

# STREM CATALOG

Part of Ascensus Specialties

## Chemical Vapor Deposition (CVD) and Atomic Layer Deposition (ALD) Precursors contained in Swagelok® Cylinders

Element	Symbol	Catalog #	Catalog # of Product Contained	Product Name	CAS#	Quantity in Swagelok® Cylinder
Aluminum	Al	<a href="#">98-4003</a>	93-1360	Trimethylaluminum, min. 98%, 93-1360, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	75-24-1	10g 25g
Aluminum	Al	<a href="#">98-4004</a>	93-1360	Trimethylaluminum, min. 98%, 93-1360, contained in high-temp. 50 ml Swagelok® cylinder (96-1071) for CVD/ALD	75-24-1	25g
Aluminum	Al	<a href="#">98-4008</a>	98-1955	Trimethylaluminum, elec. gr. (99.999+%-Al) PURATREM, 98-1955, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	75-24-1	25g
Aluminum	Al	<a href="#">98-4007</a>	98-1955	Trimethylaluminum, elec. gr. (99.999+%-Al) PURATREM, 98-1955, contained in 50 ml electropolished Swagelok® cylinder (96-1077) for CVD/ALD	75-24-1	25g
Gallium	Ga	<a href="#">98-4068</a>	31-2000	Trimethylgallium, 99+%, 31-2000, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	1445-79-0	10g 25g
Gallium	Ga	<a href="#">98-4047</a>	98-2000	Trimethylgallium, elec. gr. (99.9999%-Ga) PURATREM, 98-2000, contained in 50 ml electropolished Swagelok® cylinder (96-1077) for CVD/ALD	1445-79-0	10g 25g
Germanium	Ge	<a href="#">98-4061</a>	32-0001	Tetrakis(dimethylamino)germanium(IV), 99+%, 32-0001, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	7344-40-3	25g
Germanium	Ge	<a href="#">98-4062</a>	32-0001	Tetrakis(dimethylamino)germanium(IV), 99+%, 32-0001, contained in high-temp 50 ml Swagelok® cylinder (96-1071) for CVD/ALD	7344-40-3	25g
Hafnium	Hf	<a href="#">98-4021</a>	72-8000	Tetrakis(dimethylamino)hafnium, 98+% (99.99+%-Hf, <0.2%-Zr) TDMAH, PURATREM, 72-8000, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	19782-68-4	25g
Hafnium	Hf	<a href="#">98-4022</a>	72-8000	Tetrakis(dimethylamino)hafnium, 98+% (99.99+%-Hf, <0.2%-Zr) TDMAH, PURATREM, 72-8000, contained in 50ml Swagelok® cylinder (96-1071) for CVD/ALD	19782-68-4	25g
Hafnium	Hf	<a href="#">98-4048</a>	72-7720	Tetrakis(ethylmethylamino)hafnium, 99% (99.99+%-Hf, <0.15% Zr) TEMA, PURATREM, 72-7720, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	352535-01-4	10g
Indium	In	<a href="#">98-4057</a>	97-3425	Cyclopentadienylindium (I), elec. gr. (99.99+%-In) PURATREM, 97-3425, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	34822-89-4	5g
Indium	In	<a href="#">98-4054</a>	97-3425	Cyclopentadienylindium (I), elec. gr. (99.99+%-In) PURATREM, 97-3425, contained in 50 ml electropolished Swagelok® cylinder (96-1077) for CVD/ALD	34822-89-4	5g
Indium	In	<a href="#">98-4056</a>	98-2010	Trimethylindium, elec. gr. (99.999%-In) PURATREM, 98-2010, contained in 50 ml electropolished Swagelok® cylinder (96-1077) for CVD/ALD	3385-78-2	25g
Magnesium	Mg	<a href="#">98-4069</a>	12-0900	Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)magnesium, anhydrous, min. 98% [Mg(TMHD)2], 12-0900, contained in high-temp. 50 ml Swagelok® cylinder (96-1071) for CVD/ALD	21361-35-3	15g
Magnesium	Mg	<a href="#">98-4006</a>	12-0510	Bis(ethylcyclopentadienyl)magnesium, min. 98%, 12-0510, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	114460-02-5	10g
Magnesium	Mg	<a href="#">98-4010</a>	12-0510	Bis(ethylcyclopentadienyl)magnesium, min. 98%, 12-0510, contained in high-temp. 50 ml Swagelok® cylinder (96-1071) for CVD/ALD	114460-02-5	10g 25g

