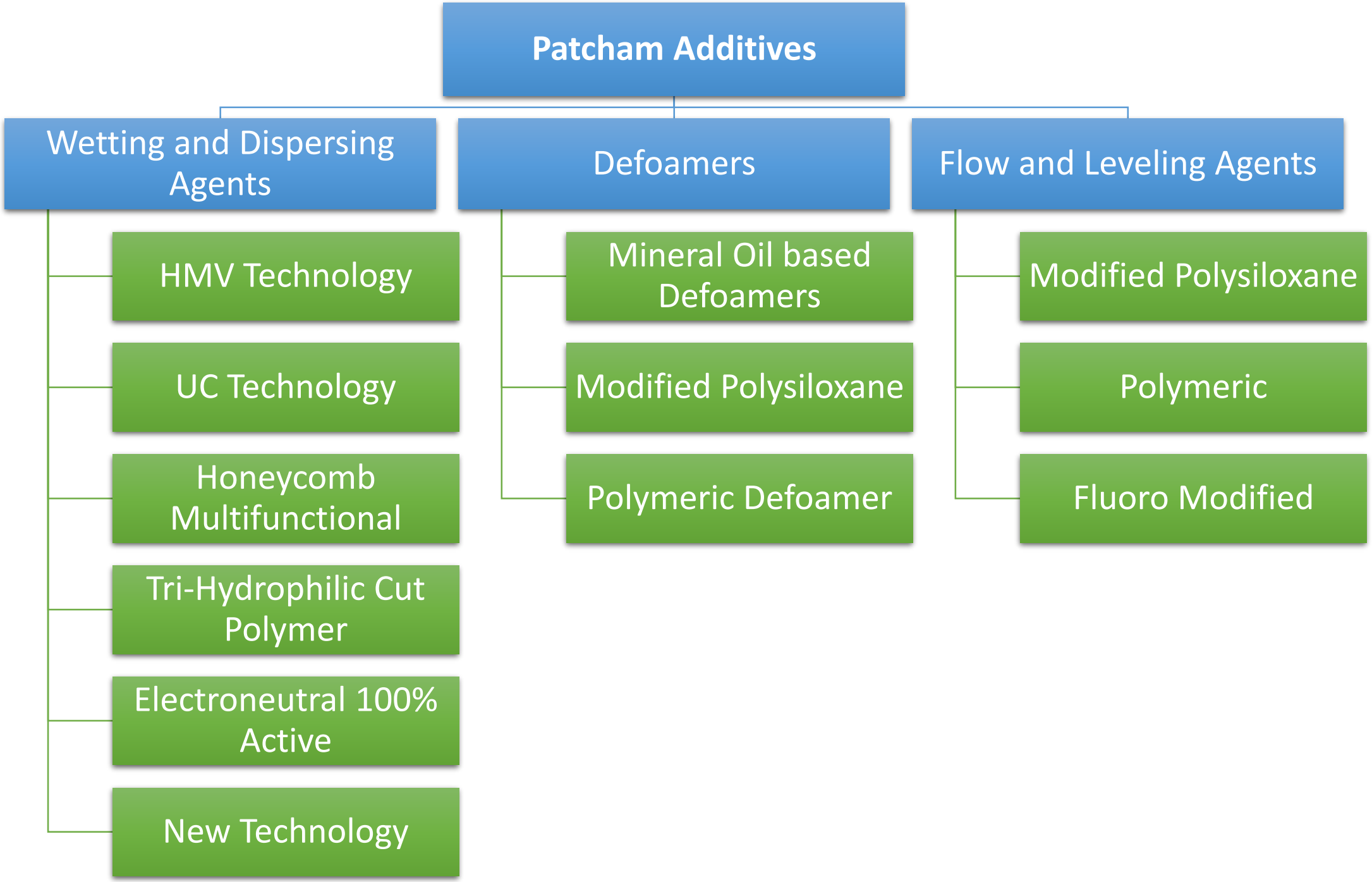
Patcham Additives

Empowering Coatings through Additives

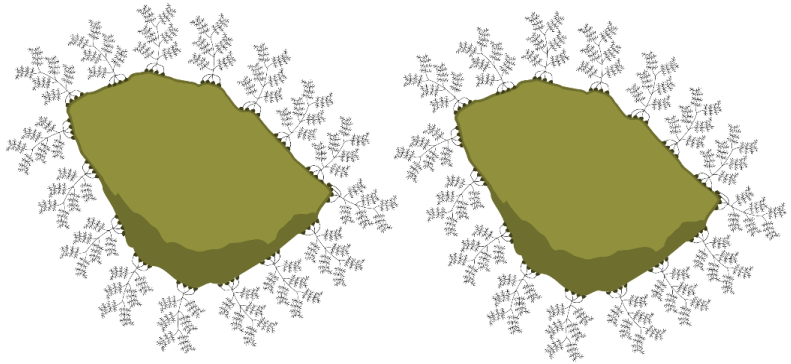
PATCHAM

www.patchamltd.com


Patcham Additives
Wetting and Dispersing Agents
HMV Technology
UC Technology
Honeycomb Multifunctional
Tri-Hydrophilic Cut Polymer
Electroneutral 100% Active
New Technology
Defoamers
Mineral Oil based Defoamers
Modified Polysiloxane
Polymeric Defoamer
Flow and Leveling Agents
Modified Polysiloxane
Polymeric
Fluoro Modified

HMV Technology

- Technology based on highly branched polyurethane polymers for pigment dispersion and stabilization
