



QUALI®-C stands for consistent premium quality of all vitamin C product forms, guaranteed by the quality seals GMP, HACCP, CEP, ISO-9001, ISO-14001 and FSSC22.000.

### *About Quali®-C*

Vitamin C is an essential health nutrient, with many important functions in the body, like immune-system stimulation, anti-allergy, and anti-oxidant, tissue/wound healing - as well as aiding everything from iron absorption to eye health.

DSM is the last and only Western producer of vitamin C. All our vitamin C is produced in a world-class DSM-owned facility in Dalry, Scotland. In fact, DSM/Roche was the first company to synthesise vitamin C back in 1938, and has been a leading producer for over 75 years.

We offer the most complete range of pure vitamin C crystals and product forms worldwide, suitable for nearly every type of food/supplement/beverage application.

Quali®-C is the world's first branded vitamin C, and buying it guarantees you the peace of mind you can only get from the best supplier.

## Quality Management

- **GMP Regulations:** Good Manufacturing Principles (GMP) are standard guidelines set out by regulators to ensure that production is carried out using safe and reliable processes, to avoid contamination, and to ensure repeatability. The European guideline for Active Pharmaceutical Ingredients is ICH Q7A.
- **HACCP plans:** HACCP (Hazard Analysis Critical Control Point) includes identifying Critical Control Points (CCP); establishing critical limits for each point; monitoring their requirements; using the data gathered to effectively control processes; taking corrective action; and maintaining record keeping and verification.
- The effectiveness of the **DSM Quality System** is regularly monitored through Quality and GMP audits conducted by trained auditors. We have held ISO 9001:2000 certification and ISO 14001:1996 since 2003, while our FEMAS certification has been in place since 2004 and FAMI-QS since 2005. Our auditing procedures also cover the areas of Change Control, Control of Glass and Hygiene Policy, as well as the Quality Manual. On the basis of these regular audits, we can confirm that our vitamin C scores at the high end of the standards required by global pharmacopoeias.

- These audits are complemented by the regular audits successfully conducted on site by our customers - who also apply internationally recognized quality standards. We are therefore able to deliver full quality control, full quality assurance, consistent quality across all products forms, and products that are best-in-class in terms of their food safety profile.

## Traceability

Our plant located in the green hills of Scotland offers the most complete and trustworthy range of pure vitamin C forms worldwide. We can guarantee GMO-free starting materials and final product.

QUALI®-C branded vitamin C stands for consistent and reliable traceability to serve both your regulatory and consumer requirements. You can trust your health ingredients' traceability thanks to our proven production process, advanced control systems and reliable suppliers. As a DSM customer, you know where your vitamin C comes from.

### Great expectations

With the quality expectations of regulators, customers and consumers constantly on the rise, product traceability is critical.

Thanks to our production process and reliable suppliers, we can certify that the vitamin C manufactured in Dalry is made from glucose originating from European non-GMO cornfields.

In fact our advanced IT systems provide full traceability of everything from raw materials to finished products, which not only enables smooth operations but also means that our customers can fully rely on us on the off chance of something going wrong. We can produce full and accurate documentation in the event of food scares, concerns about possible contamination, and other incidents. Armed with the facts, our customers can take the necessary steps to meet their obligations and protect their business interests.

We even run routine forward and backward traceability exercises to quickly identify the raw materials used for production of specific batches of ascorbic acid and sodium ascorbate.

## Sustainability

We are convinced that we cannot succeed in a world that fails, which is why we work hard to improve the efficacy of food and pharmaceutical production at all levels of the industry and specially for Quali®-C produced at our Dalry facility in Scotland.

We're committed to delivering value to all our stakeholders in a sustainable, transparent way as evidenced by our position at or near the top of the Dow Jones Sustainability Index for the last few years. To us, being sustainable means simultaneously creating value along three dimensions: Social, economic and environmental (Or people, planet and profit). It's why our site in Dalry was the first vitamin manufacturing plant to be awarded Carbon Trust\* certification.

## Production

We can guarantee GMO-free starter materials, as well as in the final product.

Our production processes are based on state of the art SHE (safety, health and environment) requirements; our plant uses a combination of gas and electricity (reducing energy loading); and our process effluents are highly biodegradable, minimizing the effect on the environment.

We capture and recycle solvents used in production, while sulphate effluents are recycled to the detergent and glass manufacturing industries. Even our sugar waste stream is recovered and used in animal feed.

Meanwhile, around 45% of our bulk raw materials arrive by rail, further minimizing environmental impact. Our total production discharge is classified as 'not significant' by the relevant regulatory authorities; and we are backwards and forward integrated, controlling all aspects of production. In fact we have implemented 'six sigma' in all our production sites which has made production more consistent, improved preventative maintenance and reduced environmental impact.

## Quality for Life

As the world's leading manufacturer of ingredients for health & nutrition, we have our own unique definition of what quality means, as defined by our Quality For Life™ seal. It's based on the four essentials of quality, traceability, reliability and sustainability.

Quality for Life runs from product conception through manufacturing all the way to after-sales support - assuring you that the ingredients you are buying from us are safe in terms of quality, reliability and traceability; as well as being manufactured in a safe and sustainable way.

Behind all this is a team of dedicated and highly trained people worldwide, all skilled in a range of disciplines. The Quality for Life™ seal represents their commitment to the job they do, the products they make, and the services they provide.

All in all, a unique approach with unique benefits.

