



Lifescience Pvt. Ltd.

Innovation... Quality... Commitment...

Ion-exchange Resin



Methacrylic Acid Copolymer



Color Ready mix



Dharacoat[®]

Methacrylic Acid Copolymer

Readycoat[®]

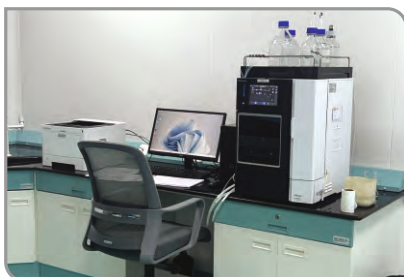
Film Coating Ready Mix

Enteric Coating | Film Coating | Moisture Barrier | Sustained-Release
Taste Masking | Super Disintegrant

Chairman's Message

Our commitment is to never compromise on the quality & services. We monitor the highest level quality with our dedication, passion and determination to retain trust that customers have in us. We make sure that our customers get the best quality products for various customised applications.

B. K. Patel
Chairman



About us...

Corporate Office



Dhara Lifescience Pvt. Ltd, started its operation in 2009. The world's most preferred pharma excipients like Methacrylic acid copolymers, Color ready-mix material & Ion exchange resins are manufactured by us with utmost dedication at our state-of-the-art manufacturing facilities in India. **Dharacoat | Readycoat | Ionex** are the trusted brand names in these segments.

We have two 'state-of-the-art' manufacturing facilities.

Unit-I : Pharma Color Readymix | Powder product batch size up to - 1,000 Kg

Unit-II : Pharma Polymers | Liquid product batch size up to - 11,000 Kg

'Grab the faster coating technology advantage' is not just a tag line in tablet coating segment but a genuine serious approach. Due to our innovation, process development, quality polymers, cGMP manufacturing facilities, dedicated and well experienced R & D teams, committed QA/QC departments, excellent back office support and a strong techno-marketing field force; a complete team work in real means, is the key of success and the back bone of our organization. Our corporate office is situated at Science City Road, in Ahmedabad, Gujarat (INDIA).

Our R & D team efforts have made tablet coating process much easier, simpler and hassle free. We have our established brands with various grades. We offer highest level quality products, which are manufactured at our 'state-of-the-art' facilities.

We work in a 'family-friendly work culture' but with professional approach so that each individual can put the best efforts to accomplish responsibilities and goal which leads to the maximum customer satisfaction.

We have started our liaison office in Bangladesh (Dhaka) with techno-marketing support to enhance customer services. We have strong presence across globe, which helps our clients to reach us easily.

New Product Development Centre

Polymer R & D

- Reactor
- Mixer
- Boiler
- Blender
- Shifter
- Dryer
- Oven

Readymix R & D

- Manual Coating Machine
- Auto Coater
- Colour matching machine
- Film Applicator
- Particle size analyzer
- Micronizer
- UV Spectrophotometer

Formulation R & D

- Rapid Mixer Granulator
- Fluid Bed Dryer
- Fluid Bed Processor
- Compression Machine
- Auto Coater
- Blender
- Shifter



Enteric Formulations

| | |
|-----------------|---|
| L 30D-55 | USP/NF : Methacrylic Acid and Ethyl Acrylate Copolymer Dispersion Ph. Eur. : Methacrylic Acid-Ethyl Acrylate Copolymer (1:1) Dispersion 30% |
| L 100-55 | USP/NF : Methacrylic Acid and Ethyl Acrylate Copolymer Ph. Eur. : Methacrylic Acid-Ethyl Acrylate Copolymer (1:1) Type A |
| MAE 100P | USP/NF : Partially-Neutralized Methacrylic Acid and Ethyl Acrylate Copolymer (1:1) Ph. Eur. : Methacrylic Acid-Ethyl Acrylate Copolymer (1:1) Type B |
| L 100 | USP/NF : Methacrylic Acid and Methyl Methacrylate Copolymer (1:1) Ph. Eur. : Methacrylic Acid-Methyl Methacrylate Copolymer (1:1) |
| L 12.5 | |
| S 100 | USP/NF : Methacrylic Acid and Methyl Methacrylate Copolymer (1:2) Ph. Eur. : Methacrylic Acid-Methyl Methacrylate Copolymer (1:2) |
| S 12.5 | |
| FS 30D | USP/NF : Methyl Acrylate, Methyl Methacrylate and Methacrylic Acid (7:3:1) Copolymer 280000 Dispersion |

