

Leader in flour applications.

ELCO ascorbic acid

The quality brand
the milling industry trusts.



Mühlenchemie
makes good flours even better

Branded ascorbic acid guarantees safety in the production process

Ascorbic acid is indispensable for flour standardization and flour improvement. It increases the gas retention capacity of the doughs and the volume of the baked products. With the aid of the enzymes naturally present in the flour it brings about oxidative strengthening of the gluten in the dough.

To ensure optimum safety and reliability of the production process the ascorbic acid must have a precisely defined particle size. If the grains are too large there is a risk that they will be sifted out. If they are too small, lumps may form and block the metering system.

Highest standard for the milling industry

With **ELCO C-100**, Mühlenchemie has developed a standard for the milling industry that meets the most demanding requirements. The product is tested with Tauber's reagent (see Fig. 1). Sample 1 shows a very fine ascorbic acid which tends to form lumps and therefore needs special pre-treatment; Sample 2 is **ELCO C-100**, specially developed for Mühlenchemie, and Sample 3 is a coarse, crystalline product which would be sifted out.

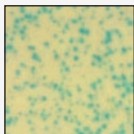

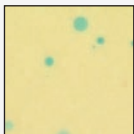
Benefits of ELCO ascorbic acid

- Quality ascorbic acid specially for mills
- Standardized, homogeneous grain sizes
- Optimum flow properties
- Customized concentrations
- Reduces the risk of breakdowns during production

Analytical kit for Tauber's reagent

Mühlenchemie can supply an analytical kit with which you yourself can test the quantity and distribution of ascorbic acid in flour (Tauber's reagent).

Fig. 1: Detection of ascorbic acid with Tauber's reagent

Very fine	Optimum particle size	Coarse
		
Sample 1	Sample 2	Sample 3



Maximum care in the production of ELCO C-100

The production of ascorbic acid demands extreme care. Crystalline ascorbic acid, sodium ascorbate, calcium ascorbate and ascorbyl monophosphate are produced synthetically from D-glucose.

Mühlenchemie has developed standardized methods for purifying and sifting ascorbic acid to meet the specific demands of the milling industry and for modifying it as requested by the customer. Such processing is carried out at our high-tech plant near Hamburg.

Even baking behaviour is checked regularly

In addition to all the tests on the product, Mühlenchemie analyzes the behaviour of the ascorbic acid during the baking process. For this we have a trial bakery of our own.

Mühlenchemie's ascorbic acid range

Active substance	MC quality*	Description	Properties in dough and baked products	Usage level per 100 kg flour
Ascorbic acid	GLUTIN A	Ascorbic acid, 10%		20-50 g
	ELCO A-25	Ascorbic acid, 25%	<ul style="list-style-type: none"> Enhances dough properties Increases fermentation stability Greater volume yield 	8-25 g
	ELCO P-100	Ascorbic acid, 100%, fine powder, 100 mesh		2-6 g
	ELCO C-100	Ascorbic acid, 100%, powder, 80 mesh		2-6 g
	ELCO K-100	Ascorbic acid, crystalline, 40-80 mesh		2-6 g
	ELCO BE CS	Ascorbic acid, encapsulated with fruit acids	<ul style="list-style-type: none"> Like pure ascorbic acid, but with delayed effect More pliant doughs 	5-15 g
	ELCO GF 90	Ascorbic acid, encapsulated with fat		3-10 g

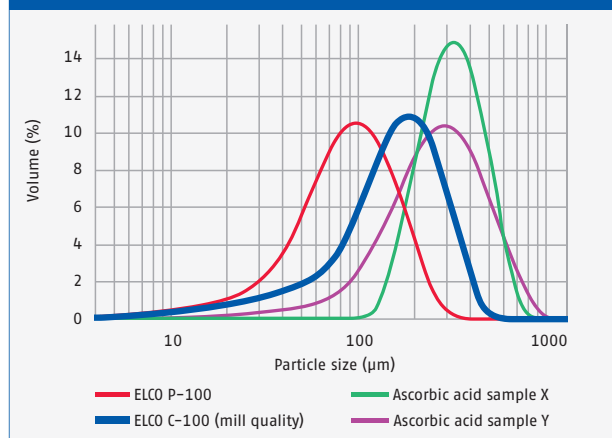
* Also available with halal status

We are looking forward to your inquiry

If you would like more detailed information on the use and precise metering of ascorbic acid, we will be pleased to advise you.

If you wish, we can also offer you professional help from our company with integrating our **EMCEtec GLD 87** precision metering device into your system. Just let us know.

Comparative analysis of particle size for ELCO C-100



EMCEtec GLD 87 precision metering device

Precise metering is just as important for success as the quality of the ascorbic acid. We offer a metering device which we have developed ourselves for adding ascorbic acid to flour. It can be integrated into any existing milling or flour processing plant.



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