- Its polymeric chain with higher volume, results in a thicker adsorbed layer around the pigment particle to increases resistance to flocculation
- Application: General Industrial, Protective Coatings, Wood Coatings, Marine Coatings, Coil



Waterborne Applications

Pat-Add DA 603

Pat-Add DA 603 LV

Pat-Add DA 603 EPA

Solventborne Applications

Pat-Add DA 932

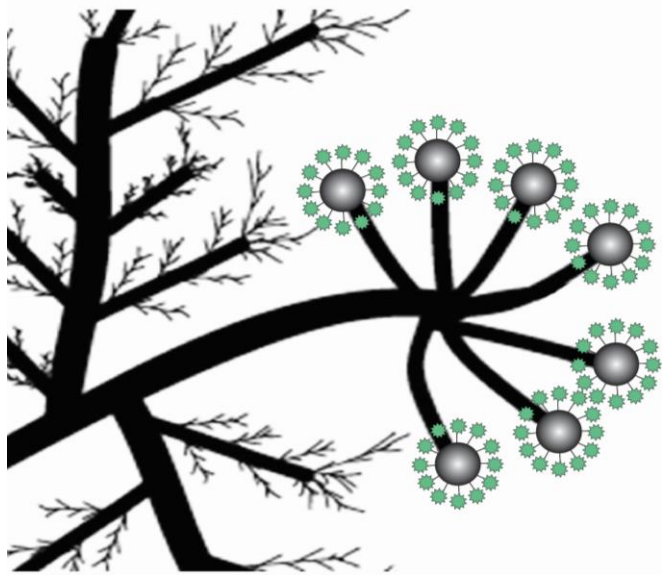
Pat-Add DA 947

Pat-Add DA 948

Ultra-Charge Technology

- Polymeric Dispersing agent designed with ultra-dense adhesion charges, providing the strongest attachment unto pigment surface

- Applications: Automotive Auto-Refinish, Automotive OEM, High Performance Coatings, Pigment Dispersions, PVC Plastisols, Foam



