

APS-D4

Section 1. Product and Company Identification

Product Name:	APS-D4
Chemical Name/Family:	Octamethylcyclotetrasiloxane
CAS No.:	556-67-2
Product Use:	Dispersant; Cleaning Agent; Paint Additive
Restrictions:	For Industrial Use Only
Company:	Advanced Polymer, Inc.
Address:	400 Paterson Plank Road Carlstadt, NJ 07072 U.S.A.
Telephone:	201-933-0600
Fax:	201-933-8442
24 Hour Emergency Number	800-424-9300
24 Hour Chemtrec Number	800-424-9300

Section 2. Hazards Identification

GHS Classification:

Hazard Class	Category
Physical Hazards	
Flammable liquids	Category 3
Health Hazards	
Acute Toxicity, oral	Not classified
Acute Toxicity, dermal	Not classified
Eye Irritation	Not classified
Reproductive Toxicity	Category 2
Environmental Hazards	
Hazardous to the aquatic environment, long-term hazard	Category 4

GHS Label:



Symbol:

Signal Word: **Warning**

Hazard Classification:

Hazard Statement:

- Flammable liquid and vapour
- Suspected of damaging fertility or the unborn child
- May cause long lasting harmful effects to aquatic life

Precautionary Statement:
Prevention

- Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting/.../equipment.
- Use only non-sparking tools.
- Take precautionary measures against static discharge.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Use personal protective equipment as required.
- Avoid release to the environment.

Response

- IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- In case of fire: Use water fog, foam, dry chemical, carbon dioxide for extinction.
- IF exposed or concerned: Get medical advice/attention.

Storage

- Store in a well-ventilated place. Keep cool. Store locked up.
- Dispose of contents/container in accordance with local/regional/national/international regulations.

Disposal

- Dispose of contents/container in accordance with local/regional/national/international regulations.

Potential Health Effects:

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

Section 3. Composition/Information on Ingredients

Ingredients	CAS No.	Percent
Octamethylcyclotetrasiloxane	556-67-2	100

Section 4. First Aid Measures

- Skin Contact:** Take off all contaminated clothing immediately. Wash contaminated clothing before reuse. Wash skin with soap and water. Get medical attention if irritation develops and persists.
- Eye Contact:** Rinse immediately with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Direct contact with eyes may cause temporary irritation.
- Inhalation:** Move to fresh air. Call a physician if symptoms develop or persist.
- Ingestion:** Rinse mouth. Get medical attention immediately.

Section 5. Firefighting Measures

Fire and Explosion Hazard:	By Flammable liquid and vapor.
Fire Extinguishing Media:	Water fog, foam, dry chemical powder, carbon dioxide.
Unsuitable Extinguishing Media:	Do not use a solid water stream as it may scatter and spread fire.
Specific Hazards in Case of Fire:	By heating and fire, harmful vapors/gases may be formed. In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage.
Special Fire Fighting Information:	Firefighters must use standard protective equipment including flame retardant coat, helmet, gloves, rubber boots, and self-contained breathing apparatus.

Section 6. Accidental Release Measures

Personal Precautions:	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Do not touch or walk through spilled material. Ventilate closed spaces before entering them. Wear appropriate personal protective equipment.
Protective Equipment:	Wear necessary personal protective equipment. Ventilate area.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Avoid release to the environment.
Methods and Materials for Containment and Cleaning up:	<p>Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Large spills: Stop the flow of material, if this can be done without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas.</p> <p>Small spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use.</p>

Section 7. Handling and Storage

Handling Conditions:	All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Provide adequate ventilation. Use care in handling/storage. Obtain special instructions before use. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. Take precautionary measures against static discharges. Use personal protective equipment as required. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains. Do not handle until all safety precautions have been read and understood. Pregnant or breastfeeding women must not handle this product. Do not breathe mist or vapor.
Storage Conditions:	Store locked up. Keep away from heat, sparks and open flames. Store in a cool, well-ventilated place. Keep container tightly closed. Store in a cool, dry place out of direct sunlight. Do not keep container below 18°C to avoid coagulation. Keep in original container.

Section 8. Exposure Control/Personal Protection

Exposure Limits:	No exposure limits noted for ingredient(s).
Appropriate engineering controls:	Explosion-proof genral and local exhaust ventilation. Provide eyewash station.
Personal protective equipment:	
Respiratory Protection:	In case of insufficient ventilation, wear suitable respiratory equipment.
Hand Protection:	Wear protective gloves.
Eye Protection:	Tightly sealed safety glasses according to EN166.
Skin and Body Protection:	Suitable protective clothing.
Other Protective Equipment:	Wear appropriate thermal protective clothing, when necessary.
Hygiene Measures:	When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice.

Section 9. Physical and Chemical Properties

Physical State:	Liquid
Color:	Colorless, clear
Odor:	Odorless
Odor Threshold:	No information available
% Non-volatile by Weight:	No information available
pH:	N/A
Specific Gravity (77°F):	~0.95
% Volatile by Weight:	No information available
Melting Point/Freezing Point:	63.5°F (17.5°C)
Boiling point:	347.0°F (175°C)
Flash Point:	129.2°F (54°C) Closed Cup
Evaporation Rate (BuAc=1):	<1
Flammability (solid/gas):	N/A
Explosion Limits:	Flammability Limit Lower (%) 0.75% v/v Flammability Limit Upper (%) 7.4% v/v Explosive Limit Lower (%) – No information available Explosive Limit Upper (%) – No information available
Vapor Pressure :	0.1 kPA (20°C)
Vapor Density (Air=1):	>1
Solubility:	Insoluble
Partition Coefficient:	5.1
Auto-ignition Temperature:	~400°C
Viscosity:	No information available
Decomposition Temperature:	No information available

Section 10. Stability and Reactivity

Chemical Stability:	Stable under normal conditions (temperature, pressure etc.)
Hazardous Polymerization:	Will not occur

Conditions to Avoid:	None known
Incompatible Materials:	Strong oxidizing agents
Hazardous Decomposition Products:	Thermal breakdown of this product during fire or very high heat condition may evolve the following hazardous decomposition product: Carbon oxides and traces of incompletely burned carbon compounds. Silicone dioxide. Formaldehyde.

