

MATERIAL SAFETY DATA SHEET

DYLENE™ POLYSTYRENE

MSDS No G000666-6-OSHA-AE
MSDS CLASS H
Ver. No 1
Ver. Date NOV 3 83

Sun-Glo Super Glide Wax



ARCO Chemical Company
3801 West Chester Pike
Newtown Square
PA 19073 USA

IMPORTANT: Read this MSDS before handling and disposing of this product and pass this information on to the employees, customers, and users of this product. This product is covered by the OSHA Hazard Communication Rule and this document has been prepared in accord with the MSDS requirements of this rule.

1. General

Trade Name		DYLENE™ POLYSTYRENE		Telephone Numbers :	
Other ACC Names		This document covers all members of the series of products identified as Dylene™ Polystyrene G000666-001 through G000666 050		EMERGENCY	
Synonyms		None		800/424-9300 CHEMTREC	
Other Industry Names		None		610/359-8300 ARCO CHEM	
Chemical Family		Organic polymers		CUSTOMER SERVICE	
Generic Name		Polystyrene		800/321-7000 INFO ONLY	
CAS No.		(See Section 9 - Components)		DOT Hazardous Materials Proper Shipping Name	
ACC Material ID		BE103		Not regulated	
UN/NA ID No.		N/A		DOT Hazard Class	
				Not regulated	
				DOT Reportable Quantity	
				N/A	

2. Summary of Hazards

Signal Word	CAUTION
Physical Hazards	May produce dust on handling (See Section 14 - Additional Precautions) Slightly combustible
Acute Health Effects (Short-Term)	Slight inhalation hazard - particulates/dust Dust may be an eye irritant No ingestion hazard identified from data available No skin irritation hazard identified from data available No skin absorption hazard identified from data available
Chronic Health Effects (Long-Term)	No appropriate human or animal data are known to exist on adverse chronic health effects from repeated or prolonged exposure to this material

3. Fire and Explosion

Flash Point	AP 650 °F (TCC)	Autoignition Temperature	AP 910 °F	Flammable Limits	Lower: N/A Upper: N/A
Fire and Explosion Hazards	Heat from fire may melt and decompose polymer, generating flammable vapors. Water used to fight fire should be applied with caution since, depending upon polymer's temperature and molten condition, it could be immediately converted to scalding steam until adequately cooled. Ensure that firefighters are protected. Clear all other personnel from the area.				
Extinguishing Media	CO2 Dry chemical Water				
Extinguishing Media Use Comment	No additional information available				
Special Firefighting Procedures	Do not enter fire area without proper protection. (See Section 12 - Physical and Chemical Data - Hazardous Decomposition Products). Fight fire from a safe distance/protected location. Walking surface contact results in slipping/falling hazard. For large fire, use lots of water as straight stream to 'dig' into hot molten mass from outside to open up. Cool interior/prevent reignition; spray/fog for surface cooling. Keep above burning material. Molten material forms flaming drops after igniting. Notify authorities if liquid enters sewer/public waters.				

4. Health Hazards

Summary of Acute Hazards	Slight health hazard. See below for route-specific details.	
ROUTE OF EXPOSURE	SIGNS AND SYMPTOMS	PRIMARY ROUTE(S)
Inhalation	Dust from this product may cause respiratory irritation following an excessive inhalation exposure. Follow exposure limits given on this material safety data sheet.	Yes
Eye Contact	Dust from this product may cause eye irritation.	Yes
Skin Absorption	No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin absorption exposure.	No
Skin Irritation	No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of skin exposure.	No
Ingestion	No significant signs or symptoms indicative of any adverse health effect are expected to occur as a result of ingestion.	No
Summary of Chronic Hazards	No appropriate human or animal data are available on the chronic health effects from prolonged or repeated exposure to this material.	
Special Health Effects	No additional medical information found.	