Anchoring Functionality

Pat-Add DA 3204
Pat-Add DA 3051
Pat-Add DA 3222

Honeycomb Multifunctional Technology

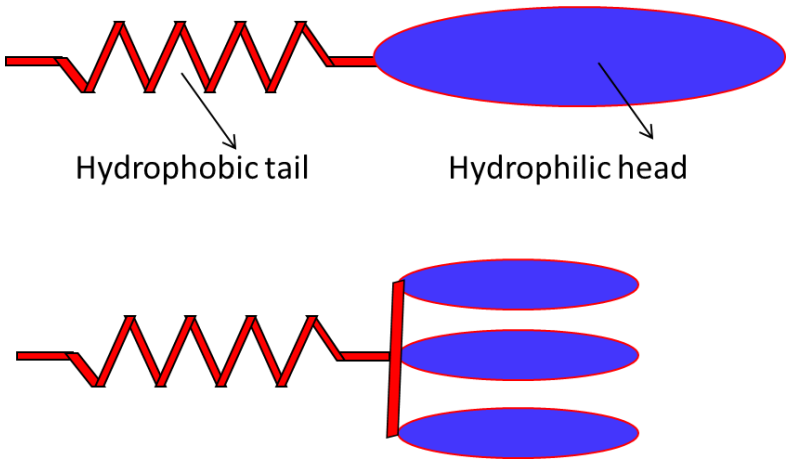
- Polymeric dispersing agents with electroneutral functionality that aid in good wetting to various types of pigment surfaces irrespective of the surface charges and treatments
- The net-like structure formed during interactions of polymeric dispersant with pigment, filler and resin provides the anti-settling and sag resistance of the paint

- Application: General Industrial, Protective Coatings, Architectural Coatings, Automotive Coatings

Pat-Add DA 1666
Pat-Add DA 1667
Pat-Add DA 1680

Tri-Hydrophilic Cut Polymer

- Hyydrophobic backbone based on renewable resources modified with multi anchoring hydroxyl-functional branched polyethers.
- The specially designed tri-hydrophilic cut polymer allows higher packing density giving improved wetting and stability.
- Applications: Architectural Coatings



Pat-Add DA 202

Electroneutral 100% Active Dispersing Agents

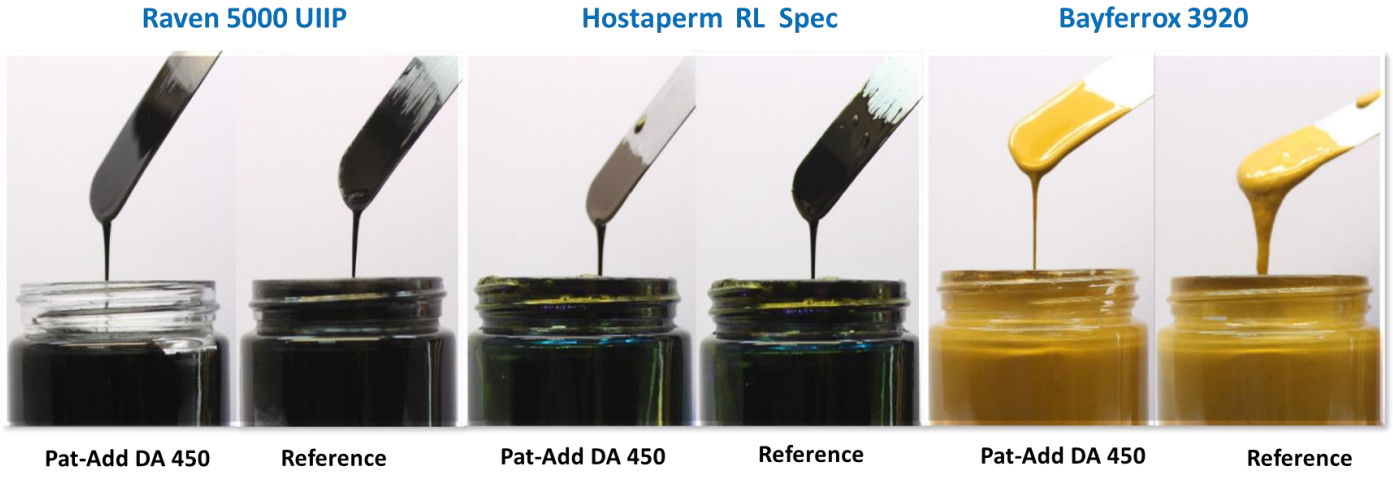
- High polarity electroneutral dispersing agent
- Designed for higher degree of wetting for pigments and provides steric stabilization with weaker electrostatic effects
- Applications: Pigment Dispersions, General Industrial Coatings, Floor Coatings, Universal Colorants