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Manganese	Mn	<a href="#">98-4060</a>	25-0200	Bis(cyclopentadienyl)manganese, 98+%, 25-0200, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	73138-26-8	10g 25g
Manganese	Mn	<a href="#">98-4065</a>	25-0210	Bis(ethylcyclopentadienyl)manganese, min. 98%, 25-0210, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	101923-26-6	10g 25g
Niobium	Nb	<a href="#">98-4071</a>	41-0450	(t-Butylimido)tris(diethylamino)niobium(V), min. 98% TBTDEN, 41-0450, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	210363-27-2	25g
Niobium	Nb	<a href="#">98-4075</a>	41-0450	(t-Butylimido)tris(diethylamino)niobium(V), min. 98% TBTDEN, 41-0450, contained in high-temp 50 ml Swagelok® cylinder (96-1071) for CVD/ALD	210363-27-2	25g
Oxygen	O	<a href="#">98-8000</a>	98-0295	Water, 99.999% (PURATREM), 98-0295, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	7732-18-5	25g
Platinum	Pt	<a href="#">98-4024</a>	78-1350	(Trimethyl)methylcyclopentadienylplatinum(IV), 99%, 78-1350, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	94442-22-5	10g 25g
Platinum	Pt	<a href="#">98-4026</a>	78-1350	(Trimethyl)methylcyclopentadienylplatinum(IV), 99%, 78-1350, contained in 50 ml Swagelok® cylinder high temperature valve (96-1071) for CVD/ALD	94442-22-5	20g
Ruthenium	Ru	<a href="#">98-4009</a>	44-0040	Bis(ethylcyclopentadienyl)ruthenium(II), 98% (99.9%-Ru), 44-0040, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	32992-96-4	10g
Ruthenium	Ru	<a href="#">98-4067</a>	44-0040	Bis(ethylcyclopentadienyl)ruthenium (II), 98% (99.9%-Ru), 44-0040, contained in high-temp. 50 ml Swagelok® cylinder (96-1071) for CVD/ALD	32992-96-4	10g 20g
Silicon	Si	<a href="#">98-4036</a>	93-1402	3-Aminopropyltriethoxysilane, 98%, 93-1402, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	919-30-2	25g
Silicon	Si	<a href="#">98-4037</a>	93-1402	3-Aminopropyltriethoxysilane, 98%, 93-1402, contained in high-temp. 50 ml Swagelok® cylinder (96-1071) for CVD/ALD	919-30-2	25g
Silicon	Si	<a href="#">98-4073</a>	98-8810	Bis(diethylamino)silane, 99% (99.999%-Si) BDEAS PURATREM, 98-8810, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	27804-64-4	25g
Silicon	Si	<a href="#">98-4077</a>	98-8810	Bis(diethylamino)silane, 99% (99.999%-Si) BDEAS PURATREM, 98-8810, contained in high-temp 50 ml Swagelok® cylinder (96-1071) for CVD/ALD	27804-64-4	25g
Silicon	Si	<a href="#">98-4070</a>	14-1072	Bis(t-butylamino)silane, BTBAS (99.999%-Si) PURATREM, 14-1072, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	186598-40-3	25g
Silicon	Si	<a href="#">98-4074</a>	14-1072	Bis(t-butylamino)silane, BTBAS (99.999%-Si) PURATREM, 14-1072, contained in high-temp 50 ml Swagelok® cylinder (96-1071) for CVD/ALD	186598-40-3	25g
Silicon	Si	<a href="#">98-4027</a>	98-0147	Silicon(IV) chloride, fiber optic grade (99.9999%-Si, 50ppm-Fe) PURATREM, 98-0147, contained in a 50 ml electropolished Swagelok® cylinder (96-1077) for CVD/ALD	10026-04-7	50g
Silicon	Si	<a href="#">98-6025</a>	14-7015	Tri-t-butoxysilanol (99.999%-Si) PURATREM 14-7015 contained in 50 ml electropolished Swagelok® cylinder (96-1077) for CVD/ALD	18166-43-3	25g
Silicon	Si	<a href="#">98-4035</a>	14-8750	Tris(dimethylamino)silane, 99+%, 3DMAS (99.999%-Si) PURATREM, 14-8750, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	15112-89-7	25g
Tantalum	Ta	<a href="#">98-4045</a>	73-0700	t-Butylimidotris(dimethylamino)tantalum(V), min. 98%, 73-0700, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	69039-11-8	10g 25g
Tin	Sn	<a href="#">98-4050</a>	50-1815	Tetrakis(dimethylamino)tin(IV), 99% (99.99%) TDMASn PURATREM, 50-1815, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	1066-77-9	10g 25g
Tin	Sn	<a href="#">98-4052</a>	50-1150	N,N'-Di-t-butyl-2,3-diamidobutanetin(II), 98%, 50-1150, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	1268357-44-3	5g
Titanium	Ti	<a href="#">98-4043</a>	22-1050	Tetrakis(diethylamino)titanium(IV), 99%, 22-1050, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	4419-47-0	10g 25g
Titanium	Ti	<a href="#">98-4015</a>	93-2240	Tetrakis(dimethylamino)titanium(IV), 99% TDMAT, 93-2240, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	3275-24-9	25g
Titanium	Ti	<a href="#">98-4016</a>	93-2240	Tetrakis(dimethylamino)titanium(IV), 99% TDMAT, 93-2240, contained in high-temp. 50 ml Swagelok™ cylinder (96-1071) for CVD/ALD	3275-24-9	25g
Titanium	Ti	<a href="#">98-4072</a>	22-2240	Tetrakis(dimethylamino)titanium(IV), 99% TDMAT (99.99%-Ti) PURATREM, 22-2240, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	3275-24-9	25g