Protective Formulations

| | |
|---------------|--|
| E 100 | USP/NF : Amino Methacrylate Copolymer Ph. Eur. : Basic Butylated Methacrylate Copolymer |
| EPO | |
| E 12.5 | |

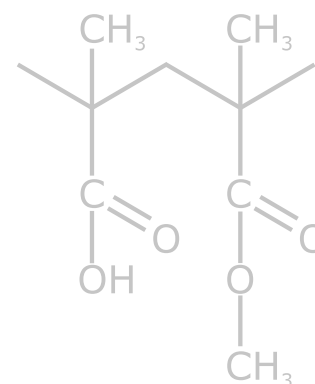
Sustained-Release Formulations

| | |
|----------------|--|
| RL 100 | USP/NF : Ammonio Methacrylate Copolymer, Type A Ph. Eur. : Ammonio Methacrylate Copolymer, Type A |
| RL PO | |
| RL 12.5 | |
| RS 100 | USP/NF : Ammonio Methacrylate Copolymer, Type B Ph. Eur. : Ammonio Methacrylate Copolymer, Type B |
| RS PO | |
| RS 12.5 | |

Products Physical form Dissolution

Enteric Formulations

| | | |
|-----------------|------------------------|--------------|
| L 30D-55 | 30% Aqueous Dispersion | |
| L 100-55 | Powder | Above pH 5.5 |
| MAE 100P | Powder | |
| L 100 | Powder | Above pH 6.0 |
| L 12.5 | 12.5% Organic Solution | |
| S 100 | Powder | Above pH 7.0 |
| S 12.5 | 12.5% Organic Solution | |
| FS 30D | 30% Aqueous Dispersion | Above pH 7.0 |

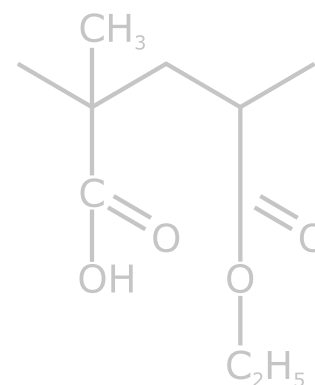


Protective Formulations

| | | |
|---------------|------------------------|---------------------------------------|
| E 100 | Granules | |
| EPO | Powder | Soluble in gastric fluid up to pH 5.0 |
| E 12.5 | 12.5% Organic Solution | Swellable and permeable above pH 5.5 |

Sustained-Release Formulations

| | | |
|----------------|------------------------|----------------|
| RL 100 | Granules | |
| RL PO | Powder | pH independent |
| RL 12.5 | 12.5% Organic Solution | |
| RS 100 | Granules | |
| RS PO | Powder | pH independent |
| RS 12.5 | 12.5% Organic Solution | |