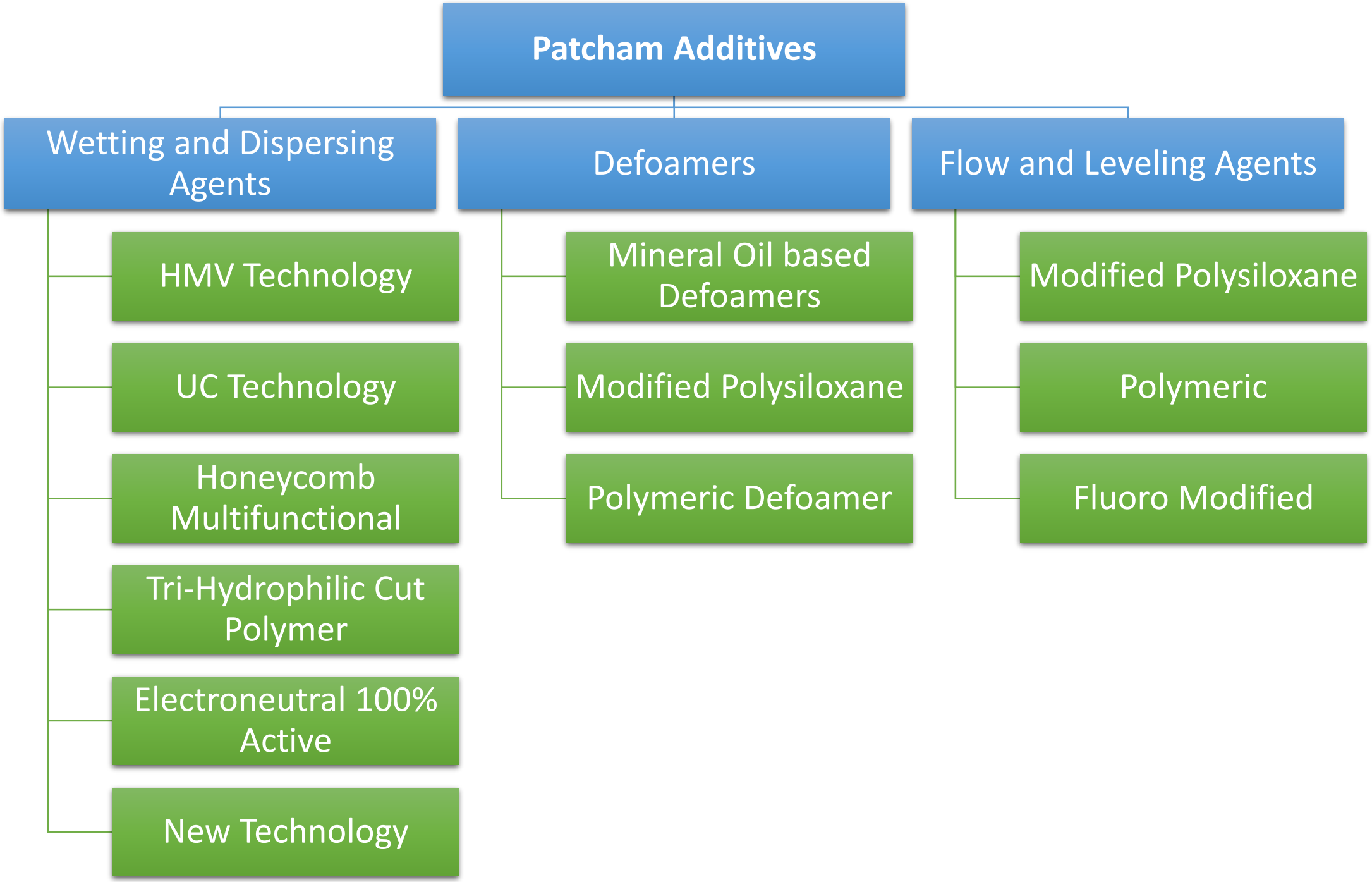
Pat-Add DA 801
Pat-Add DA 817
Pat-Add DA 815
Pat-Add DA 895

New Technology for WB Applications

Pat-Add DA 450

- A branched polycyclic polyester blocked copolymer with anchoring group designed to provide wider compatibility and strong adsorption onto pigment surfaces.
- The polycyclic polymer that contributes resistance to flocculation hence providing longer dispersion stability with uniformity on application performance
- Application: Architectural Coatings, WB Industrial Coatings, Pigment Dispersions

