

Sulfur Dioxide Use in Wineries

Date May 28, 2009

Introduction This document updates and supersedes the October 17, 2008 memo on sulfur dioxide (SO₂) use in wineries. Areas updated are licensing and worker safety respiratory requirements.

Background Sulfur dioxide is used in wineries for both pesticidal and non-pesticidal uses.

The SO₂ used as a sanitizer and mold control agent in wine containers (barrels, tanks, and corks) is a pesticide. A registered, labeled product is required for the pesticide uses. Use of a pesticide product is subject to licensing and worker safety requirements.

The non-pesticide SO₂ uses include inhibiting the growth of wild yeast for better control of the fermentation process, and preventing oxidation in the winemaking process.

Licensing Any winery that applies SO₂, labeled as a federally restricted use pesticide, to sanitize barrels and corks used in wine production must either have a staff person with a qualified applicator certificate (QAC) with Category "P" (Microbial Pest Control) or hire a Department of Pesticide Regulation (DPR) licensed pest control business with a person that already possesses a qualified applicator license (QAL) with Category "P" to make the fumigation. In order for a person to obtain the QAC as a staff person, he/she must first submit a QAC application and fees to take both the Laws, Regulations, and Basic Principles examination and the Category "P" examination (the safety and use of SO₂). Both examinations require a passing score of 70% or better for a person to obtain their QAC.

Detailed information on requirements needed to obtain a QAC/QAL is available at <www.cdpr.ca.gov/docs/license/qac.htm>.

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Worker safety Winery operators must comply with the pesticide label requirements for SO₂, including protective clothing and respiratory protection, posting of fumigation sites, re-entry after fumigation, and storage and disposal. Employers who hire employees to handle SO₂ must comply with labeling requirements and worker safety regulations, e.g., training, commencing with Title 3, California Code of Regulations (3CCR) section 6700. Sulfur dioxide is a non-flammable gas, shipped as a liquefied compressed gas, and as such, can pose a frostbite hazard to unprotected skin.

Respiratory requirements for handlers – Handlers must wear either a supplied-air respirator with National Institute for Occupational Safety and Health (NIOSH) approval number prefix TC-19C, OR, a self-contained breathing apparatus (SCBA) with NIOSH approval number TC-13F. Currently, the only registered product, The Fruit Doctor, has respiratory requirements under the “Precautionary Statements” portion of the labeling, and under “Protective Clothing” under the heading of “Personal Protective Equipment” (on page 3, *The Fruit Doctor Application Manual*).

Respiratory requirements for all workers other than handlers – No other persons are allowed in the area where the fumigations are taking place unless they wear the same respiratory protection identified above, UNLESS the area is continuously monitored to ensure levels do not exceed 2 parts per million (ppm). Currently, the only registered product, The Fruit Doctor, has respiratory requirements found under the subheading of “Respiratory Protection” under the heading of “Personal Protective Equipment” (page 3, *The Fruit Doctor Application Manual*) and respiratory requirements (found on page 8, *The Fruit Doctor Application Manual*). The Cal/OSHA Permissible Exposure Limit is 2 ppm (time weighted).

Worker protection for non-pesticide uses fall under the jurisdiction of the Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA).

Air concentration monitoring

There are air concentration monitoring devices available, both immediate read-out real-time units and long-term samplers. Without information as to air concentrations associated with the work activities, respiratory protection is required. However, use of immediate read-out real-time personal monitoring devices to monitor actual exposure levels will alleviate this requirement.

DPR currently does not have any data on the exposure potential for work activities involving SO₂ use in wineries. DPR will be contacting county agricultural commissioners for assistance in working with the wineries to assess the need for further exposure monitoring.

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**DPR handout
available**

DPR has created a handout, *SO₂ in wineries: Explaining requirements for sulfur dioxide use*.

Copies can be downloaded from DPR's web site, <www.cdpr.ca.gov>, click on the "A-Z Index" then click on the link "Sulfur dioxide use in wineries" or by calling DPR at 916-445-3974.

**Contact
information**

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