



CALIFORNIA CITRUS QUALITY COUNCIL

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DATE: September 29, 2010
TO: All Citrus Packinghouses & Interested Parties
SUBJECT: Morpholine in Wax

Citrus Exporters:

The California Citrus Quality Council (CCQC) is contacting you to inform you of recent developments regarding morpholine. Morpholine is an ingredient in many food grade waxes, and it was recently detected in apple shipments to the United Kingdom where morpholine is prohibited. Since this issue is receiving a lot of attention in the UK, you may receive inquiries from buyers in the UK or others interested in your wax use.

Morpholine is approved for use in the **United States, Canada and Japan** it is not permitted in the European Union.

Korea and **China** both allow morpholine as a surface treatment for fresh fruit at GMP or good manufacturing practice. GMP essentially means that you are allowed to use the appropriate amount required to perform the intended function of the food additive.

Australia, Taiwan, Malaysia, Singapore, and Hong Kong do not appear to regulate morpholine at all. We do not have complete or translated regulations for Vietnam or Indonesia.

Additionally, **Codex** does not have regulations for morpholine.

In general, many countries do not have a technological function for glazing or coating agents, and so wouldn't regulate this as an additive at all. Those countries we know of that do include this substance, such as Japan and the United States do not set any particular maximum level for it. Morpholine is most likely not strictly regulated in many countries, if at all.

If you have specific questions about the wax you are using or if you need additional information about waxes that do not contain morpholine, please contact your wax supplier.

Please contact me by telephone at (530) 885-1894 or via e-mail at jcranney@calcitrusquality.org if you have questions or need additional information.