



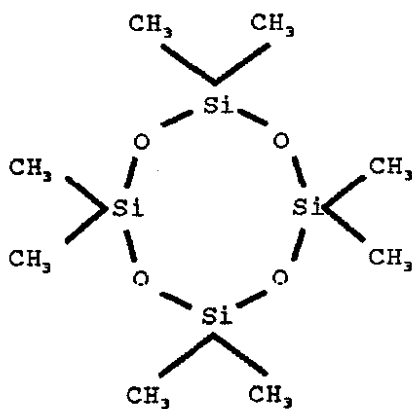
ADVANCED POLYMER, INC.

GET THE API ADVANTAGE . . .

APS-D4

APS-D4 is a volatile octamethylcyclotetrasiloxane fluid designed for a wide variety of applications including cosmetic/personal care, industrial cleaning and carrier applications. APS-D4 exhibits very low toxicity and is exempt from federal VOC regulations.

CHEMICAL STRUCTURE:



CHARACTERISTICS

- Clear, odorless, non-greasy fluid, which exhibits a low surface tension and evaporates to leave essentially no residue.
- When used as a base fluid or as a fugitive carrier, allows good spreading and detackification properties.
- When used in conjunction with solid pigments, will produce very good leveling properties.

APPLICATION

The diagram on the next page provides vapor pressure versus temperature data for: APS-D4 vs. DMF-0.65, APS-D5, water, ethanol, and 1-hexadecanol:

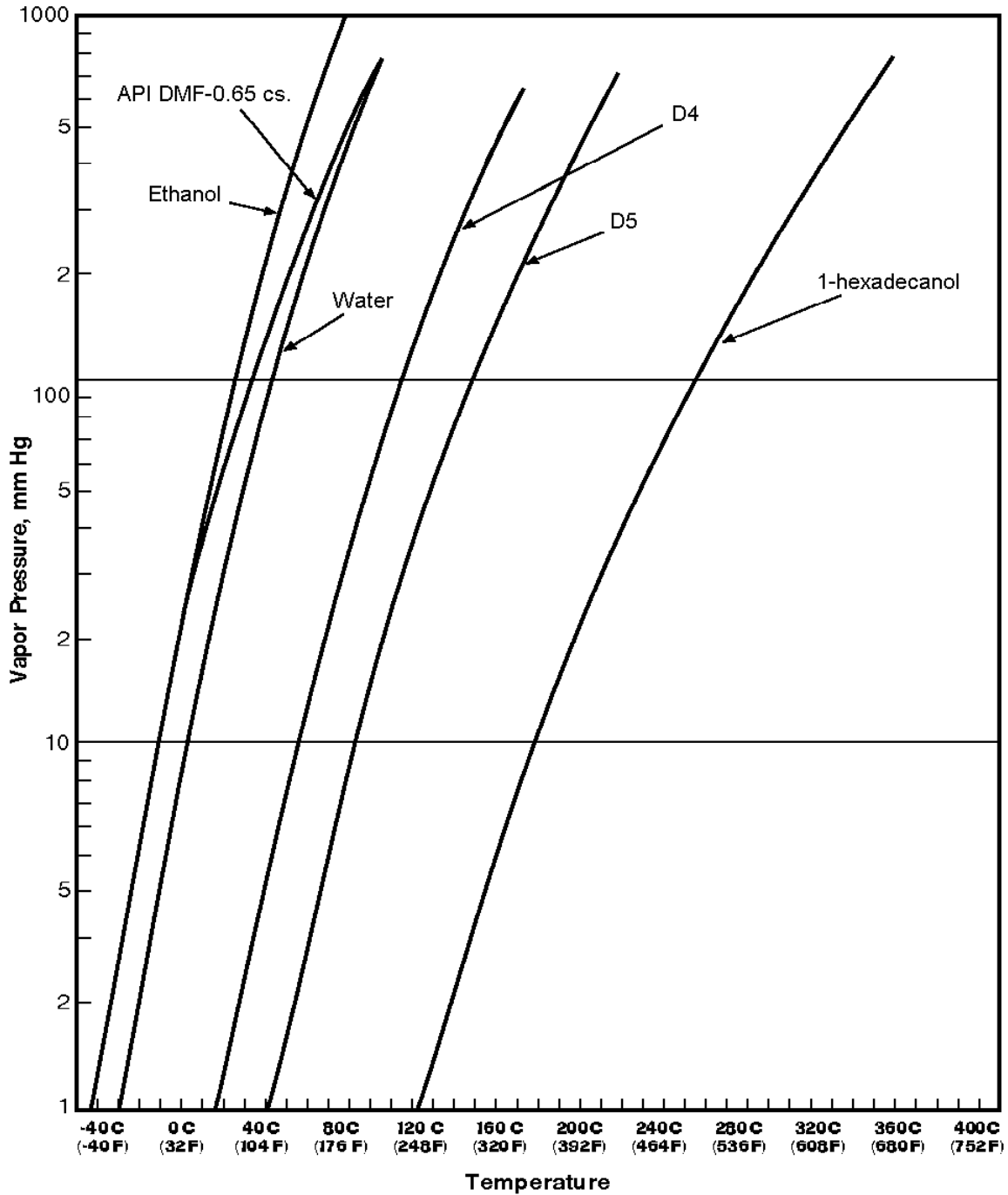
TYPICAL PROPERTIES

Appearance:	Clear transparent fluid
Typical Analysis:	95%
Specific Gravity (@ 25°C):	0.953
Refractive Index:	1.394
Viscosity (@ 25°C):	2.5 cs
Flash Point:	131 °F
Melting Point:	63.5 °F

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APS-D4

Vapor Pressure vs. Temperature of Volatile Silicone Fluids



D4 = Octamethylcyclotetrasiloxane (APS-D4)
D5 = Decamethylcyclopentasiloxane (APS-D5)



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APS-D4

APS-D4 is soluble in a wide range of solvents and compatible with a wide range of cosmetic ingredients:

SOLUBILITY DATA:

Soluble In	Insoluble In
Ethanol (100%) Isopropanol (100%) Aliphatic (mineral spirits, heptanes, hexane) Aromatic (toluene, xylene)	Water Ethanol (95%) Isopropanol (70%)

COMPATIBILITY DATA:

Soluble In	Insoluble In
Mineral Oil Paraffin Wax Stearic Acid Petrolatum Stearyl Alcohol Isopropyl Palmitate	Isopropyl Lanolate Glycerin Lanolin Acid Polyethylene Glycol 400

Applications not related to cosmetics/personal care include lubricants, penetrating oils and specialty cleaners.

PACKAGING

APS-D4 is available in 8 oz. samples and 400-lb drums.

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Revised April 20, 2010

APS-D4

Section I Product Identity

Product Name	APS-D4
Chemical Name/Family	Octamethylcyclotetrasiloxane
CAS Registry	556-67-2
Chemical Formula	C ₈ H ₂₄ O ₄ Si ₄
24 Hour Emergency Number	800-424-9300
24 Hour Chemtrec Number	800-424-9300

All ingredients are listed in EPA's TSCA list of chemical substances

Section II Hazardous Components/Composition Information

CHEMICAL :	CAS #:	USOS:	TWA:	STEL:	PERCENT:

Section III Physical and Chemical Properties

Boiling Point	175-176°C
Specific Gravity (H ₂ O=1)	0.95
Vapor Pressure	0.75 mmHg (20°C)
Vapor Density (Air=1)	>1
Percent Volatile by Weight	NA
Evaporation Rate (BuAc=1)	<1
Solubility in Water	insoluble
Melting Point	17.5°C (63.5°F)
Appearance and Odor	Clear, colorless, odorless liquid

Section IV Fire and Explosion Hazard Data

Flash Point (Method Used)	54°C (Closed Cup)
Flammable Limits in Air (% By Volume)	Lower: 0.75% Upper: &.4%
Extinguishing Media	Foam, dry chemical, CO ₂ .
Special Fire Fighting Procedures:	Evacuate personnel to a safe area. Wear self-contained breathing apparatus. Wear full protective equipment
Unusual Fire and Explosion Hazard	None.