5. Protective Equipment and Other Control Measures

Respiratory	If exposure exceed the PEL/TLV for nuisance particulate use NIOSH/MSHA approved respiratory protection equipment.
Eye	Dust service goggles should be worn to prevent mechanical injury or other irritation to eyes due to airborne particles which may result from handling this product.
Skin	Not normally considered a skin hazard. Where use can result in skin contact, practice good personal hygiene. Wash hands and other exposed areas with mild soap and water before eating, drinking, smoking, and when leaving work.
Engineering Controls	Use only in well ventilated areas with proper personal protection. If handling this material results in dust generation, special ventilation may be required to avoid exceeding exposure standard(s) for nuisance dust.
Other Hygienic Practices	Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse. Shower after work using plenty of soap and water.
Other Work Practices	Material spilled on hard surface can be a serious slipping falling hazard. Use care in walking on spilled material. Spread coarse, inert granular cover such as sand on any affected walking surfaces.

6. Occupational Exposure Limits

Substance	Source	Date	Type	Value/Units	Time	Skin
Nuisance Particulates	ACGIH	1992	TWA	10 MG/M3	8 HRS	No
Particulates Not Otherwise Regulated (Total Dust)	OSHA	1989	TWA	15 MG/M3	8 HRS	No
Particulates Not Otherwise Regulated (Respirable Fraction)	OSHA	1989	TWA	5 MG/M3	8 HRS	No

Industrial Hygiene Comments No additional Occupational Exposure Limit information available

7. Emergency and First Aid

Inhalation	If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.
Eye Contact	In case of eye contact, immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain emergency medical attention if pain, blinking, tears or redness persist.
Skin Contact	Not expected to present a significant skin hazard under anticipated conditions of normal use.
Ingestion	Ingestion unlikely. However, if ingested, obtain emergency medical attention.
Emergency Medical Treatment Procedures	Treat symptomatically.
Detoxification Procedures	Not applicable.



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8. Spill and Disposal

Precautions if Material is Spilled or Released

Creates extremely dangerous slipping hazard on any hard surface. Material similar to ball bearings on walking surface, making it difficult to keep steady footing. Spread granular cover on walkways or provide open grating flooring (or equivalent). Potential dust explosion hazard from airborne release. Avoid making dust. Evacuate/limit access. Equip responders with proper protection (See Section 5 - Protective Equipment). Extinguish all ignition sources. Stop release. Notify fire/environmental authorities. On land, sweep/shovel into suitable disposal containers. On water, material insoluble/floats. Contain, collect as for any solid. Report per regulatory requirements.

Waste Disposal Methods

Landfill solids at permitted sites. Use registered transporters. Comply with federal/state/local regulations for solid waste disposal. Solids may be burned, if fired with supplemental fuel. Avoid flameouts. Assure emissions comply with applicable regulations. Contaminated product, soil or water should not be designated RCRA hazardous waste.

9. Components

(This may not be a complete list of components.)

(Compositions are typical values, not specifications.)

Component Name	C/S No.	Composition Amount (Wt.)	Carcinogen ###
Polystyrene	9003-53-6	AP 100 %	N/P

1 = National Toxicology Program 2 = International Agency for Research on Cancer 3 = Occupational Health and Safety Administration 4 = Other

10. Component Health Hazards

Component	Component Health Hazards
Polystyrene	No significant hazards

11. Additional Toxicological Information

Component Name/Comments

No additional toxicology information is available for the components of this material

Material

No additional toxicology information is available for this material.