Element	Symbol	Catalog #	Catalog # of Product Contained	Product Name	CAS#	Quantity in Swagelok® Cylinder
Titanium	Ti	<b>98-4076</b>	22-2240	Tetrakis(dimethylamino)titanium(IV), 99% TDMAT (99.99%-Ti) PURATREM, 22-2240, contained in high-temp 50 ml Swagelok® cylinder (96-1071) for CVD/ALD	3275-24-9	25g
Titanium	Ti	<b>98-4033</b>	22-1150	Titanium(IV) chloride, 99.8+%, 22-1150, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	7550-45-0	25g
Titanium	Ti	<b>98-4030</b>	93-2216	Titanium(IV) i-propoxide, min. 98%, 93-2216, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	546-68-9	25g
Yttrium	Y	<b>98-4018</b>	39-1500	Tris[N,N-bis(trimethylsilyl)amide]yttrium(III), min. 98% (99.9%-Y) (REO), 39-1500, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	41836-28-6	10g
Zinc	Zn	<b>98-4002</b>	97-5060	Dimethylzinc, elec. gr. (99.999%-Zn) PURATREM, 97-5060, contained in 50 ml electropolished Swagelok® cylinder (96-1077) for CVD/ALD	544-97-8	10g
Zinc	Zn	<b>98-4000</b>	93-3030	Diethylzinc, min. 95%, 93-3030, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	557-20-0	25g
Zinc	Zn	<b>98-4005</b>	93-3030	Diethylzinc, min. 95%, 93-3030, contained in high-temp. 50 ml Swagelok® cylinder (96-1071) for CVD/ALD	557-20-0	25g
Zinc	Zn	<b>98-4001</b>	97-5061	Dimethylzinc, 99%, 97-5061, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	544-97-8	25g
Zirconium	Zr	<b>98-4012</b>	40-4100	Tetrakis(dimethylamino)zirconium(IV), 99% TDMAZ, 40-4100, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	19756-04-8	25g
Zirconium	Zr	<b>98-4042</b>	40-4115	Tetrakis(dimethylamino)zirconium(IV), 98% (99.99%-Zr) TDMAZ, 40-4115, contained in 50ml Swagelok® cylinder (96-1070) for CVD/ALD	19756-04-8	25g
Zirconium	Zr	<b>98-4039</b>	40-1710	Tetrakis(ethylmethylamino)zirconium(IV) 99% TEMAZ, 40-1710, contained in 50 ml Swagelok® cylinder (96-1070) for CVD/ALD	175923-04-3	10g 25g

96-1070 Swagelok® Cylinder Assembly, 50ml with ¼" VCR Male Ball Valve and Female Nut for CVD/ALD



23.5cm



Cylinder Body



Standard Ball Valve



High Temp Bellows Sealed Valve



Female Nut



Silverplated Gasket Assembly



EP Female Nut



EP Unplated Gasket Assembly



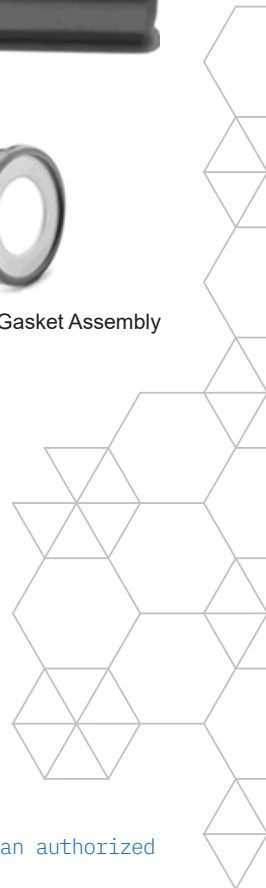
EP Male DP high pressure Diaphragm Valve

96-1077 Swagelok® Cylinder Assembly, 50ml with ¼" VCR Male DP Valve (Ultra High Purity) and Female Nut, electropolished for CVD/ALD

*\*High Temperature Swagelok® cylinder assembly 96-1071 available at extra cost.*



EP Cylinder Body





Headquartered in Bellevue, WA, **Ascensus Specialties is the global leader in catalysts, ligands, building blocks, and specialty reagents.** Our 60+ years of synthetic knowhow, allows us to bring additional value to our clients through our custom synthesis and cGMP services. From world-class production plants in Elma, WA, Evans City, PA, Newburyport, MA, and Cambridge, UK, Ascensus has a global reach that ensures our clients can consistently manufacture their products to the highest standards.

## ▶ THE ASCENSUS ADVANTAGE

**60+ Years Of Experience**

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**Custom-Tailored Purity And Impurity Profiles**

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**Commercial GMP Capabilities**

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**Supply Chain Development**

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**Process Control And Robustness**

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**Bioburden Control**

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