

Fumigation Update

Fall 2018



Welcome to the fall 2018 issue of Fumigation Update. Douglas Products is making great progress in its efforts to support the use of ProFume® and Vikane® fumigants. Our investment in time and resources is being made to both maintain the use of these important fumigants and to expand their uses to help fumigators serve customer needs.

This issue will help inform you of some of the recent results we have accomplished, including:

- Approved global treatment schedules for debarked logs and wood packaging material
- Improvements to the schedules for imports to Australia and New Zealand to prevent invasion by brown marmorated stink bug
- New labels for Portugal

As always, we appreciate your use of ProFume and Vikane and your efforts to follow good stewardship practices to help ensure the continued availability of these necessary fumigants.



Janet Rowley
International business leader
Douglas Products

Regulatory Update



Tim McPherson, global regulatory leader

Douglas Products has been active on the regulatory front with important steps completed and others actively underway:

- We have created specimen labels in local languages for several countries, including Austria, Belgium, Germany, Italy, Japan, Netherlands, Portugal, Spain and the UK. We hope to have all country-specific specimen labels completed by the end of 2018.
- The reregistration process continues to move forward in the EU for both the biocide and plant protection uses. Sweden is managing the biocides review. A draft assessment report is expected by the end of 2018 with product renewals completed in 2020. Austria is managing the plant protection review. We expect the review to be completed by mid-2024. The anticipated cost to complete EU reregistration will be more than \$3 million U.S.
- We are continuing to meet with customers in the EU to learn what label updates and improvements are needed.

Technical Update Q&A



Barb Nead-Nylander, Ph.D.

ISPM-15 and ISPM-28 global treatments approved

Sulfuryl fluoride (e.g., ProFume® and Vikane® fumigants) is now approved for use to treat debarked logs and wood packaging material by the International Plant Protection Convention (IPPC). These important global use approvals are necessary to reduce the risk of the introduction and spread of wood-infesting pests in international trade. The publication for International Standards for Phytosanitary Measures (ISPM) is adopted by most developed countries and describes phytosanitary measures to reduce the risk of introduction and/or spread of quarantine pests through import and export activities.

There are now three ISPM treatment schedules (ISPM-15, ISPM-28 PT 22, ISPM-28 PT 23) for sulfuryl fluoride (SF), which vary in the target pests and the material to be fumigated. The following SF treatment schedules illustrate the differences in temperature based on inclusion of the pinewood nematode as a target pest:

- ISPM-15 schedule is used to treat pests (which include insects and pinewood nematodes) in wood packaging material, such as wood pallets, crates and bracing material. The lowest temperature for this SF treatment is 20°C.
- ISPM-28 is for treatment of debarked wood. The PT 22 schedule treats insect pests (no pinewood nematodes) at temperatures at or above 15°C when using SF. The PT 23 schedule treats insect pests and pinewood nematodes at temperatures at or above 20°C when using SF.

IPPC approval follows the requests by fumigators to use SF to meet import and export regulations, particularly in the EU where methyl bromide can no longer be used for such treatments. SF has been used for more than 55 years as a fumigant for wood and structure-infesting pests, controlling all life stages of a broad spectrum of pests. SF has many benefits as a fumigant, including rapid diffusion during introduction, rapid aeration and nonreactive with substrates, including wood. Unlike methyl bromide, SF is not considered an ozone depleter.

The new ISPM schedules represent the first global approvals for use of SF in quarantine treatments. These schedules are the culmination of more than 14 years of directed and extensive research, sponsored in part or in whole by Dow AgroSciences and now by Douglas Products. More than 15 scientists at the USDA Forest Service, USDA APHIS, INIAV, University of Evora in Portugal and Dow conducted these studies. Key quarantine pests evaluated included the pinewood nematode, emerald ash borer and Asian longhorned beetle.

These recent international approvals for new global SF quarantine treatment schedules give fumigators an important and needed tool to help customers meet global trade agreements.

Winter is an excellent time for instrument calibration

Winter months are an excellent time to have your fumigation instruments calibrated and certified to be ready in time for the coming year.

- For CLIRcheck, units can be sent to ppm Messtechnik GmbH for calibration: Gartenweg 1a, D-85614 Kirchseeon, Germany. Visit www.ppm-mt.com.
- For Spectros monitors, the EWS Group, headquartered in Werkendam, the Netherlands, is an authorized distributor and calibration center serving the EU. EWS service centers operate under all applicable EU laws. Visit www.ews-group.nl/en.
- For Fumiscope and Interscan units, contact Key Chemical in Clearwater, Florida, USA. Visit www.cardinalproducts.com.

BMSB treatment changes for Australia and New Zealand

The brown marmorated stink bug (BMSB) is an agriculturally destructive pest native to China, Japan, North Korea and South Korea. It is now established in parts of the United States, Canada and several European countries. BMSB is not currently found in Australia and New Zealand, and to keep it that way, both countries require that containers of goods, including vehicles and machinery, be treated before being accepted for import from any country where this invasive pest has become established. Approved treatments include heat, methyl bromide fumigation and SF fumigation.

