

Evaluation Report for Category B, Subcategory 7.0 Application

Application Number: 2017-0649
Application: Reinstatement of Registered Product
Product: X-Pulsor HP220 Ultrasonic Rodent Repeller
Registration Number: 23885
Active ingredients (a.i.): Device
PMRA Document Number: 2924300

Purpose of Application

The purpose of this application was to reinstate a previously registered device, X-Pulsor HP220 Ultrasonic Rodent Repeller as a commercial ultrasonic device to repel Norway rats and house mice.

Chemistry, and Environmental Assessments

Chemistry and environmental assessments were not required for this application.

Health Assessments

The X-Pulsor HP220 Ultrasonic Rodent Repeller is a commercial AC, battery or solar powered device that generates airborne ultrasonic pulses at a frequency of 25 kHz and a sound pressure of 130 db in order to repel rats and mice from a room or a space. Each ultrasonic pulse has a duration of 0.5 seconds with a 1–2 second pause between pulses. The device is intended to operate 24 hours a day.

At 130 db, the sound pressure generated by the device exceeds Canadian and International Radiation Protection Association (IRPA) occupational exposure guidelines for ultrasound (i.e., 110 db for a 25 kHz ultrasound source). These guidelines have been established to prevent auditory (i.e., temporary shifts in the threshold for the perception of sound) and non-auditory effects (i.e., subjective effects such as fatigue, headache, nausea, tinnitus, and disturbance of neuromuscular coordination).

Based on submitted information, the sound pressure generated by the X-Pulsor HP220 Ultrasonic Rodent Repeller decreases with distance from the device such that the sound pressure will decrease below 110 db at a distance of 1 metre from the device. Therefore, in order to prevent occupational and bystander exposures to sound pressures that could produce auditory and/or non-auditory effects, the label for the device includes precautionary statements instructing workers and bystanders not to place the device next to their ears and to stay at least 1 metre from the device during normal operation. If workers or bystanders engage in activities located within 1 metre of the device, they are required to wear hearing protection devices

(HPD) (e.g., ear muffs, rubber ear plugs, foam ear plugs) demonstrated to reduce sound pressures below 110 db. The label also requires that the device not be operated in the same space where guinea-pigs, hamsters, gerbils, rabbits, companion (pet) rats and mice, or other rodents are kept. Also, all other companion animals are to be kept at least 1 metre away from the device during normal operation.

The mitigation measures outlined in these label precautionary statements will reduce the risk of health effects from ultrasound pulses in humans and companion animals.

Value Assessment

This device can be used as part of an integrated rodent management program for Norway rats and house mice.

Conclusion

The Pest Management Regulatory Agency has completed an assessment of the information provided and is able to support the reinstatement of the end-use product, X-Pulsor HP220 Ultrasonic Rodent Repeller.

References

A. List of Studies/Information Submitted by Registrant

Human and Animal Health

PMRA #	Reference
2850042	2018, 2017-0649 et 2017-0650 - 2e Demande de clarifications, DACO: 5.2
2850043	2018, 2017-0649 et 2017-0650 Reponses a 2e demande de clarification, DACO: 5.2
2850048	2018, 2017-0649 et 2017-0650 - 2e Demande de clarifications, DACO: 5.2
2850049	2018, 2017-0649 et 2017-0650 Reponses a 2e demande de clarification, DACO: 5.2

B. Additional Information Considered

i) Published Information

PMRA #	Reference
2849668	Health Canada, 1991, Guidelines for the Safe Use of Ultrasound: Part II: Industrial and Commercial Applications, Safety Code 24, Environmental Health Directorate, Health Protection Branch, EHD-TR-158., DACO: 4.8
2849671	IRPA, 1984, Interim Guidelines on Limits of Human Exposure to Airborne Ultrasound, International Non-ionizing Radiation Committee of the International Radiation Protection Association, Health Physics 46: 969-974., DACO: 12.5.4
2849672	WHO-IPCS, 1982, Ultrasound, World Health Organization International Programme on Chemical Safety, Environmental Health Criteria 24, http://www.inchem.org/documents/ehc/ehc/ehc22.htm , DACO: 12.5.4

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