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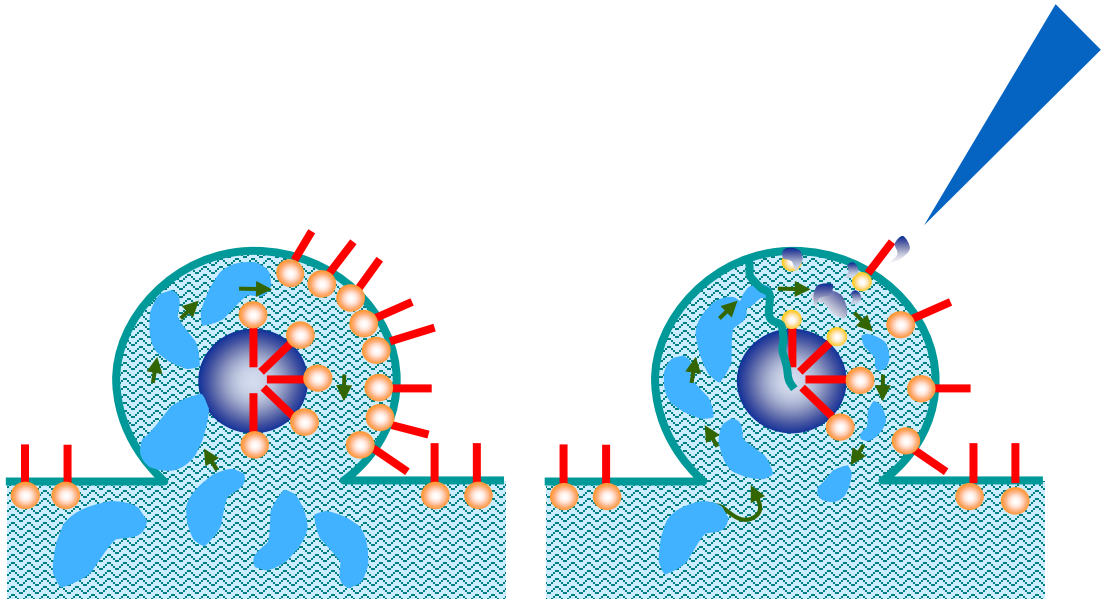
Patcham Defoamers

- Insoluble in continuous phase
- Incompatible with the system
- Positive Entering Coefficient
- Positive Spreading Coefficient



Mineral Oil based Defoamers

- Strong defoamers where strong defoaming strength is needed
- Provides good knockdown of foam for medium to high pigment volume concentration (PVC), high viscosity systems or in processes that involve high shear.

- Application: Architectural Coatings, Construction Materials

Pat-Add AF 11
Pat-Add AF 14D
Pat-Add AF 21

Modified Polysiloxane Defoamers

- Efficient defoaming properties due to the surface tension reduction, spreading capability, thermal ability, chemical inertness and solubility to water
- Organic modifications of polydimethylsiloxane with functional groups can render better compatibility with effective defoaming in various systems
- Applications: Architectural Coatings, General Industrial Coatings, Automotive, Marine, and Wood Coatings

Waterborne Applications	Solventborne Applications
Pat-Add AF 31	**Pat-Add AF 70**
Pat-Add AF 34	**Pat-Add AF 72**
Pat-Add AF 35	**Pat-Add AF 35**

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Polymeric Defoamers

- Polymeric defoamers action on molecular level
- Molecular defoamers attack the foam stabilization mechanisms provided by surfactants and other formulation components, are easy to incorporate, retain their efficiency for long periods and improve surface appearance
- Application: Architectural Coatings, Industrial Coatings and Protective Coatings