Readycoat®

Color Ready Mix

| Products | Reconstitution (%) | | Application (%) | Examples |
|---------------------------------------|--|-------------|-----------------|---|
| | Aqueous | Non-Aqueous | | |
| Immediate Release Formulations | | | | |
| UNIVERSAL | Universal Film coating 10% 5% | | 2.0% to 2.5%* | Ibuprofen, Acetaminophen, Ciprofloxacin Hcl, Azithromycin, Fexofenadine Hcl, Metformin Hcl, Coralcalcium, Cetirizine. |
| HS | Aqueous High Speed coating 33% NA | | 2.0% to 2.5%* | |
| AMB | Aqueous Moisture Barrier coating 20% NA | | 2.0% to 3.5%* | Ranitidine Hcl, Calcium carbonate combination, Diclofenac Potassium, Sildenafil |
| MB | Non-Aqueous Moisture Barrier coating NA 5% | | 3.0% to 4.5%* | Potassium clavulanate, Multivitamins, B-complex, Herbal, Clopidogrel Bisulphate, Montelukast. |
| SC | Universal Protective Sub coating 10% 5% | | 2.5% to 3.0%* | Pantoprazole sodium, Rabeprazole sodium, Esomeprazole sodium. |
| CLEAR | Universal Transparent coating 7% 5% | | 1.0% to 2.0%* | Herbal, Senna, Multivitamins, Diclofenac potassium. |
| SG | Sprayable Sugar coating 33% NA | | 60% to 80%* | Bisacodyl, Trypsin and Chymotrypsin, Chloroquine. |

Enteric Formulations

| | | | | |
|---------------|--|--|----------------|--|
| EZE | Aqueous Enteric coating 20% NA | | 8.0% to 10.0%* | Pantoprazole sodium, Aspirin, Rabeprazole sodium, Bisacodyl, Sulfasalazine, Esomeprazole magnesium, Omeprazole sodium, Diclofenac sodium, Mesalazine, Naproxen sodium, Duloxetine Hcl, Garlic, Fish oil. |
| EZE II | Aqueous Enteric coating 20% NA | | 6.5% to 9.0%* | |
| EC | Non-Aqueous Enteric coating NA 10% | | 8.0% to 10.0%* | Sodium valproate, Charcoal, Serratiopeptidase, Doxylamine succinate, Sodium bicarbonate, PPIs. |

Ready to Use Emulsion

Readycoat 30D - RD20 / HTP 20 / T20

Readycoat®

Specialty Products

| Products | Description | |
|----------------|-----------------------------|--|
| PEARL | Candurin Color Coating | Available In Combination With All Grades |
| SWEET | Artificial Sweetner Coating | |
| FLAVOUR | Flavour Coating | |
| GLOW | Glow Coating | |

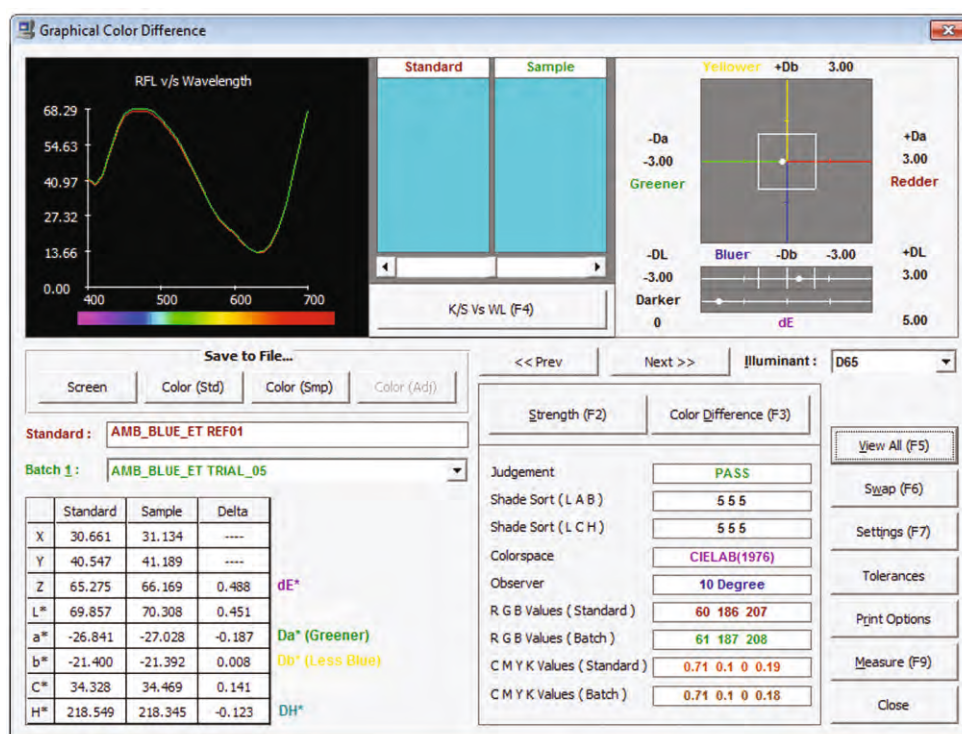
* Application (%) may differ depending on physical and chemical properties of finished dosage forms.

