

UltraPur™ OMCTS

Octamethylcyclotetrasiloxane

Octamethylcyclotetrasiloxane (OMCTS) is an important precursor used in the chemical vapor deposition (CVD) of low- κ inter-metal dielectric films (IMDs) for sub-0.25 μm IC interconnects. Typically film thicknesses of up to one micron are deposited with dielectric constant (κ value) of approximately 2.8 can be prepared with OMCTS. Entegris offers OMCTS in the highest purity available to the industry, which serves to minimize key film performance variables.

Entegris offers OMCTS in a semiconductor grade. A certificate of analysis will be provided with each OMCTS order detailing the results of a comprehensive analysis including water, chloride and GC analysis.

Entegris is the semiconductor industry's innovator of liquid chemical delivery systems for OMCTS. We provide development-stage, pre-production and fab-wide OMCTS liquid delivery systems.

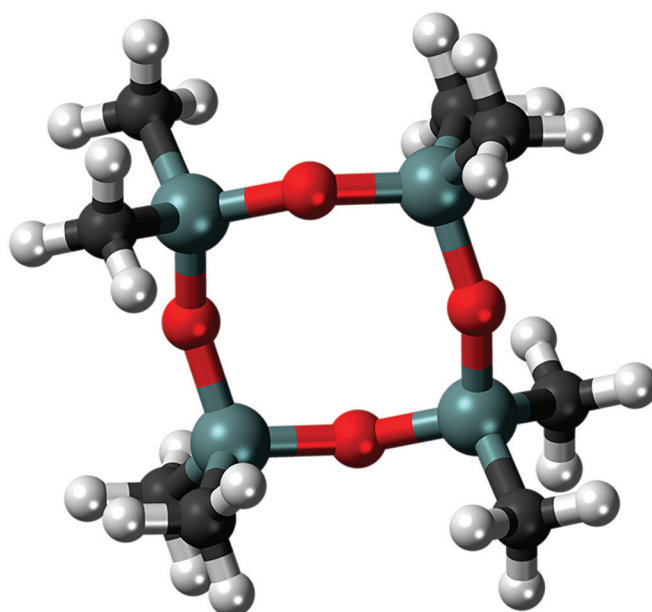
Entegris is a leading industry supplier that provides a complete line of advanced materials, delivery systems and control/monitoring systems which enable comprehensive material lifecycle management solutions for OEMs and end users.

APPLICATIONS

- Precursor for OSG by PECVD

FEATURES & BENEFITS

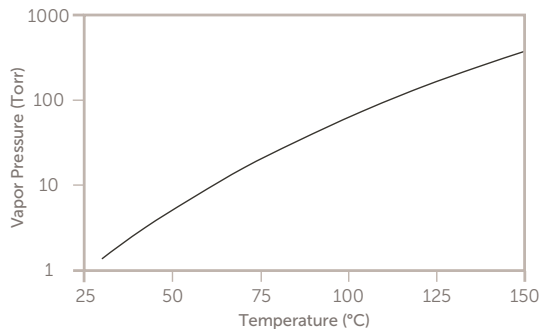
- Semiconductor grade
- Reliable material supply
- Research and development support for materials compatibility
- Robust delivery system
- On-board ampoule refillable technology
- Standard shelf life of 12 months



● Oxygen (O) ● Silicon (Si) ● Hydrogen (H) ● Carbon (C)

PERFORMANCE DATA

OMCTS Vapor Pressure*



*From NIST web-book, after Osthoff & Grubb, 1954.

SPECIFICATIONS

Physical properties

Physical state	Liquid	Color	Colorless
Change in color	Moisture-sensitive	Odor	Faint odor
Physical form	Liquid	Texture	Oily
Boiling point	175–176°C (347–349°F)	Melting/freezing point	19°C (66°F)
Flash point (CC)	51°C (124°F)	Evaporation rate	<1.0 ether=1
OSHA flammability	Class II	LEL	0.52%
UEL	7.9%	Vapor pressure	1 mm Hg @ 21.7°C (71.1°F)
Vapor density (air=1)	10.2	Density	960 kg/m ³
Specific gravity (water=1)	0.956	Water solubility	Reacts, insoluble
Viscosity	2–3 cSt @ 25°C (77°F)	Auto ignition temperature	402–450°C (756–842°F)
Molecular weight	296.62	Volatility	>99%
Appearance	Viscous liquid	Molecular formula	$[(C-H_3)_2-Si-O]_4$

Purity analysis

Element	Specification	Analytical method
Aluminum	1.000 ppb	ICP-MS
Antimony	1.000 ppb	ICP-MS
Arsenic	1.000 ppb	ICP-MS
Barium	1.000 ppb	ICP-MS
Beryllium	1.000 ppb	ICP-MS
Bismuth	1.000 ppb	ICP-MS
Boron	5.000 ppb	ICP-MS
Cadmium	1.000 ppb	ICP-MS
Calcium	1.000 ppb	ICP-MS
Cerium	1.000 ppb	ICP-MS
Chromium	1.000 ppb	ICP-MS
Cobalt	1.000 ppb	ICP-MS
Copper	1.000 ppb	ICP-MS
Gallium	1.000 ppb	ICP-MS
Germanium	1.000 ppb	ICP-MS
Gold	1.000 ppb	ICP-MS
Hafnium	1.000 ppb	ICP-MS
Indium	1.000 ppb	ICP-MS
Iridium	1.000 ppb	ICP-MS
Iron	1.000 ppb	ICP-MS
Lead	1.000 ppb	ICP-MS
Lithium	1.000 ppb	ICP-MS
Magnesium	1.000 ppb	ICP-MS
Manganese	1.000 ppb	ICP-MS

Element	Specification	Analytical method
Mercury	1.000 ppb	ICP-MS
Molybdenum	1.000 ppb	ICP-MS
Nickel	1.000 ppb	ICP-MS
Niobium	1.000 ppb	ICP-MS
Palladium	1.000 ppb	ICP-MS
Platinum	1.000 ppb	ICP-MS
Potassium	1.000 ppb	ICP-MS
Rhenium	1.000 ppb	ICP-MS
Rhodium	1.000 ppb	ICP-MS
Rubidium	1.000 ppb	ICP-MS
Silver	1.000 ppb	ICP-MS
Sodium	1.000 ppb	ICP-MS
Strontium	1.000 ppb	ICP-MS
Tantalum	1.000 ppb	ICP-MS
Thallium	1.000 ppb	ICP-MS
Thorium	1.000 ppb	ICP-MS
Tin	1.000 ppb	ICP-MS
Titanium	1.000 ppb	ICP-MS
Tungsten	1.000 ppb	ICP-MS
Uranium	1.000 ppb	ICP-MS
Vanadium	1.000 ppb	ICP-MS
Zinc	1.000 ppb	ICP-MS
Zirconium	1.000 ppb	ICP-MS

Purity analysis (continued)

Parameter	Specification	Analytical method
Assay	99.9%	GC
Color	5	Typical
Purity	99.999995%	ICP-MS
Water	10 ppm	KF Titrator
>0.2 µm	10 mL	PMS
>0.3 µm	7 mL	PMS
>0.5 µm	5 mL	PMS
>1.0 µm	1 mL	PMS

FOR MORE INFORMATION

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