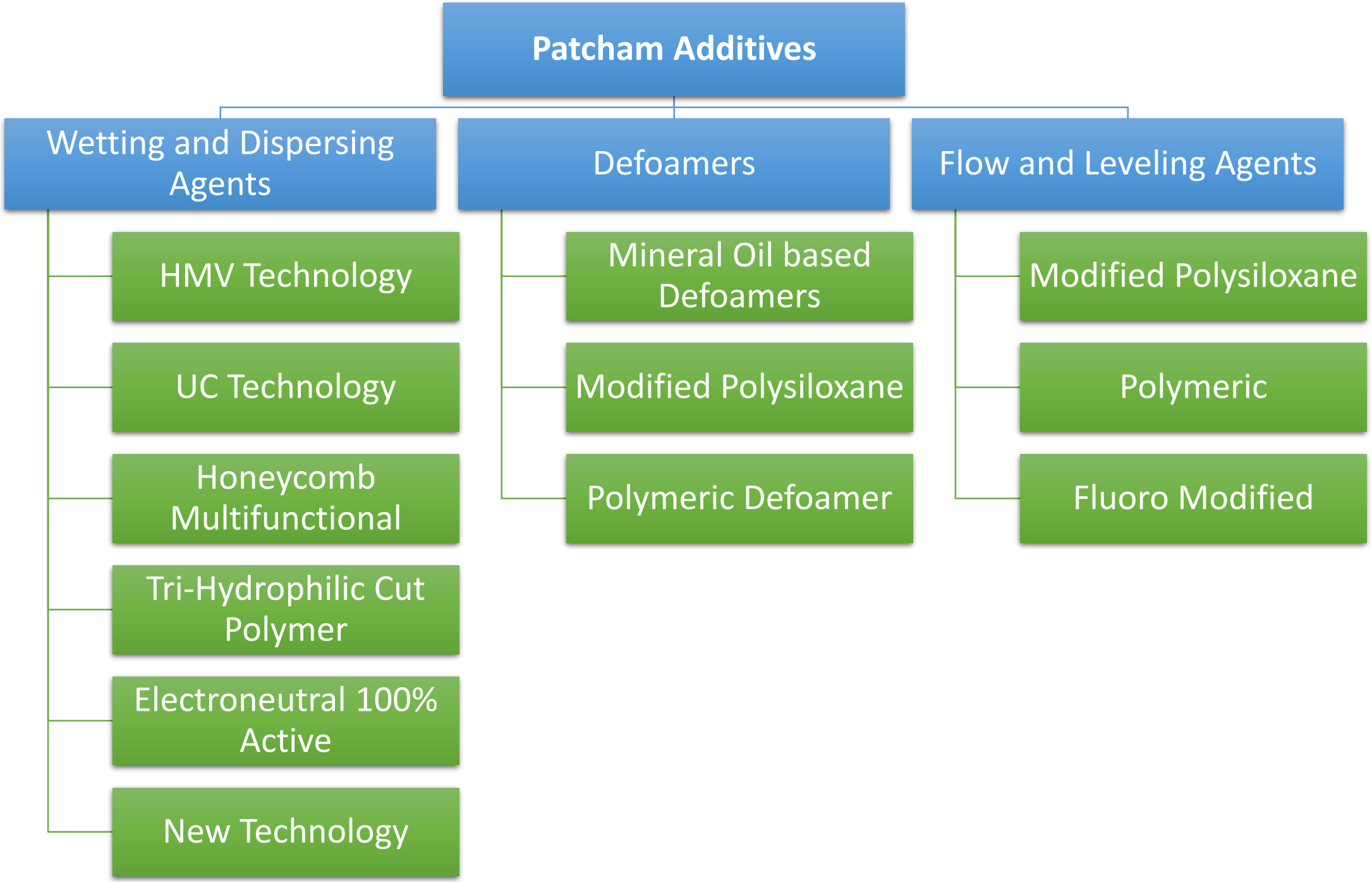
Waterborne Applications

Pat-Add AF 43

Solventborne Applications

Pat-Add AF 61

Pat-Add AF 62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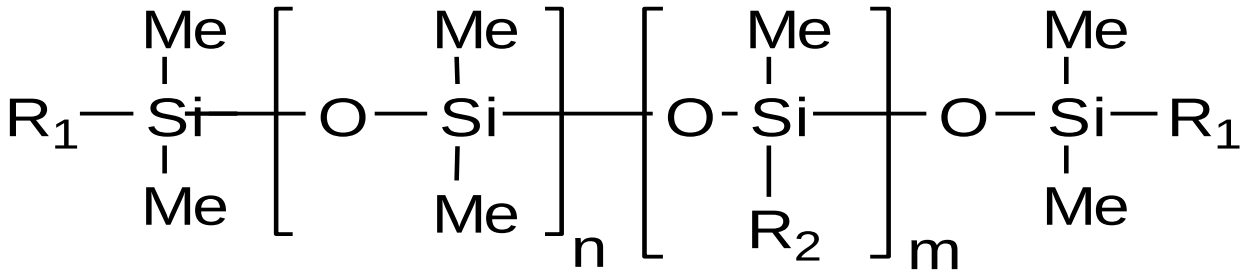
Patcham Flow and Leveling Agents

- Surface tension modifying additives - Wetting Additives
  - Moderate to high solubility in continuous phase
  - Moderate to high mobility to migrate to newly created interfaces
  - Application creates new surfaces and interfaces
  - σ of liquid $\leq$ σ substrate for spontaneous wetting; contact <= 0°
  - Material movement is always towards higher σ region

Modified Polysiloxane Leveling Agents

- Modified siloxanes are derived from low molecular weight polydimethylsiloxanes by replacing individual methyl groups with very diverse organic side chains
- Applications: Architectural, Industrial, Protective, and Automotive Coatings



Waterborne Applications

Pat-Add LE 1030

Pat-Add LE 1040

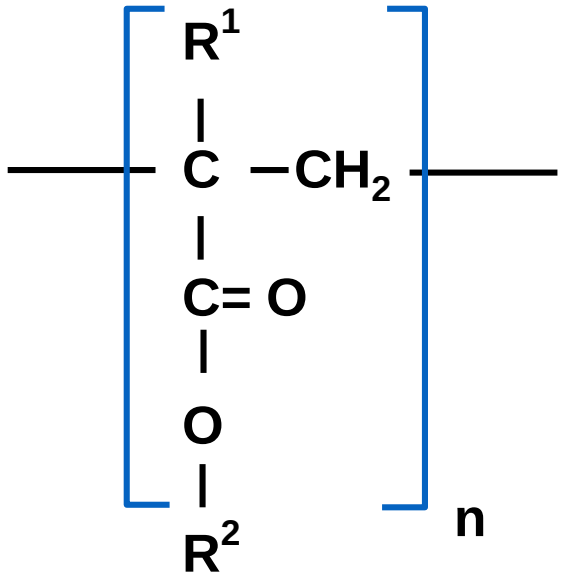
