

Your Technology Solutions Provider



Sustainability

Process Research & Development, Green Chemistry, Impurities, Reference Standards
— 325 plus personnel 170 PhD's

Raptor® Continuous Commercial Processing
— [5-300 Liters per Hour ≈ 1 to 60 Kg per Hour]

Services (#1 S&P)



Fine Chemicals

Markets/Industries Served: [Grams to Commercial]

- Additives
- Adhesives
- Aerospace
- Agriculture
- Apparel & Footwear
- Automotive
- Coatings
- Elastomers
- Electronics
- Functional Fluids
- High Performance TPE
- Inks
- Micro-Reactors/Continuous Flow Technology
- Performance Coatings
- Sealants
- Tires
- Transportation

Products and Technologies

Additives	Metallocene	Vinyl Phosphonic Acid (VPA)	MercachemSyncom	Raft Agents	Alkylborane Complexes	VELVETOL®
Acidic Surface Binders Surface Modifiers Polyols	Air sensitive packaging n-Butyl Lithium 	• Adhesion Promoter • Flame Retardant Properties • Metal Complexation properties • Dispersing Benefits 	Syncom Partner Company Novel OLED's Green PTA, PET & FDCA Conductive Thiophenes 	Highly Engineered Polymers Narrow Molecular Weight Control Stereochemistry Acrylates Styrenes	O-R O ₂ R R O-B 	Bio Based High Performance Polyols Molecular Weight: 500 - 2700 g/mol CAS-No.: 345260-48-2
Silanes & Siloxanes	MSA/MSC	Lactates	Metallic Compounds	Raptor Technology	Surface Modification	Specialty Solvents
Hexamethyldisilazane Hexamethyldisiloxane Me ₂ SiCl ₂ , Me ₂ SiCl ₃ HSiCl ₃ , SiCl ₄ , MeHSiCl ₂ , Me ₂ HSiCl	Methanesulfonic Acid Methanesulfonyl Chloride Methanesulfonyl Reagent Quality 	Ethyl Lactate Lactic Acid Sodium Lactate Sodium Pyruvate Lactides 	Ruthenium Metathesis Catalysts Diaryl Magnesium Ar ₂ Mg Organolithium Organosodium Phosphine, Carbene	Flow Chemistry • Phosgenation • Ozonolysis • Organometallic • High Pressure • Cryogenic	High Performance Adhesion Properties SIK7903-10 Aerospace 	Dimethylimidazolidinone (DMI) Cyclopentyl Methyl Ether (CPME) Dimethyl Sulfoxide (DMSO) Propylene Carbonate, High Purity

Industrial & High Performance Processing Materials

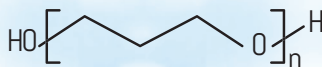
	Lactic Acid	Sodium Lactate	Ethyl Lactate	Methyl Lactate	Butyl Lactate	Ethyl Pyruvate	Methyl Pyruvate	DL-Alanine
pH buffers	👍	👍						
Anti-microbials	👍	👍						
Detergents For Electronics			👍	👍	👍	👍		
Detergents			👍	👍	👍	👍	👍	
Solvents For Paint And Inks			👍	👍	👍			
Solvents For Polymers			👍	👍	👍			
Electroless Ni-plating	👍							
Agrochemicals	👍					👍		
Bioremediation Agent	👍	👍	👍					
Additives For CMP Slurry								👍

Specialty Packed Processing Solvents

Available in 20 L quantities

Acetone	67-64-1
Methanol	67-56-1
200 Proof Ethanol	64-17-5
Isopropyl Alcohol	67-63-0
Tetrahydrofuran	109-99-9
Ethyl Acetate	141-78-6
Isopropyl Acetate	108-21-4
2-Methyltetrahydrofuran	96-47-9
tert-Butyl Methyl Ether	1634-04-4
Toluene	108-88-3
Heptane	142-82-5

VELVETOL®
PO3G Polypropanediol



Molecular Weight: 500 – 2700 g/mol
CAS-No.: 345260-48-2

GREEN

Plant-derived polyol: stands out with its consistent quality & range of applications.

