

## Applications

- ▶ Enteric coating is used for resistance to gastric fluid.
- ▶ Film coating is used for resistance to environmental effect like humidity, temperature, light, etc.
- ▶ Provides product identity.
- ▶ Imparts cosmetic elegance to product appearance.
- ▶ Reduces the risk of incompatibility.
- ▶ Improves mechanical strength of product.
- ▶ Suitable for matrix structure.

## Benefit

- ▶ Option of solvent, hydroalcoholic and aqueous vehicle.
- ▶ Less quality required so reducing volume of coating solution thus shorting production time.
- ▶ Stability over a broad temperature range.
- ▶ Exhibits excellent colour value.
- ▶ Cost effective.
- ▶ Easy to formulate.

## Toxicity

- ▶ As Metcoat range is a high molecular weight polymer, it can not be absorbed by body. Thus, it is safe for human consumption.
- ▶ Test for toxicological tolerance shows that it does not have any pronounced or physiological action.

## ShelfLife

- ▶ Powder form: Five years from date of manufacturing in intact condition.
- ▶ Liquid form: Two year from date of manufacturing in intact condition.

## Packing

- ▶ Powder form: 5kg and 20kg net in corrugated with polyethylene liner.
- ▶ Liquid form: 60kg plastic drum.

## Storage

- ▶ Powder: Store at dry place and below 25°C.
- ▶ Liquid : Store at dry place and between 5°C to 35°C. Do not freeze.

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# Methacrylic Acid Copolymers (METCOAT)

Enteric coating

Sustained Release

Transdermal Patch

Encapsulation

- ➔ Metcoat L-30D Liquid
- ➔ Metcoat L-100 Powder
- ➔ Metcoat S-100 Powder
- ➔ Metcoat L-100D Powder
- ➔ Metcoat E-100 Powder
- ➔ Metcoat RL-100 Powder
- ➔ Metcoat RS-100 Powder



the new generation polymer technologist

Metcoat range is transparent or colored film former coating polymers based on methacrylic acid co-polymers type A, B & C which confirms to USP/NF, EP & JP specification. The range of Metcoat is useful for film coating, enteric coating, sustained release coating and matrix forming, transdermal therapeutic system etc.



Application	Grade*	Availability	Solvents	Use Level** (calculation on dry basis)	Solubility	Pharmacopoeial Monographs	Advantages
▶ <b>Enteric Coating</b> (Drug delivery in Jejunum)	Metcoat L100 Metcoat L12.5	Powder 12.5% Clear solution in isopropanol	▶ Alcohol ▶ Acetone ▶ Alcohol+ Water (3%)	4.0 - 5.0%	▶ Soluble in intestinal fluid from pH 6.0 and above ▶ Insoluble in gastric fluid	▶ USP/NF : Methacrylic Acid Copolymer, Type A - NF ▶ Ph.Eur : Methacrylic Acid - Methyl Methacrylate Copolymer (1:1)	▶ Organic / solvent coating system ▶ Less Quantity requirement
▶ <b>Enteric Coating</b> (Drug delivery in duodenum)	Metcoat L100D	Powder	▶ Water ▶ Water + Alcohol ▶ Alcohol	4.0 - 5.0%	▶ Soluble in intestinal fluid from pH 5.5 and above ▶ Insoluble in gastric fluid	▶ USP/NF : Methacrylic Acid Copolymer, Type C - NF ▶ Ph.Eur : Methacrylic Acid - Ethyl acrylate Copolymer (1:1) Type A	▶ Aqueous & semi aqueous coating system ▶ Less quantity requirement
	Metcoat L30D	30% Milky aqueous dispersion					
▶ <b>Sustained release</b> ▶ <b>Enteric coating</b> (Drug delivery in Colon)	Metcoat S100 Metcoat S12.5 Metcoat E 100 Metcoat RL100 Metcoat RS100	Powder 12.5% Clear solution in isopropanol	▶ Alcohol ▶ Acetone ▶ Alcohol + Water	10.0 - 20.0%	▶ Soluble in intestinal fluid from pH 7.0 and above ▶ Insoluble in gastric fluid	▶ USP/NF : Methacrylic Acid Copolymer, Type B - NF ▶ Ph.Eur : Methacrylic Acid - Methyl Methacrylate Copolymer (1:2)	▶ pH dependent polymer ▶ Mixing possibility with Metcoat - L100

- ▶ Plasticizer needed to improve film elasticity where the films are brittle, Recommended Plasticizers - Triethyl Citrate, Castor Oil, Propylene glycol, Polyethylene Glycol, Di butyl phtalate, Triacetin, Dibutyl, sebacate etc.
- ▶ Depends upon facilities available at customer premises like type of product, batch size, equipments etc.

