hour time weighted average
CA QC OEL / TWA EV : Time-weighted average exposure value
CA QC OEL / STEV : Short-term exposure value

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); EC_x - Concentration associated with x% response; EL_x - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErC_x - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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 Danger-



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ous 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

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