Salient Features of Readycoat Grades

- Color matching using software for ΔE value
- Batch to batch color uniformity.
- Low inventory required.
- Minimize cost of testing.
- Consistent performance.
- Processing time reduction.
- Less technical expertise required.
- Customised grades available.



Colour matching software ΔE value report (ΔE value)



"You Name it, We Frame it !"

Customised Product Development

- Tabprint Inks are edible printing inks. Used for Solid Oral Dosage forms in nutraceuticals, dietary supplements, Pharmaceutical formulations as well as food & confectionary applications.
- Tab Print Inks are available in Organic base & Aqueous base depending on applications. Tabprint inks are Shellac/HPMC based which contain selected pigments & other additives.
- It can be customised as per customer application requirements.
- Tabprint inks provide beautiful, clean & sharp monograms. Available in all colors including, White, Black, Red, Yellow, Orange, Blue, Green, Purple etc.
- 'Wonderful adhesion property' is one of the most important features of Tabprint.
- Available in 500 ml and 1 litre HDPE bottle packing.



Ion Exchange Resins

Polacrilex Resin

Ionex IRP 640

- This is used for the sustained release of nicotine. The resin-ate complex could be added to flavoured chewing gums and hard lozenges used for nicotine therapy to manage for quit off smoking (For manufacturing of **Nicotine Polacrilex USP**)
- Also suitable for the taste masking for free base drugs, like cefixime, linezolid.
- Vitamin B12 stabilizer.

Sodium Polystyrene Sulfonate USP

Ionex IRP 691

- Strong acid cation exchange resin with sulphonic acid groups in sodium form.
- To control blood potassium for the treatment of **Hyperkalemia**
- As Long acting taste masking agent in Dextromethorphan Hbr.
- As an Anti-tussive agent
- As appetite reducing agent.
- Used in Streptomycin sulphate API to purify & load the sulphate ion in the process of manufacturing.

Calcium Polystyrene Sulfonate BP/JP

Ionex IRP 692

- Strong acid cation exchange resin with sulphonic acid groups in calcium form.
- To control blood potassium for the treatment of **Hyperkalemia**
- as an Anti-tussive agent
- As appetite reducing agent.
- Amino acid purification.

Polacrillin Potassium USP/NF

Ionex IRP 880

- Super Fast Disintegrant & Dissolution Improver.



**"You Name it,
We Frame it !"**



**Customised Taste masking
Development**

Ready to Use Grades

| RTU FT | RTU CA | RTU PR | RTU C | RTU ZN | RTU FF |
|-------------------|------------------------|--------------------------|-----------|---------------|------------------|
| Famotidine | Cefuroxime Axetil | Cefpodoxime Proxetil | Cefixime | Zinc Sulphate | Fexofenadine HCl |
| RTU CP | RTU AZ | RTU FX | RTU IB | RTU RX | |
| Ciprofloxacin HCl | Azithromycin Dihydrate | Flucloxacillin Magnesium | Ibuprofen | Roxithromycin | |

