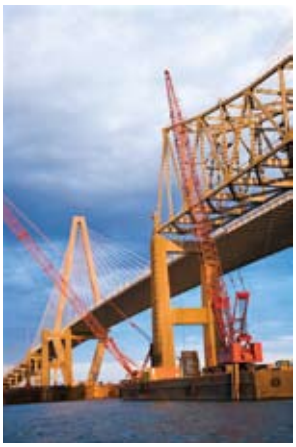
EASTMAN

Eastman SPECIALTY KETONES

Eastman™ specialty ketones can help achieve high-solids coatings with excellent appearance and performance. One of the most prevalent drivers in many applications today, and especially in coatings, is the need to meet volatile organic content (VOC) regulations. Often, this requires a change to higher-solids coating systems which contain less solvents. It can be difficult to achieve the required balance of VOC content, application properties, appearance, and performance. While such high-solids systems may offer higher resin content for better coverage and protection, these high-solid systems may also have higher viscosity profiles which can lead to poor application and appearance properties.



High solvency and low density

Ketones are known to have excellent solvent activity with a wide range of different resin systems. The high-solvency characteristics along with low density make ketones the perfect solvent for high-solids coatings. As shown in Table 1, their high solvency allows ketones to lower the viscosities of various resin systems better than any other solvent with comparable evaporation rates. The low density of the ketones yields coatings containing fewer grams of solvent per liter of coating (lower VOC) when compared to solvents with the same evaporation rate.

Evaporation rate

Eastman provides ketones with a wide range of evaporation rates. This allows formulators to tailor their solvent blend to give their coatings the required drying profile for all types of systems. Depending on the application and climatic conditions, the solvent blend can be adjusted to either increase or decrease evaporation rate to improve the paint appearance. Eastman™ specialty ketones can be used to achieve excellent flow and leveling and sag resistance, while preventing defects such as solvent popping and dry spray.

Surface tension

The surface tension of coatings usually increases as the solids content increases. This high surface tension can contribute to poor sprayability, insufficient wetting of the substrate, cratering, and picture framing. Selecting a solvent blend with the proper surface tension aids in balancing activity to reduce such defects.

Pound for pound, Eastman™ specialty ketones offer more benefits than any solvent available.

Table 1: Comparison of solvent properties

Solvent	Evaporation Rate (n-BuOAc = 1)	R ½-s NC Viscosity 8% Solids	Eastman™ CAB-381-0.5 Viscosity 8% Solids	Solvent Density, g/cm³	Surface Tension Dynes/cm
Methyl Propyl Ketone (Eastman™ MPK)	2.3	14	13	0.81	26.6
n-Propyl Acetate		22	18	0.89	24.3
Methyl Isoamyl Ketone (Eastman™ MIAK)	0.5	23	20	0.81	25.8
Methyl Amyl Acetate		54	N/A	0.97	22.6
n-Butyl Propionate		109	116	0.87	25.3
Methyl Amyl Ketone (Eastman™ MAK)	0.4	25	20	0.82	26.1
PM Acetate		64	43	0.97	26.4
p-Amyl Acetate		40	31	0.87	28.5
IBIB		100	Insoluble	0.86	23.2

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with Eastman

Eastman Chemical Company is committed to being its customers' strategic partner of choice, developing and delivering differentiated solutions that meet and anticipate their needs.

NORTH AMERICAN EDITION

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