



Your Partner in Custom Manufacturing



# **SPECIALTY & CUSTOM CHEMICALS**

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# The Varsal Story

Since our founding in 1993, Varsal has grown into a technically-focused global manufacturer of specialty chemicals. Headquartered in Warminster, PA, Varsal has an ISO-9001 Certified and GMP-compliant chemical manufacturing center and research/QC laboratory in Tangshan, China.

## The Varsal Advantage

- Guaranteed high-quality products and services with stringent quality assurance program (ISO 9001 Certified, GMP-compliant)
- Deep chemical and instrumentation technical expertise (~ 175 patents)
- Numerous 25+ year relationships with Fortune 500 clients
- 25+ years of ISO/GMP-compliant manufacturing experience
- Extensive global commercial, logistics and procurement capabilities
- Technical, product-driven value creation (3x Inc. 5000 honoree)

**We forge everlasting partnerships by offering quality products at competitive prices with on-time delivery.**



## Core Products

TosMIC	HPA	Triflics (TFA, TFAA)
Application	Application	Application
Intermediate used primarily in pharmaceutical and specialty industrial applications	Powerful reducing agent used in pharmaceutical, industrial, and textile applications	Used in alkylation, esterification, polymerization reactions, and as a reagent
Varsal Advantage	Varsal Advantage	Varsal Advantage
<ul style="list-style-type: none"> <li>✓ Leading large-scale, pharma-grade production capacity</li> <li>✓ Extremely high-purity material maximizes end-product yield and quality</li> </ul>	<ul style="list-style-type: none"> <li>✓ Ion-exchange process that treats negative ions (<math>\text{Cl}^-</math>, <math>\text{SO}_3^{2-}</math>)</li> <li>✓ Extremely high-purity material maximizes end-product yield and quality</li> </ul>	<ul style="list-style-type: none"> <li>✓ Very clean manufacturing process and has extremely high-purity with low residual impurities</li> <li>✓ Logistics and packaging expertise</li> </ul>
MSC	MSA	MSAA
Application	Application	Application
Used as a building block in the pharmaceutical, personal care, and other industries	Used as a solvent and as a catalyst of alkylation, esterification, and polymerization	Used as a reagent primarily for pharmaceutical and industrial applications
Varsal Advantage	Varsal Advantage	Varsal Advantage
<ul style="list-style-type: none"> <li>✓ Clean DMDS process</li> <li>✓ No methyl mercaptan odor and no detectable esters</li> <li>✓ Harmless to humans</li> <li>✓ Impurity cleansing capabilities</li> </ul>	<ul style="list-style-type: none"> <li>✓ Clean DMDS process</li> <li>✓ No methyl mercaptan odor and no detectable esters</li> <li>✓ Harmless to humans</li> <li>✓ Impurity cleansing capabilities</li> </ul>	<ul style="list-style-type: none"> <li>✓ Corrosive and moisture-sensitive logistics and packaging expertise</li> <li>✓ Extremely high-purity material maximizes end-product yield and quality</li> </ul>

## Industries Served



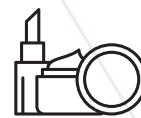
**Pharmaceutical**



**Industrial**



**Electronics**



**Personal Care**

We offer a wide range of packaging options including bulk shipments, intermediate bulk containers (totes), drums, bags, and pails.

Product	Applications				Varsal Advantage
Pharmaceutical/Technical Intermediates	Pharma	Electronics	Industrial	Personal Care/Other	
Toluenesulfonylmethyl isocyanide (TosMIC)	✓		✓		Leading producer, high-purity, low loss on drying leads to higher yield
Trifluoromethanesulfonic acid (Triflic)	✓		✓		High-purity, low waste & corrosion
Trifluoromethanesulfonic acid (Triflic), Anhydride	✓		✓		High-purity, low waste & corrosion
N,N'-Dicyclohexylcarbodiimide (DCC)	✓				High-purity, low loss on drying leads to higher yield
L-Aspartic acid	✓			✓	High-purity, customized to specification
Acetamidine hydrochloride	✓		✓	✓	High-purity, utilizes Varsal's chlorination expertise
L-Arginine ethyl ester dihydrochloride (L-AEE)	✓				High-purity, low waste leads to higher yield
Mechlorethamine hydrochloride	✓				High-purity, utilizes Varsal's chlorination expertise
Sulfonyl Chemicals	Pharma	Electronics	Industrial	Personal Care/Other	
Methanesulfonic acid (MSA) 70%	✓	✓	✓		Low odor, low oxidizables & chlorides
Methanesulfonic acid (MSA), Anhydrous/Pharma	✓	✓	✓		DMDS-based, cleaner & safer than methyl mercaptan, proven quality
Tin/Lead methanesulfonate	✓	✓			Low odor, low oxidizables & chlorides, superior performance
Methanesulfonyl chloride (MSC)	✓	✓	✓	✓	High-purity, low waste & corrosion, effective germ/pest control
Methanesulfonic anhydride (MSAA)	✓	✓	✓		High-purity with low residual properties
4-Octylbenzenesulfonic acid (OBSA)		✓	✓		High-purity with low residual properties
Propanesulfonyl chloride (PSC)	✓		✓		High-purity with low residual properties
Phosphorous Chemicals	Pharma	Electronics	Industrial	Personal Care/Other	
Sodium hypophosphite, Monohydrate	✓	✓	✓		Superior performance, low oxidizables & chlorides
Hyphosphorous acid (HPA)	✓	✓	✓		Superior performance, low oxidizables & chlorides, low odor
Nickel hypophosphite, Hexahydrate			✓	✓	Produced through proprietary process, high-purity
Phosphorus pentoxide	✓		✓	✓	High-purity with low residual impurities