

Redesigning plastics. For good.

Medical polymer solutions

Chem Med[™]

CUSTOM-MADE RISK CONTROL THAT SAVES LIVES

Risk control is key in medical systems that must not fail - and never truer of its life-saving devices, from design to disposal and in terms of the materials used.

The CHEMRES company - integrated by parent company Benvic - is a first class compounder of polymers for medical applications in the form of its leading ChemMed range.

We offer four key strengths includes :

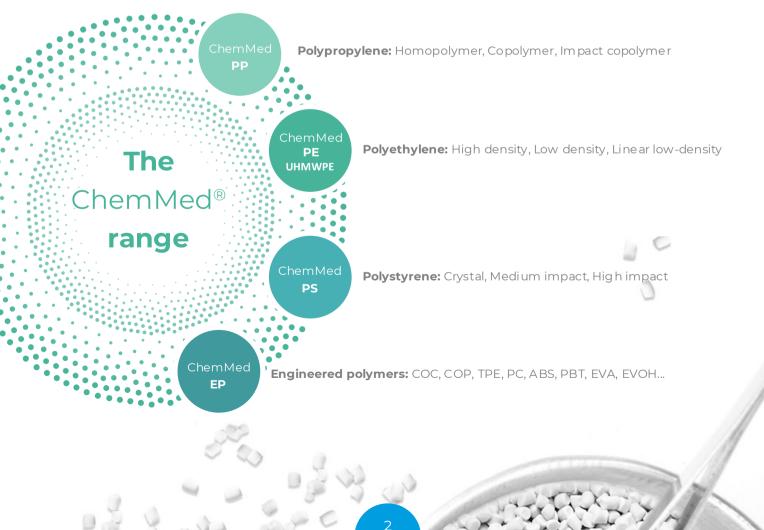
1- Quality. ISO 13485 based quality and FMEA data is **4- Custom compounds.** Many medical products are provided in all circumstances and at stages of specific to particular applications - and therefore manufacture. require special materials technology to match. The

2- Never miss a beat. An unbroken delivery service is a further guarantee for a sector where product and process changes cannot be integrated at short notice. Our value, based on service, sourcing, storage and manufacturing backups, is at least as important as product performance stability.

3- Here for the long run. The third pillar of our reliability is the long term relationship we establish with all of our customers. It takes time and effort to prove real performance, but the win-win results over the long haul are well worth it

4- Custom compounds. Many medical products are specific to particular applications - and therefore require special materials technology to match. The ChemMed expertise supplies this ingredient - using our laboratories and evaluations to achieving multiple characteristics for all kinds of requirements; from design to product scaling, or in assisting your customers or OEM specifiers at any stage with material issues and questions.

As with all Benvic materials, the ChemMed range shows that reliability and product-on-demand are essential for your success in the medical marketplace.



The ChemMed[®] capability matrix

| C | Rheology | ChemMed PP | ChemMed PE | ChemMed PS | ChemMed EP | |
|---|--|-------------------|-------------------|-------------------|-------------------|--|
| | MFI optimization | | | | | |
| (| Mechanical properties | | | | | |
| | Impact strength modification Flexural modulus modification Tensile strength adaptation | | | | | |
| (| Optical properties | | | | | |
| | Nucleation | | 00 | 00 | | |
| (| Lubricants | | | | | |
| | Slip agents | | 000 | 000 | 000 | |
| (| Surface energy optimization | | | | | |
| | Modified surface energy | | 0 | 0 | 0 | |
| (| Abrasion properties | | | | | |
| | Scratch resistance | | 0 | 0 | 0 | |
| (| Antimicrobials | | | | | |
| | Antimicrobials | | 0 | 0 | 0 | |
| (| Anti ageing / UV / oxidation | | | | | |
| | Enhanced oxidants | | 0000 | 0000 | 0000 | |

| | | Hardness modulation | ChemMed PF | ChemMed PE | Chem Med PS | ChemMed EP |
|------------------|--------------|---|-------------------|-------------------|--------------------|------------|
| | | - Shore A/D modulation | | 0 | | 0 |
| | | Sterilization resistance | | | | |
| | | Autoclave resistance Radiation resistance Ultraclean catalyst | | 000 | 000 | 000 |
| $\left(\right)$ | $\mathbf{)}$ | Chemical resistance | | | | |
| | | - Low leachable / extractable | | | 00 | |
| (| $\mathbf{)}$ | Radiopacity | | | | |
| | | Radiopacity | Ο | 0 | | 0 |
| | $\mathbf{)}$ | Barrier properties: gas & liquid | | | | |
| | | Oxygen barrier Moisture vapor barrier VA Content | 0000 | 000 | | 000 |
| | $\mathbf{)}$ | Thermal properties | | | | |
| | | · Heat deflection temperature | | 0 | | |
| | | Existing On demand | | • | | |



Benvic supports its customers through the whole compounding production process, from design to manufacturing to after-sales services. For support, please contact us at **sales.chemmed@benvic.com** or consult our website www.benvic.com

LABORATORY SERVICES

Extensive materials know-how and expertise is needed in order to design, test and characterize our medical compounds. Our engineers are here for you: able to assess any material characteristics with in house testing and to support any other analysis you may require.