Solventborne Applications

Pat-Add LE 1019

Pat-Add LE 1020

Pat-Add LE 1066

Polymeric Flow Agents



- Responsible for localized homogeneity of the surface tension refer to as flow
- By localized homogeneity of the surface tension, it reduces the surface tension gradient to achieve a real flat surface for the coating.
- Polymers are oriented and active inside the coating and little on the interface of liquid/solid
- Applications: General Industrial Coatings, Automotive Coatings, Protective Coatings, Coil Coatings, Marine Coatings

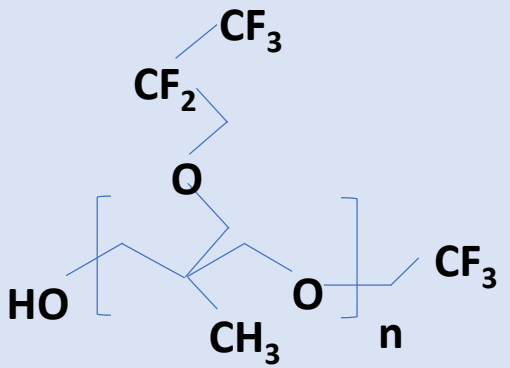
Solventborne Applications

Pat-Add FL 7

Pat-Add FL 9

Fluoro-Modified Leveling Agents

- Innovatively designed to meet environment regulatory requirements for fluorocarbon chain substances
- Effective surface tension reducer
- Can match other properties delivered by silicones i.e. anti-crater, anti-Benard Cells, anti-fish eyes
- Applications: Wood Coatings, General Industrial and Protective Coatings

