



Home > Consumer Product Safety > Reports & Publications > Pesticides & Pest Management > Evaluation of Pesticide Incident Report 2008-5998

Consumer Product Safety

Evaluation of Pesticide Incident Report 2008-5998

Background

Health Canada's Pest Management Regulatory Agency (PMRA) collects incident reporting data under the authority of the *Pest Control Products Act*. If a pesticide manufacturer receives information about an incident involving one of their products, they are required by law to submit that information to the PMRA. All submitted incident reports are made publicly available on the Health Canada website, specifically, on the PMRA [Public Registry](#). It is important to note that the information presented in incident reports reflects the observations and opinion of the person reporting it, and does not include any assessment by Health Canada, nor does it confirm an association between the pesticide and the effects reported.

Health Canada considers the reported information to determine if there are potential health or environmental risks associated with a pesticide and, if necessary, take corrective action. Such action could range from minor label changes to discontinuation of the product.

Incident Report 2008-5998

The pesticide manufacturer Syngenta Crop Protection Canada Inc. was contacted via telephone by a member of the public on December 9, 2008 regarding one of their products, Prelude 240 (containing the synthetic pyrethroid permethrin 240g/L, Registration Number 26509). The caller claimed that his or her apartment had been treated by a professional applicator with an insecticide (either Prelude 240 or another product later confirmed to be PRO Aerosol Insecticide, Registration Number 16282, containing 0.5% pyrethrins and 4.0% piperonyl butoxide) and was concerned about the potential for subsequent gas emission (carbon dioxide and carbon monoxide) if the pesticide had been applied near a heat source. The caller did not report any health effects at that time but did claim that several occupants in the building had died over the past year and was worried that it could be due to the gases.

As required by the *Pest Control Products Act*, Syngenta submitted the incident report to the PMRA and it is posted on the PMRA electronic [Public Registry](#) on the Health Canada website.

Health Canada Evaluation

Prelude 240 and PRO Aerosol Insecticide are registered for indoor use in Canada and are not expected to cause adverse effects when applied according to the label instructions. No specific adverse health effects have been identified with repeated exposures to permethrin over the long term.

Pyrethrins are derived from the extract of chrysanthemum flowers. Pyrethrins are one of the least poisonous insecticides to mammals, because mammals are able to quickly metabolize pyrethrins into their inactive forms and eliminate them from the body. Allergic reactions in humans are common following exposure to pyrethrum extracts and may result in symptoms similar to allergic reactions to pollen (i.e. sneezing, nasal discharge and sinus congestion). Pyrethrins rarely cause adverse health effects other than these allergic reactions.

Piperonyl butoxide acts as a synergist to improve the effectiveness of the insecticide and it does not have insecticidal activity on its own. Piperonyl butoxide is considered to be of low toxicity in mammals, but may cause mild irritation upon direct contact with eyes or skin. Overexposure to the solvent contained in both Prelude 240 and PRO Aerosol insecticides may cause dizziness, drowsiness, headache, nausea, and irritation of the eyes, throat and skin. However, exposure to the formulated products, when used properly, should not result in adverse health effects.

Regarding the caller's concern about the production of hazardous gases, the carbon that is in the permethrin or pyrethrins molecule would only be converted to carbon dioxide or carbon monoxide in the presence of very high heat (above 200°C). In addition, carbon monoxide would only be formed if there was also an insufficient amount of oxygen present. The use of these pesticides on or around an electric heater would not result in the production of these gases.

Health Canada Conclusion

The information provided in the report is unsubstantiated. There is insufficient information to link the pesticides and the alleged fatalities. It is unknown if there was any exposure to the pesticides or what the circumstances of the alleged fatalities were (eg. number of people, age, gender, symptoms, medical conditions, etc.). Based on the toxicology profiles of the pesticides reported, Health Canada has concluded that use of these pesticides as described is not expected to result in adverse health effects. The caller's primary concern regarded the potential production of toxic gases (CO and CO₂) from application of the pesticide on and around an electric baseboard heater. Health Canada has confirmed that these gases would not be produced under this circumstance.

This incident report highlights some concerns about how the pesticide was applied. Health Canada is investigating this aspect of the report.

More information about the [Incident Reporting Program](#) is available on Health Canada's website. Should you require further information please contact the [Pesticide Incident Reporting Program](#).

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