Drug Specific Grades

| IRP 882 AZ | IRP 882 CP | IRP 641 A | IRP 641 C | IRP 881 D | IRP 882 BL |
|------------------------|-------------------|---|---|-------------------|------------|
| Azithromycin dihydrate | Ciprofloxacin HCl | Chloroquine phosphate, Quinine sulphate | Cefuroxime axetil, Cefpodoxime proxetil | Desloratidine HCl | Bilastine |

Chart for improving efficiency

Tablet coating defects

Remedies



Peeling

- Erosion of core tablets, high friability and hygroscopic ingredients.
- If film coating formulation is poor.
- Tablets are too wet.
- Improve core strength, reduce friability, take care of hygroscopic ingredients.
- Use proper coating material.
- Adjust temperature to a bit higher with regular spray rate.



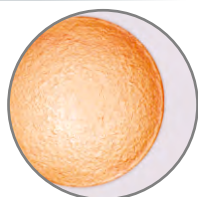
Film cracking

- Excess heating of tablet core.
- Film coating with less mechanical strength.
- Plasticizer content in coating material is too low.
- Avoid high bed temperature.
- Use higher mechanical strength material.
- Increase plasticizer concentration.



Picking & sticking

- Spray rate is high/uneven.
- Solid concentration is low.
- Slow pan speed and inadequate load.
- Drying air volume & temperature is low.
- Adjust spray rate.
- Use higher solid concentration.
- Apply proper loading & increase pan speed.
- Adjust gun to bed distance, increase airflow and temperature.



Orange peel

- High spray rate.
- Coating solution is too viscous.
- Too low air pressure.
- High solid concentration in coating solution.
- Decrease rate of spray.
- Use low viscosity solution.
- Increase air pressure & optimise.
- Use low solid concentration in coating solution.



Twinning

- Tablet surface is flat.
- High spray rate.
- Spraying gun distance is not proper.
- Low pan speed & air pressure.
- Better to change tablet shape., if possible.
- Reduce spray rate.
- Set gun to bed distance properly.
- Increase pan speed & atomization air pressure.



Logo bridging

- Plasticizer content is too low.
- Low inlet temperature/air pressure.
- High spray rate.
- Coating with low adhesion.
- Increase plasticizer concentration.
- Increase inlet temperature/air pressure.
- Reduce rate of spray.
- Choose high adhesion coating material.



Surface erosion

- Tablet core friability is high.
- Film strength is low.
- High pan speed.
- Low spray rate.
- Hygroscopic ingredients.
- Low solid concentration material.
- Optimise core friability.
- Use high film strength material.
- Reduce pan speed.
- Increase rate of spray.
- Reduce hygroscopic material.
- Use high solid concentration material.



Lifescience Pvt. Ltd.

Innovation... Quality... Commitment...

Faster coating technology
advantage
with our brands...



Dharacoat[®]

Methacrylic Acid Copolymer

Readycoat[®]

Film Coating Ready Mix

"You Name it,
We Frame it !"

Customised
Polymer
Development



Dhara Lifescience Private Limited

26, Silver Homes, Science City Road,
Sola, Ahmedabad - 380060, Gujarat, INDIA.
Contact : +91-78198 24051, +91-98258 36511.

For Further Information & Inquiries :

+91-98258 36595, +91-63596 36066.

Email : dharaLifescience@gmail.com
director@dharaLifescience.com



www.dharaLifescience.com

Disclaimer : The information and all technical advice in this publication are based on our present knowledge and experience. However, it implies no liability or other legal responsibility on our part, including with regard to existing third party intellectual property rights, especially patent rights. None of the products will be supplied to countries in which this could be in conflict with the existing patent. However, it is responsibility of the recipients of our products to ensure that any proprietary rights and existing laws and legislation are observed. In view of the many factors that affect processing and application of the product, these data do not relieve customers from obligation to conduct own investigation and testing of incoming goods.

CIN No. : U24232GJ2007PTC050530