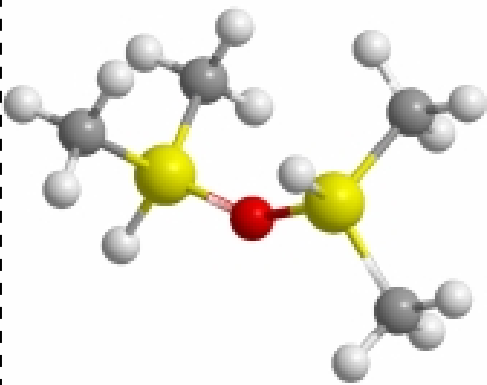


# ALOHA™ CVD/ALD Materials



## TMDSO

1,1,3,3-Tetramethyldisiloxane

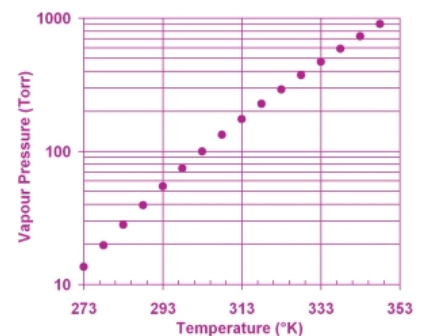
$(\text{CH}_3)_2\text{HSi-O-SiH}(\text{CH}_3)_2$

CAS n° 3277-26-7 or 30110-74-8

- TMDSO or 1,1,3,3-tetramethyldisiloxane is used in for Plasma Enhanced Chemical Vapor Deposition (PECVD) of glass on a variety of substrates at low temperature.
- Industrial grade of TDMSO is also employed in reductive halogenation of aldehydes and epoxides.
- High purity TMDSO is obtained by ultra-purification of industrial grade product, which is obtained by the condensation of dimethylchlorosilane with water.
- Air Liquide's ultrahigh purity TMDSO is produced from controlled source of raw material and processed to yield extremely low moisture and particles in order to ensure high performance, repeatable processing.
- The quality of ALOHA's precursors is guaranteed using state of the arts analytical techniques developed by BALAZS™, Air Liquide's analytical service company to the semiconductor industry.

### Physical Chemical Properties

Physical Property	
Molecular Weight	134.32 g.mol <sup>-1</sup>
Physical State	Liquid
Boiling Point	71°C
Density	0.757 g.cm <sup>-3</sup> at 20°C
Flash point	-20°C



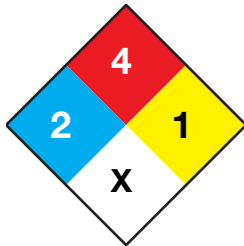
## ALOHA Specifications

Parameter	Unit	Specification
Assay	%	>99,9
Water Content	ppm	≤10
Total Chloride	ppm	≤1
Color	APHA	≤10
Particles	#/ml	consult ALOHA

Metals	ppb
Phosphorous	≤10 ppb
Boron	≤10 ppb
Other metals	≤1 ppb

For non-critical application, dried & filtered TMDSO is available also from ALOHA. Please consult us at [aloha@airliquide.com](mailto:aloha@airliquide.com) for specification (assay) and packaging details.

## Hazard Rating



### HMIS

Health: 2  
Flammability: 4  
Reactivity: 1

## Properties and Handling

- TMDSO is intrinsically stable and does not thermally decompose under inert atmosphere. It is not soluble in water but soluble in most organic solvents.
- TMDSO can be distributed in UHP stainless steel distribution systems, such as the Air Liquide CANDI system.

## Packaging & Dispensing System

- TMDSO is typically delivered using a liquid dispensing system such as **C**ontinuous **A**dvanced Precursor **D**ispenser (CANDI) on most OEM Platform. CANDI has distinctive, patent pending features, such as "last drop usage" function that does not require an internal liquid level sensing mechanism.
- TMDSO is available in SEMIF66-1101 and F 96-0704 compliant canisters of 5 Gallons and 2 Gallons (18,9L and 7,6L) equipped with manually or pneumatically actuated valves. For bulk delivery, 55 Gallons canisters are also available along with Air Liquide's Bulk Refill system.



## Transport Information

- Proper shipping name:  
ADR : Flammable Liquid, N.O.S. (Tetramethyldisiloxane)
- DOT : Flammable Liquid, N.O.S. (Tetramethyldisiloxane)
- UN Number: 1993
- EINECS Number : 221-906-4
- ADR Class/division: 3
- DOT Class: 3
- Package group: II (F-Highly Flammable)
- Label ADR/DOT: FLAMMABLE



Air Liquide ALOHA is providing a complete advanced precursor solution. AL ALOHA portfolio covers low k, high k, barrier, metal gate, electrode, including some proprietary solutions for SiN, metals and High k. Manufacturing electronic devices with this material may be claimed in certain patents and seller hereby disclaims any liability as to the use of this material made by buyer.

For more information please contact: [aloha@airliquide.com](mailto:aloha@airliquide.com) or your local Air Liquide representative.