Section V Reactivity Data

Stability	Stable
Conditions to Avoid	Store in a well-ventilated place at temperatures below 120°F. Keep container tightly closed. Protect from freezing below 63°F.
Incompatibilities	Avoid contact with strong oxidizing agents and acids. Aluminum at high temperatures.
Hazardous Decomposition or By Products	Combustion may produce carbon oxides and traces of incompletely burned carbon compounds, silicone dioxide and formaldehyde.
Hazardous Polymerization	May Not Occur

Section VI Health hazard Data

Primary Routes of Entry	Inhalation: No	Dermal: Yes	Ingestion: Yes
Acute Health hazard	LD50 (Oral/Rat) = >5g/kg		
Chronic Health Hazard	No information available		
Carcinogenicity	This product does not contain any suspected human carcinogens.		
NTP: Not listed	IARC Monograph: Not listed	OSHA Regulated: Not listed	

Signs and Symptoms of Exposure:

Skin Contact	Prolonged and repeated contact with skin can cause defatting and drying of the skin resulting in skin irritation and dermatitis.
Eye Contact	Preexisting eye, skin and respiratory disorders may be aggravated by exposure to this product.
Ingestion	Although ingestion is unlikely, liquid would irritate upper digestive tract if swallowed.
Inhalation	No significant irritation expected from single exposure. Overexposure may cause reproductive effect.

Medical Condition Generally Aggravated by Exposure

None known

Emergency First Aid Procedures

Eyes	Immediately flush eyes with plenty of water. Seek medical attention.
Skin	Immediately wash skin with soap and water. Wash contaminated clothing before reuse.
Ingestion	Wash out mouth with water provided person is conscious. Do not induce vomiting. Call a physician.
Inhalation	Immediately remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. Please note: Symptoms may be delayed; prompt medical attention may be required. Call a physician.

Section VII Precautions for Safe Handling and Use

Steps to be Taken in Case the Material is Released or Spilled:

Shut off all ignition sources. Soak up with sawdust, sand, oil dry or other absorbent material.

Waste Disposal Method:

Dispose of according to EPA, State and Local regulations.

Section VIII Special Precautions

Precautions to be Taken in Handling and Storage:

Keep container closed when not in use. Store in a cool place, but take care of freezing under 63° F. Keep away from heat, sparks and flame. Do not lay the container on its side. Use with adequate ventilation. Avoid prolonged breathing vapor. Avoid contact with eyes and prolonged or repeated skin contact. Keep out of reach of children. *** **Agitate contents of container before using** ***

Information about emptied container: Do not re-use this container. This container will be very hazardous when emptied. Residues will be explosive or flammable. Keep away from heat, sparks and flame. Do not puncture or cut this container. Do not weld on or near this container.

Section IX Control Measures

Respiratory Protection	Use respiratory protection unless adequate local exhaust ventilation is provided	
Ventilation	Local exhaust	Recommended
	Mechanical	Adequate ventilation system
	Special	Unknown
	Other	Unknown
Eye Protection	Safety glasses should be worn	
Protective Gloves	Rubber or plastic gloves should be worn	
Protective Clothing	Rubber apron	
Other Protective Equipment	NIOSH approved respirator as needed. Eyewash equipment	
Other Precautions	Wash hands and gargle after handling.	

Section X SARA Title III

SECTION 313 SUPPLIER NOTIFICATION

This product contains the following toxic chemicals subject to the reporting requirements of SECTION 331 of the EMERGENCY PLANNING AND COMMUNITY RIGHT-TO-KNOW ACT OF 1986 and of 40 CFR 371

CAS #	Chemical Name	Percent by Weight

THIS INFORMATION MUST BE INCLUDED IN ALL MSDS'S THAT ARE COPIED AND DISTRIBUTED FOR THIS MATERIAL

Section XI Transportation Information

SHIPPING INFORMATION

Product Name	APS-D4
DOT Proper Shipping Name	Flammable Liquids N.O.S. (contains Octamethylcyclotetrasiloxane, CAS# 556-67-2)
Hazard Class	3
UN Number	UN1993
Packing Group	III
Label Requirements	Flammable

Hazard Ratings

Health	1
Flammability	3
Reactivity	0

Date Prepared August 7, 2005

Prepared By API

Date Revised May 24, 2010

Revised By API

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