EXECUTIVE SUMMARY

(As per section 3.1.1B of the Application Handbook 1 September 2013)

The purpose of this application is to request an amendment to Schedule 1 of Standard 1.3.1 – Food Additives of the *Australia New Zealand Food Standards Code* (hereafter the Code) to extend the use of L-cysteine monohydrochloride (hereafter referred to as L-cysteine) as a food additive.

Link Trading Pty Ltd (Link Trading) intends to market L-cysteine in Australia and New Zealand for use in the treatment of fresh-cut avocado and banana (fruits and vegetables that are peeled, cut or both peeled and cut) at GMP levels. The L-cysteine is proposed to be applied in a dipping solution product marketed by the Applicant - NatureSeal®BAS6.

L-cysteine is intended for use in controlling enzymatic browning of fresh-cut avocado and banana to extend their shelf life. Enzymic browning is the discolouration which results from the action of a group of enzymes called polyphenol oxidases (PPO) which exist in high amounts in banana, avocado, apple, pear, peach potato and mushroom (Garcia and Barrett 2002). Oxidative reactions such as enzymic browning are the second most important cause of food deterioration after that induced by microbiological contamination (Ioannou and Ghoul 2013).

L-cysteine is a non-essential amino acid which occurs widely in protein in a normal diet. L-Cysteine has a monograph published in *Food Chemicals Codex* (8th Edition) published by United States Pharmacopoeia (2012).

L-cysteine monohydrate is currently permitted to be added to food in Australia and New Zealand under Standards 1.3.1, 1.3.3, 2.9.1 and 2.9.4 of the Code.

The Applicant proposes that extended use of L-cysteine is approved under Standard 1.3.1 for the following reasons:

- opportunity for manufacturers to produce fresh-cut avocado and banana products with an extended shelf life over untreated products;
- increase choice and convenience for consumers who will have access to pre-prepared fresh-cut avocado and banana products which retain flavour and freshness; and
- provides an alternative to current chemical treatments available.

Estimates by EFSA (2008) suggest that exposure to L-cysteine through the diet may typically reach or exceed 2200mg per day. By comparison the estimated residual level of L-cysteine on a banana treated at the recommended use rate would be around 50mg. Consequently, the applicant considers that exposure from the requested extension of use of L-cysteine in accordance with GMP is unlikely to result in a significant increase in daily L-cysteine intake and does not therefore present a risk to consumer safety. The use of L-cysteine in foods at the levels proposed by the Applicant is not expected to lead to any adverse health effects when consumed at the intended levels in the foods described within the application.