12. Physical and Chemical Data

Boiling Point N/AP	Viscosity N/AP	Dry Point N/AP
Freezing Point N/AP	Vapor Pressure N/AP	Volatile Characteristics Negligible
Specific Gravity AP .94 (H ₂ O = 1.0 at 39.2° F)	Vapor Specific Gravity AP 2.5 (Air = 1.0 at 60-90° F)	Solubility in Water Negligible (Less Than .1 Percent)
pH N/AP	Hazardous Polymerization Not expected to occur	Stability Stable
Other Chemical Reactivity	No additional information available	
Other Physical and Chemical Properties	No additional information available	
Appearance and Odor	Little or no odor; Pellets; Opaque	
Conditions to Avoid	Heat, sparks, open flame, and other ignition sources	
Materials to Avoid	No additional information available	
Hazardous Decomposition Products	Thermal decomposition may produce carbon monoxide and other toxic gases	

13. Hazards Rating Information

National Fire Protection Association

No hazards rating information is available for this system

National Paint and Coatings Association

Hazardous Materials Information System (HMIS)

No hazards rating information is available for this system

14. Additional Precautions

Handling and Storage Procedures

Potential dust explosion hazard. As shipped in the form of pellets, this material should not contain sufficient dust to be an explosion hazard. However, dust could be formed during transport or as a result of pellet degradation by impact or by abrasion in conveying operations. Therefore, the material should be transferred in properly grounded conveying equipment. Proper ventilational electrical code conformance, nitrogen purging and other precautions should be considered during grinding operations or any other operation which could cause severe dusting. Due to the extremely slippery nature of this material, more care than usual must be exercised when handling to keep any spilt material off all walking surfaces. The hazard of any unavoidable spillage can be reduced by using as walking surface an open grating which will permit this material to fall into the open spaces between grating bars for later recovery.

Decontamination Procedures

Follow standard plant procedures or supervisor's instructions for decontamination operations.


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15. Regulatory Information
FEDERAL
Toxic Substance Control Act (TSCA)

The following is the TSCA Chemical Substance Inventory Status of the components of this material with CAS numbers listed in Section 9 - Components:

CHEMICAL
CAS NO. STATUS

Polystyrene

9003-53-6 1. Listed - Non Confidential

Superfund Amendments and Reauthorization Act of 1988 (SARA), Title III
- Section 302.304

Requires emergency planning based on "Threshold Planning Quantities" (TPQs), and release reporting based on Reportable Quantities (RQs) of "Extremely Hazardous Substances" (EHS) listed in Appendix A of 40 CFR 355. There are no components of this material with known CAS numbers which are on the EHS list.

- Section 311 & 312

Based upon available information, this material and/or components are not classified as any of the specific health and/or physical hazards defined by Section 311 & 312.

- Section 313

The material does not contain any chemical components with known CAS numbers that exceed the De Minimis reporting levels established by SARA Title III, Section 313 and 40 CFR 372.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA)

No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA.

OSHA Regulations

"Chemical-specific" OSHA regulations presented under 29 CFR 1910 do not apply to this material or its components.

Other EPA Regulations

No additional information is available.

Department of Transportation (DOT)

Other than the normal shipping instructions and information given in this MSDS, there are no other specific DOT regulations governing the shipment of this material.

STATE REGULATIONS:
California Safe Drinking Water and Toxic Enforcement Act of 1988 - Proposition 65

This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Proposition 65 at levels which would be subject to the proposition.

California South Coast Air Quality Management District (SCAQMD) Rule 443.1 (VOCs)

A Volatile Organic Compound (VOC) is any volatile compound of carbon excluding methane, carbon monoxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, 1,1,1-trichloroethane, methylene chloride, (FC-23), (CFC-113), (CFC-12), (CFC-11), (CFC-22), (CFC-114), and (CFC-115). By this definition, this is not a VOC material.

Massachusetts Right-to-Know Substance List (MSL) [105 CMR670.000]

Extraordinarily Hazardous Substances (MSL-EHS) must be identified when present in materials at levels greater than state specified criterion. The criterion is $\geq 0.0001\%$. Hazardous Substances (MSL-HS) on the MSL must be identified when present in materials at greater than the state specified criterion. The criterion is $\geq 1\%$. Components with CAS numbers present in this material, at levels specified in Section 9 - Components, do not require reporting under the statute.