Section 11. Toxicological Information

Primary Routes of Entry:

Inhalation	Prolonged inhalation may be harmful.
Ingestion:	Expected to be a low ingestion hazard.
Skin:	No adverse effects due to skin contact are expected.
Eyes:	Direct contact with eyes may casue temprary irritation.

Signs and Symptoms of Exposures: No information available.

Acute Toxicity:

Inhalation LC50	Rat >5000 mg/m ³ , 4 hours
Oral LD50	Rat >5000 mg/kg

Chronic Toxicity:

Skin corrosion/irritation SKIN-RABBIT : 500 mg/24hr MILD

Serious Eye damage/eye irritation EYE-RABBIT : MILD

Respiratory or Skin Sensitization: No information available; No evidence of skin sensitization

Mutagenicity: Negative (Bacteria)

Reproductive Toxicity

Octamethylcyclotetrasiloxane administered to rats by whole body inhalation at concentrations of 500 and 700 ppm for 70 days prior to mating, through mating, gestation and lactation resulted in decreases in liver litter size. Additionally, increases in the incidence of deliveries of offspring extending over an unusually long time period (dystocia) were observed at these concentrations. Statistically significant alterations in these parameters were not observed in the lower concentrations evaluated (300 and 70 ppm). In a previous range-finding study, rats exposed to vapor concentrations of 700 ppm had decreases in the number of implantation sites and live litter size. The significance of these findings to humans is not known.

Specific target organ toxicity – single exposure

No information available

Specific target organ toxicity – repeated exposure

Repeated inhalation or oral exposure of mice and rats to octamethylcyclotetrasiloxane produced an increase in liver size. No gross histopathological or significant clinical chemistry effects were observed. An increase in liver metabolizing enzymes, as well as a transient increase in the number of normal cells (hyperplasia) followed by an increase in cell size (hypertrophy) were determined to be the underlying causes of the liver enlargement. The biochemical mechanisms producing these effects are highly sensitive in rodents, while similar mechanisms in humans are insensitive. A two year combined chronic and carcinogenicity assy was

conducted on octamethylcyclotetrasiloxane. Rats were exposed by whole-body vapor inhalation 6hrs/day, 5days/week for up to 104 weeks to 0, 10, 30, 150 or 700 ppm of octamethylcyclotetrasiloxane. The increase in incidence of (uterine) endometrial cell hyperplasia and uterine adenomas (benign tumors) were observed in female rats at 700 ppm. Since these effects only occurred at 700 ppm, a level that greatly exceeds typical workplace or consumer exposure, it is unlikely that industrial, commercial or consumer uses of products containing octamethylcyclotetrasiloxane would result in a significant risk to humans.

Carcinogenicity:

IARC:	No	NTP:	No	OSHA:	No
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Section 12. Ecological Information

Ecotoxicity (Aquatic and Terrestrial):	May cause long lasting harmful effects to aquatic life.
Bioaccumulative Potential	Bio Concentration Factor (BCF)/(Fathead minnows) : 12400 Partition coefficient n-octanol/water (log Kow) 5.1
Mobility in Soil:	No information available
PBT and vPvB Assessment:	No information available
Other Adverse Effects:	No information available

Section 13. Disposal Considerations

Product:	Follow applicable federal, state and local regulations.
Disposing of Contaminated Packaging:	Treat as unused product as above.

Section 14. Transport Information

Land Transport (DOT):	
UN Number:	UN1993
UN Proper Shipping Name:	Flammable liquids, N.O.S. (Octamethylcyclotetrasiloxane)
Transport Hazard Class:	3
Packing Group:	III
Sea Transport (IMDG):	
UN Number:	UN1993
UN Proper Shipping Name:	Flammable liquids, N.O.S. (Octamethylcyclotetrasiloxane)
Transport Hazard Class:	3
Packing Group:	III
Air Transport (IATA):	
UN Number:	UN1993
UN Proper Shipping Name:	Flammable liquids, N.O.S. (Octamethylcyclotetrasiloxane)
Transport Hazard Class:	3
Packing Group:	III
Environmental Hazards (e.g., Marine pollutant):	No

Section 15. Regulatory Information

International Inventories:

TSCA (USA):	Listed
DSL (Canada):	Listed
ENCS (Japan)	Listed
EINECS (Europe):	Listed
IECSC (China):	Listed
KECL (Korea):	Listed
PICCS (Philippines):	Listed
AICS (Australia):	Listed
ERMA (New Zealand):	Listed

Federal Regulations:

SARA 313:	No information available
SARA 311/312:	No information available
Clean Water Act:	No information available
Clean Air Act, Section 112 HAPs (See 40CFR61):	No information available

State Regulations:

Massachusetts Right to Know Components:	None
New Jersey Right to Know Components:	None
Pennsylvania Right to Know Components:	None
California Proposition 65:	None

Section 16. Other Information

WHMIS Classification: No information available

HMIS Rating:

Health Hazard	1
Flammability:	3
Physical Hazard:	0
Personal Protection Equipment:	F

NFPA Rating

Health Hazard:	0
Fire Hazard:	3
Reactivity Hazard:	0

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