

Glucose Oxidase 789L - G789L

- Removal of oxygen from soft drinks
- Glucose removal from egg whites
- Prevents browning in egg whites
- Used in desugaring all egg components

Biocatalysts supply enzymes that modify the functionality of egg and can therefore be used as an aid to egg processing. During processing eggs are pasteurised to eliminate the possible presence of harmful bacteria, such as salmonella. A problem occurring during the heat treatment of eggs is browning caused by the Maillard reaction. This occurs as a result of small amounts of glucose in the egg whites reacting with amino acids.

This can be problematic for dried egg whites if the product is traditionally pasteurised after drying in a hot room, for an extended period of time. Biocatalysts' Glucose Oxidase (G789L) is able to desugar the egg by breaking down the glucose to products which do not cause browning.

See Technical Bulletin 101 entitled Enzymes in Egg Processing for full process overview.

SPECIFICATION

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|-------------------|--|
| Activity | 1,650 units/g (catalase activity also present) |
| Biological Source | <i>Aspergillus sp.</i> |
| Form | Brown liquid |
| Working pH | 4.5 - 7.0 |
| Temperature range | 20° - 50°C |

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APPLICATION & DOSAGE

Glucose oxidase 789L can be used to remove sugar from whole liquid eggs, egg yolk or liquid egg white. The reaction is normally carried out in a heated stirred tank, though lower temperatures may also be used. First, check the pH of the egg, and if necessary adjust to pH7.0 or below by the slow addition of a 10% solution of citric acid. Gently warm the egg to 35°C and slowly add 3-4 litres of hydrogen peroxide (35%) to avoid denaturing the egg. Take care as the solution may bubble and foam as oxygen is released. Add 100-200ml of Glucose oxidase 789L per tonne of liquid egg (0.01-0.02%). An increased amount of enzyme may be required if the reaction is performed at lower temperatures. Continue to slowly stir the egg and maintain the desired temperature throughout the incubation period. After 6 hours, take a sample and test for glucose. If the sample tests positive for glucose, add another 3-4 litres of hydrogen peroxide and incubate for a further 2 to 4 hours then retest. The egg can then be pasteurised as normal and, if desired, dried without browning. It may be necessary to perform trials to determine the optimum enzyme dose for the particular operating conditions employed in the removal of sugar from egg whites.

HEALTH AND SAFETY

Always read the Health and Safety sheet (MSDS) before use and retain. If you are in any doubt about recommended product handling and safety, please contact Biocatalysts before use. Generally, when using enzymes avoid contact with the skin and eyes and do not breath dusts or aerosols containing them.

STORAGE

Activity will remain above the minimum analysis specification for at least 6 months from the date of the Batch Certificate of Analysis, when stored between 0° - 8°C.

ALLERGENS

Sulphites at >10mg/kg expressed as SO₂.

FOOD STATUS

Prepared from enzymes of GRAS status and manufactured to FCC/JECFA/WHO/FAO recommendations for enzymes used in food processing.

QUALITY

1. Food Safety Policy

The company operates a Hazard Analysis at Critical Control Points (HACCP) system. This ensures that ingredients and the production environment are regularly monitored for contamination and that the processes are designed to produce safe products every time.

2. Good Manufacturing Practice (GMP)

The company's integrated management system encompasses Total Quality, Health and Safety, Food Safety and GMP.

3. ISO9001

Biocatalysts Ltd is certified to BS ISO9001: 2000. Regular Audits are carried out by the British Standards Institute (BSI) to ensure continuing compliance with the standard.

AVAILABILITY

Liquids: standard 25kg nett plastic jerry cans. Non-standard quantities of 5kg, 215kg and 1000kg are also available for some products, please enquire.



The production micro-organism used in this product is not a GMO. Within the proposed guidelines of the European Union regarding Genetically Modified products, the above product would be classed as GMO free.

