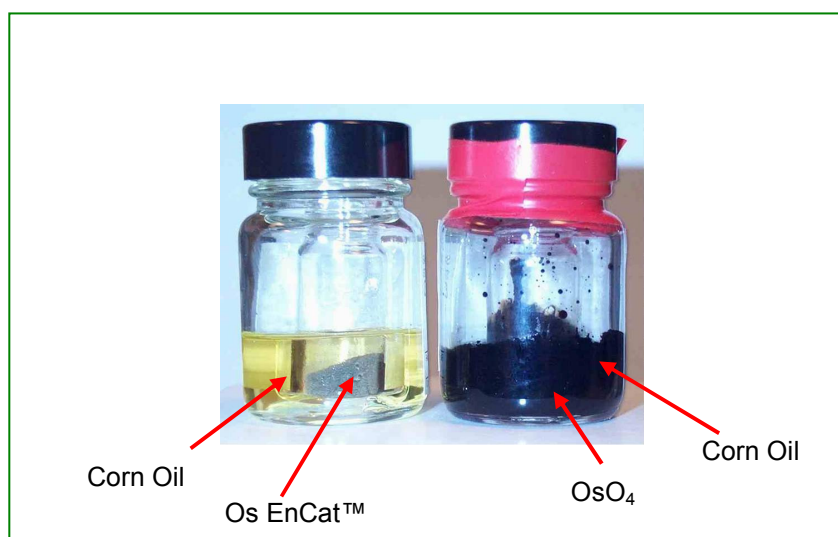


Os EnCat™

Encapsulated osmium tetroxide catalyst

Reaxa's Os EnCat™ catalyst incorporates osmium tetroxide within a porous polymer bead resulting in safer handling with low levels of osmium contamination in oxidation reactions



In the above picture, a sample of Os EnCat™ 40 does not decompose in corn oil, indicating no release of volatile osmium in the headspace, whereas a sample of osmium tetroxide quickly gives decomposition in corn oil to a black tar

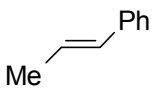
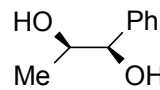
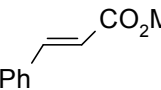
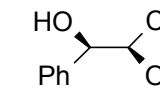
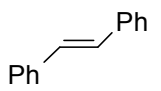
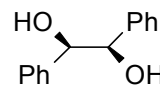
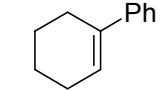
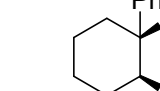
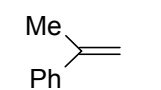
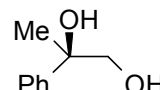
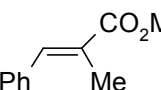
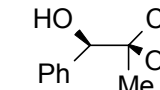
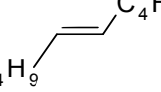
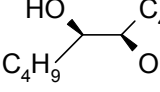
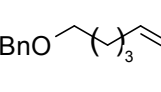
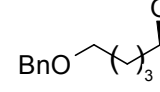
Cleaner products	typically less than 20 ppm Os in crude reaction products
Cleaner waste streams	minimal metal losses in Os EnCat™ processes
Fast, efficient processes	EnCat™ beads filter easily
No plant contamination	metal remains trapped within the polymer bead
Improved processes	high activity and selectivity in many types of reduction reactions
Process intensification	EnCat™ can be used in batch and continuous flow processes

Product	Os Metal Content % w/w	OsO ₄ Loading mmol/g	Particle Size Range μm (average)
Os EnCat™ 40	4.8 - 5.7	0.25 - 0.30	40 - 300 (165)

Os EnCat™

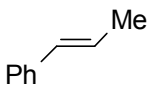
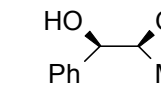
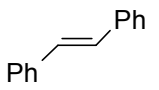
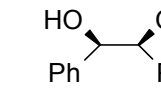
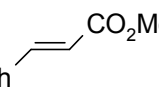
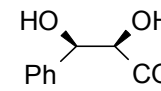
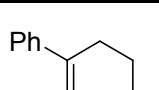
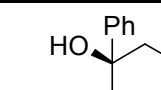
Applications

Dihydroxylation reactions:

Substrate	Product	Yield (%)	Substrate	Product	Yield (%)
		80			83
		84			82
		90			85
		84			73

Olefin (1 mmol), NMO (1.3 mmol), 5 mol% Os EnCat™, acetone/water, RT, 12-20 h

Asymmetric dihydroxylation reactions:

Substrate	Product	Yield (%)	ee (%)
		98	94
		88	>99
		94	>99
		91	97

5 mol% Os EnCat™/(DHQD)₂PHAL, MeSO₂NH₂, K₃Fe(CN)₆, K₂CO₃, THF/water, RT, 24-48 h

For more information about EnCat™ catalysts please visit: www.reaxa.com/encat
For EnCat™ samples and test kits please visit: www.reaxa.com/samples
For bulk quotations on EnCat™ products contact: info@reaxa.com