In the past year, both [Australia](#) and [New Zealand](#) have expressed concerns to Douglas Products related to “failures” of “treated cargo.” Concerns ranged from possible falsified paperwork associated with treatments to questions about the validity of the treatment schedule. Because of these concerns, the ability to fumigate with SF was revoked for one country, and additional actions were being considered for other countries that would have significantly impacted the ability to use SF to treat cargo being exported to Australia or New Zealand. As a result, Douglas Products took an active role in addressing their concerns by:

- Arranging for Australia and New Zealand regulatory personnel to view port fumigations and meet with fumigators in both the U.S. and Europe
- Providing New Zealand researchers with SF and required training for its use so they could evaluate and refine the treatment schedule
- Meeting with Australian biosecurity personnel to discuss possible solutions to help ensure the product is being used appropriately and treatments are being made as required
- Developing training on the use of SF for container fumigations and specific information on the use of the product to fumigate automobiles

These efforts have led Australia and New Zealand to make changes to requirements for treatment of cargo for BMSB and for the fumigators applying these treatments. One change is an updated treatment schedule. The new treatment schedule used by both countries has increased dosage requirements. Training covering container fumigations and fumigation of automobiles is being conducted by Douglas Products distributors and other approved trainers. Australia and New Zealand may require verification of completion of the training from fumigators. Please contact your distributor of ProFume®/Vikane® fumigant for additional information on training. Fumigation companies or fumigators may need to provide additional information and documentation to continue using SF to fumigate cargo for export to either country. Specific requirements for Australia and New Zealand can be found on the website for the importing country (see attached best practices PDF).

Australia: <http://www.agriculture.gov.au/import/before/pests/brown-marmorated-stink-bugs/season-measures>

New Zealand: <https://www.mpi.govt.nz/importing/other/vehicles-and-machinery/requirements/brown-marmorated-stink-bug-requirements/>

SF and HCN factual comparison

Hydrogen cyanide (HCN) is being marketed in Europe under the tradename BLUEFUME. This historic chemical fell out of favor in the early 1950s due to the advantages of newer molecules that were easier to use, such as methyl bromide and more recently SF (ProFume fumigant). For example, BLUEFUME needs spray nozzles at the end of introduction hoses to aerosolize the liquid HCN. Liquid HCN can corrode several types of plastic and rubber and finishes such as epoxy resin floors.

The reintroduction of this chemistry this year necessitates a factual comparison with ProFume. To help, Douglas Products has produced a comparison fact sheet (see attached fact sheet PDF). Importantly, ProFume is registered as both a biocide and for plant protection, while BLUEFUME is registered as only a biocide.

Other important considerations with HCN are flammability; the need for extended aeration as compared with ProFume; and the potential of dermal absorption, especially with wet skin.

New ProFume® fumigant labels for Portugal

Two new fumigation label uses have been approved for ProFume in Portugal: PT 8 is for structural wood protection; and PPP-ProFume Plus is to control insects for products stored only inside empty food processing and storage facilities. For a copy of the label or for more information, contact Douglas Products.

Introduction equipment for ProFume and Vikane® fumigants

Not all tubing and hoses are created equal. There are many choices, including polyethylene, polypropylene, polyurethane, nylon, nylon reinforced, ethyl vinyl acetate and plastic tubing, but few meet the labeling requirements for use with ProFume and Vikane fumigants. Per label directions, fumigators are required to introduce fumigant through a suitable leakproof delivery system (hoses,

connectors, gauges, solenoids, etc.) with a minimum burst pressure of 500 psi.

The burst pressure rating is important, as the negatives of a burst tubing can include:

- Exposure of workers and bystanders to fumigant
- Damage to property if the tubing is inside a structure and detaches
- Lost money due to wasted fumigant
- Potential of not achieving desired dosage and lack of insect control

Some things to keep in mind when purchasing introduction tubing include:

- Ensure fittings match the proper measurement of your tubing or hoses.
- Understand inside diameter (ID) and outside diameter (OD) when purchasing.
- Polyethylene or polypropylene tubing and hoses have proven satisfactory.
- Use care not to kink or crush the hose. Reinforced hose helps prevent collapse.
- Nylon tubing can be used if the burst rating is sufficient; however, clear nylon tubing tends to discolor and become brittle after several uses.
- Coloring added to tubing or hoses increases the UV stability and generally increases the durability, offering longer use life.
- Nickel-plated brass fittings with colored collets are the most commonly used connectors. These can easily be removed and reused when changing out tubing or hoses.

We are working with local distributors to help ensure the proper tubing or hoses are available for your purchase and use.



A situation that required quick action by two fumigators who donned SCBAs to close cylinder valves and secure the area. The leak was caused by a thin wall introduction line and black plastic union connectors that failed.



This black plastic push connector is fine for a monitoring line but not durable enough for introduction. Failure of a similar connector resulted in the blowout shown in the photo above.



This is an example of a tank adapter fitted with a nickel-plated brass push.

Fumigation Update is published by Douglas Products to support international use of ProFume and Vikane gas fumigants. Douglas Products is a specialty products manufacturer and marketer of high-quality brands in the global agriculture production and structural pest control markets. For more than 100 years, Douglas Products has partnered with customers who seek to build and protect mutually beneficial business value. We create quality solutions backed by expertise in training, stewardship, regulatory affairs and industry support. For more information, visit www.ProFume.com or email ramona.darie@douglasproducts.com.