

Resin Cleaning – Objectives

Objective

A solution based on ACETONE FREE
Offered with tech service from Element Raw Materials and includes

- (i) technical advice on recycling
- (ii) equipment to improve cleaning efficiency
- (iii) changing methods of working

Customers:

Resin manufacturers
Resin users
Equipment manufacturers

Cleaning Needs

Tanks, reactors
Injection devices, nozzles, moulds, small tools



Resins

Unsaturated Polyesters (boats, showers, swimming pools...) → Acetone
Polyurethane (floors, mattresses, insulation...) → NMP, DCM
Epoxy (laminates, electronics, glue...) → Acetone, NMP



Efficient alternative for Resin Clean-up

Cost Efficient

- Comparable dissolution speeds to Acetone and DCM
- Reduced solvent loss (Use 3-5x less than acetone)
- Powerful solvent for dissolving a wide range of resins and polymers
- Easy-to-recycle by distillation

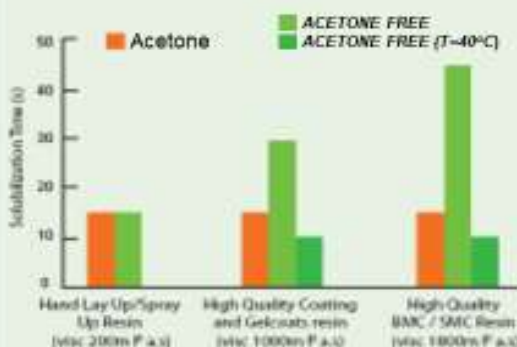
Excellent HSE

- Low odor
- Non-carcinogenic
- Not an irritant or sensitizer
- Non-VOC (to EU directive 1999/13/EC)
- Readily Biodegradable

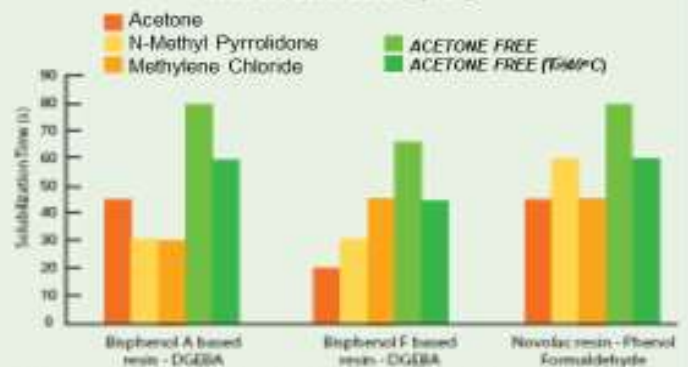
Easy-to-use

- Apply using standard techniques employed with traditional cleaning solvents
- Use above room temperature to further enhance cleaning speed and efficiency
- Easy-to-formulate with other solvents to broaden range of applicable resins

Time to Dissolve Unsaturated Polyester



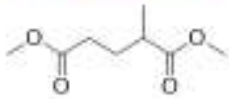
Time to Dissolve Epoxy



Cleaning time was assessed by measuring the time required in seconds for complete dissolve 1 part resin in 1 part solvent at room temperature.

ACETONE FREE

ACETONE FREE (Dimethyl Methyl Glutarate)

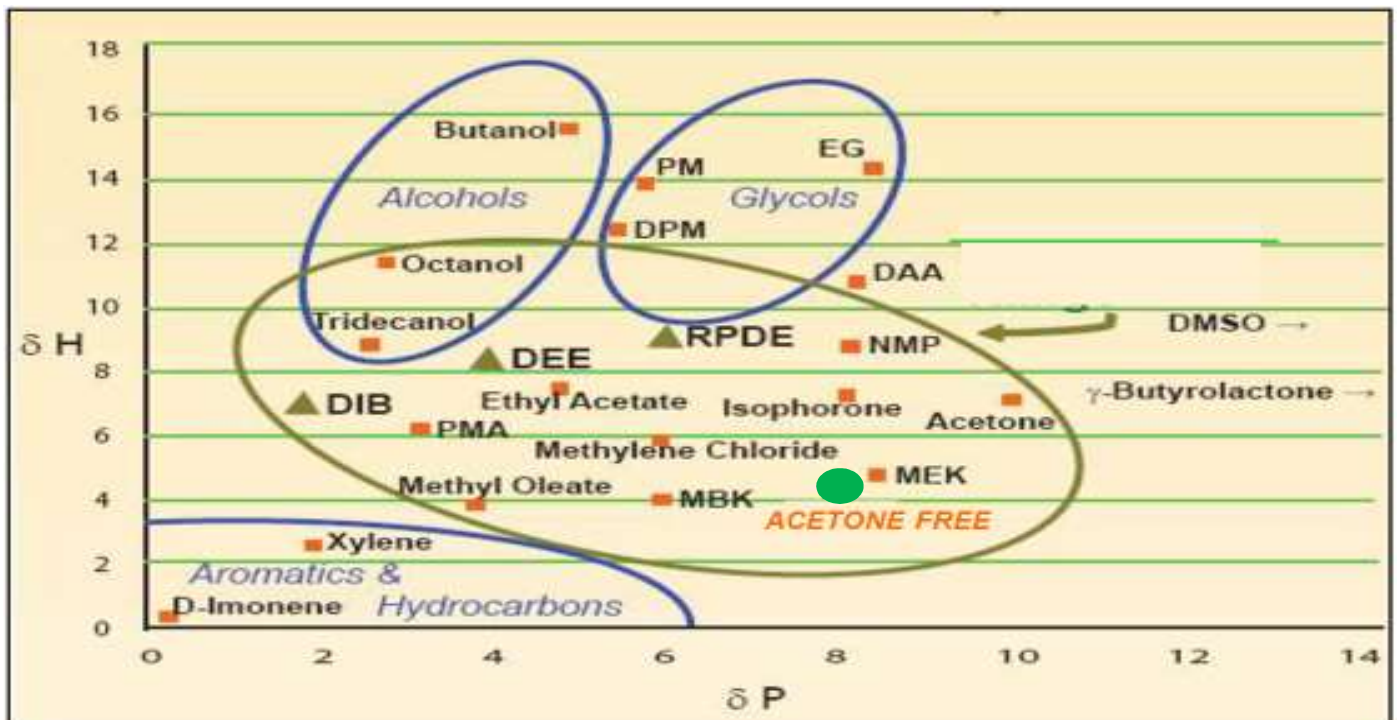


Dimethyl Methyl Glutarate

May replace toxic, carcinogenic or volatile solvents (NMP, DCM, Acetone)

- ACETONE FREE has a unique position on the solvency map
- Combines ketone like solvency (MEK, MIBK...) with low vapor pressure (LVP)/zero VOC (EU)

Solvents	B.P@760 mm Hg	Flash point Closed cup	Vapor pressure @ 20 °C	Evaporation@ 25 °C (n-BuAc=1)	Hazard statements	Signal words	Symbols
ACETONE FREE	222-224	98	6.1 Pa	0.006	None	None	None
Acetone	56.5	-18	24100 Pa	7.7	H225 H319 H336	Danger	
Methylene Chloride (DCM)	40	-	46900 Pa	9.9	H351	Warning	
N-Methyl Pyrrolidone (NMP)	202	86	40 Pa	0.03	H360... H319 H335 H315	Danger	



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