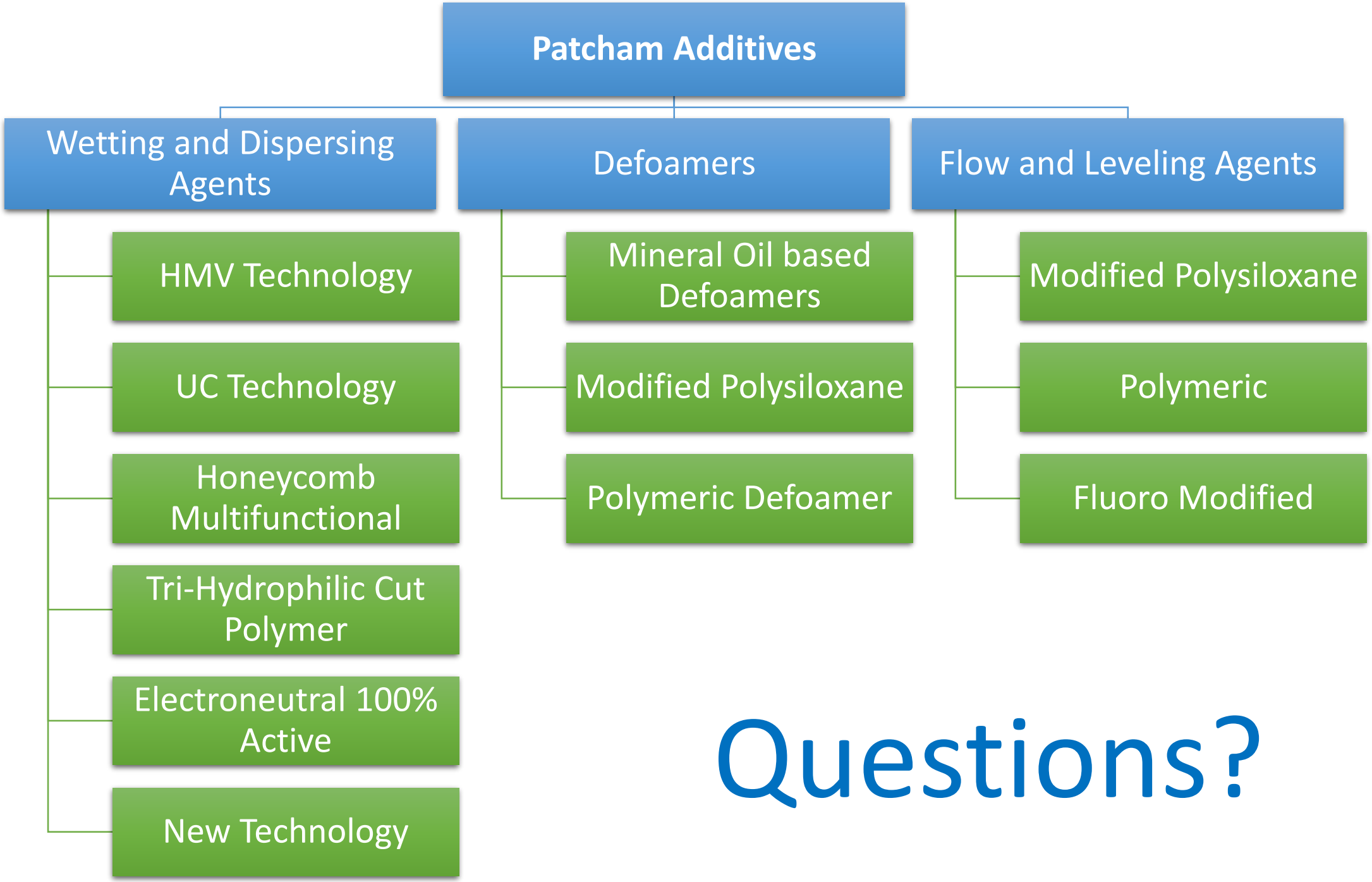


Waterborne Applications

Pat-Add LE 1433

Solventborne Applications

Pat-Add LE 1477



Questions?

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