Rheology - Processability

- MFI
- Capillary Rheometer

Thermal Properties

- DSC
- TGA

Surface Properties

CoF

Mechanical Properties

- Mechanical Strength
- Flex Modulus
- Izod Impact
- Dynatup Impact

Chemistry

- XRF
- HPLC

GC

Additional Testing ΥI

- Specific Gravity
- FTIR
- UV Weatherometer
- Volatiles/ Moisture
- Ash Test
- Optical Microscopy
- Black Speck Check
- Visible %T and %A

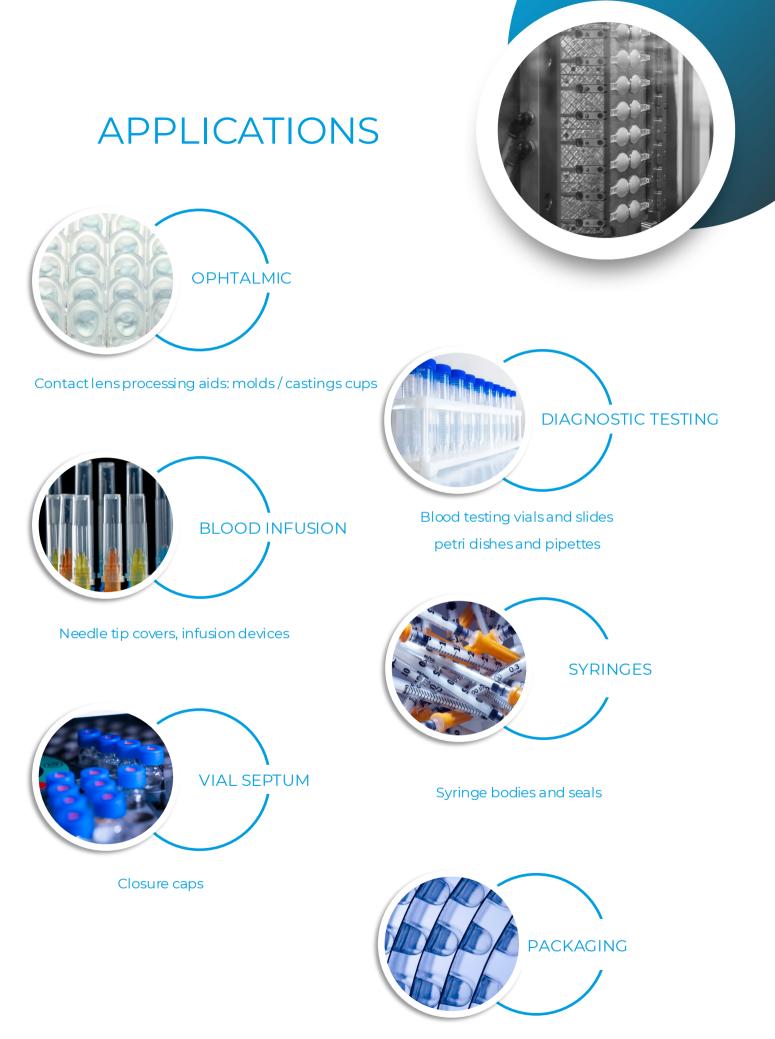
LOGISTICS SERVICES

Speed-to-market and supply chain management are a huge part of our service to today's medical customer. Chemres prides itself on making it as easy as possible to import/export, package and ship product in desired quantities to any location in the world. Our logistics offerings include:

| • | Transloading and logistics | • Sea container to bulk, box • | RC to bulk truck |
|---|----------------------------|--|--------------------------|
| | Bag to bulk | or SS | Non-melt blends: bulk to |
| • | Supersacks (SS) to bulk | Bulk to bag, box or SS | bulk, bag, box or SS |
| | | | |



Technical data sheets, processing recommendations and other supporting data are available upon demand. The information given above is general commercial information and cannot be considered as a specification and can change without prior notice. Benvic also supports customers through continuous adaptation of its products: please contact your nearest sales representative for technical support.



Medical and pharmaceutical packaging blisters



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www.benvic.com



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