New Jersey Registration

The New Jersey, Registry 3, Registration law does not apply to this material, as none of its components are trade secrets.

15. Regulatory Information (Cont'd)

Pennsylvania Right-to-Know Hazardous Substances Lists

Special Hazardous Substances (PA-SHS) must be identified when present in materials at levels greater than the state specified criterion. The criterion is $\geq 0.01\%$. Hazardous Substances (PA-HS) must be identified when present in materials at levels greater than the state specified criterion. The criterion is $\geq 1\%$. Environmental Hazards (PA-EH) must be identified when present in materials at levels greater than the state specified criterion. The criterion is $\geq 0.01\%$. Components with CAS numbers present in this material at levels specified in Section 9 - Components, do not require reporting under the statute.

Regulatory Advisory

If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in Section 9, based on the final composition of your product.



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16. Label Information

Manufacturer

ARCO Chemical Company
3801 West Chester Pike
Newtown Square
PA 19073 USA

Telephone Numbers :

EMERGENCY	800/424-9300	CHEMTREC
	610/359-8300	ARCO CHEM
CUSTOMER SERVICE	800/321-7000	INFO ONLY

Other ACC Names

This document covers all members of the series of products identified as Dylene™ Polystyrene G000666-001 through G000666-050

Signal Word CAUTION

Use Statement

For industrial use only
Keep out of reach of children

Physical Hazards

Combustible
May produce dust on handling

Health Hazards

Inhalation hazard - particulates/dust
Eye irritant-particulates/dust

Precautionary Measures

Do not handle near heat, sparks, or open flame
Avoid accumulation of dust in enclosed space
Avoid contact with eyes
Avoid prolonged or repeated breathing of dust
Use with adequate ventilation
Remove spillage immediately from hard, smooth walking areas

DOT Information:

UN/NA ID No. N/AP

DOT Hazard Class Not regulated

DOT Reportable Quantity N/AP

DOT Hazardous Materials Proper Shipping Name Not regulated

Component Name

Polystyrene	CAS No. 9009-53-6	Composition Amount (WT.) AP 100 %	RQ N/AP
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Instructions: In case of fire, use: CO2; Dry chemical; Water

First Aid	Inhalation	If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.
	Eye Contact	In case of eye contact, immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain emergency medical attention if pain, blinking, tears or redness persist.
	Skin Contact	Not expected to present a significant skin hazard under anticipated conditions of normal use.
	Ingestion	Ingestion unlikely. However, if ingested, obtain emergency medical attention.
	In case of spill,	Creates extremely dangerous slipping hazard on hard surfaces - impossible to keep footing. Spread granular cover on walkways or provide open grating flooring. Extinguish all ignition sources. Potential dust explosion hazard; avoid making dust. On land, sweep/shovel into suitable disposal containers. On water, contain/collect solid. Report per regulatory requirements.

Protective Equipment:

Respiratory	If exposure can exceed the standard limits for nuisance particulate, use NIOSH/MSHA approved respiratory protection equipment.
Eye	Dust service goggles should be worn to prevent mechanical injury to eyes due to airborne particles when handling.
Skin	No special clothing normally required. Where use can result in skin contact, wash thoroughly before eating, drinking, smoking, or leaving work.

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17. General Comments

General Comments

No additional information available.

Other Comments

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the material itself

Note Qualifications:	EQ=Equal	AP=Approximately	NP=No applicable informa
	LT=Less Than	UK=Unknown	NAP=Not applicable
	GT=Greater Than	TR=Trace	NDA=No Data Available

Disclaimer of Liability

The information in the MSDS was obtained from sources which we believe are reliable. **HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, REGARDING ITS CORRECTNESS.**

The conditions or methods of handling, storage, use and disposal of the product are beyond **FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRI EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH THE HANDLING, STO USE OR DISPOSAL OF THE PRODUCT.**

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be

Print Date

January 14, 1994