Property	Units	H500	H1000	H2000	H2700
Content	%	100	100	100	100
Molecular weight	Dalton	400 - 600	900 - 1100	1900 - 2100	2600 - 2800
Hydroxyl number	mg KOH/Kg	280 - 187	125 - 102	59.1 - 53.4	40.7 - 43.9
CPR* (Alkalinity)	meq KOH/30 Kg	-2.0 - +2.0	-2.0 - +2.0	-2.0 - +2.0	-2.0 - +2.0
	ppm	< 5	< 5	< 5	< 5
Acid number	mg KOH/g	< 0.05	< 0.05	< 0.05	< 0.05
Na metal content	ppm	< 10	< 10	< 10	< 10
Other Metal Content**	ppm	< 5	< 5	< 5	< 5
Peroxide Content	ppm	< 5	< 5	< 5	< 5
Water	ppm	< 500	< 500	< 500	< 500
Color	max 50	max 50	max 50	max 50	max 120
Viscosity 40°C	mPa·s	90 - 120	200 - 300	750 - 900	1450 - 1850
Density 40°C	g/mL	1.02	1.018	1.016	1.016
Melting Point	°C	0 - 5	12 - 14	16 - 18	23 - 25

* Controlled Polymerization Rate ** K, Ca, Mg, Fe, Al

Applications of Velvetol®

	Personal Care	Paint Coatings	High Perform. Elastomers	Sealants	3D Printing	Synthetic Leather	Adhesive
H500	👍						
H1000		👍	👍	👍	👍		
H2000			👍		👍	👍	
H2700		👍	👍	👍		👍	👍

Outstanding Properties and Unique Characteristics of Velvetol®

- Low mp (9–22°C), low viscosity (100–1500 cp)
- High boiling point (>340°C)
- Low freezing point (down to –50°C with additives)
- High thermal heat capacity
- Pumpable liquids (9–19°C) versus (poly tetramethylene ether)-glycol (23–28°C)
- Hydrolysis resistant, high oxidative stability
- More resistant against acid and heat compared to PTMEG
- Water-soluble / insoluble depending on the molecular weight
- Excellent abrasion resistance
- Improved flexibility and low temperature (T_g<30°C)
- Increases the content of bio-based materials in end products (up to 80 % in elastomers, up to 30 % in plasticizers)
- Good processibility (low mp, low viscosity, slow crystallization rates, low T_g)
- Thermo-oxidatively stable
- Increased durability in various end use applications including artificial leather and coatings
- 100% sustainable content
- Environmentally friendly and safe
- Low volatility and bio-degradable
- Clear liquids with low or no melting points



INNOVASSYNTH TECHNOLOGIES(I) LTD

Organometallic Capabilities

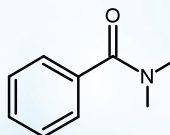
- Custom packing tailored to user batch size
- Inert shipping and packing
- Dedicated labs
- Made to order on customer requirements
- Air & Moisture sensitive operations
- Pyrophoric material handling

Metallocenes Catalysts

- Silica mounting of Metallocene precursors

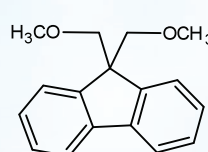
DMBA Donor

N,N-Dimethylbenzamide
CAS# 611-74-5
Purity by GC → 99%
Use: Ligand/Donor in metal catalyst synthesis



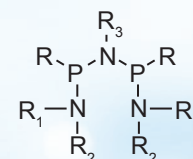
Flu Donor

9,9'-bis(methoxymethyl)fluorene
CAS# 182121-12-6
Purity by GC → 99%
Use: Ligand/Donor in metal catalyst synthesis



NPNP Ligands/Catalyst

Purity by titration → 80%



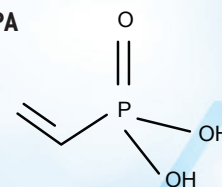
Applications

- Metal Treatment
- Corrosion Inhibitor
- Coatings
- Oilfield Chemicals
- Water Treatment
- Cement Additive

Characteristics

- Applicability as Monomer, Polymer & Co-Polymer
- Adhesion Promotion
- Strong Metal Complexation Properties
- Dispersion Benefits
- Flame-Retardant Properties

VPA



VPA-DME

