

Evaluation Report for Category B, Subcategory 2.1 Application

Application Number: 2023-1891
Application: New End-Use Product (Product Chemistry) - Guarantee
Applicant: S. C. Johnson and Son, Limited
Product: STEM Flying Insect Light Trap
Registration Number: 35296
Active ingredients (a.i.): Device generating ultraviolet A (wavelength 315-400 nm) and violet light (wavelength 380-450 nm)
PMRA Document Number: 3619136

Purpose of Application

The purpose of this application was to register the domestic end-use product, STEM Flying Insect Light Trap, for use in kitchens, bathrooms, garages, and basements. The device attracts flying insects with light (380-390 nm and 460-470 nm), and traps them on a sticky foam insert.

Health Assessments

Health concerns from potential exposure to ultraviolet radiation (UVR) include effects on the eyes and skin. The main acute skin lesion from exposure to UVR is erythema or sunburn. Erythema can be induced by ultraviolet light) and the wavelength of light, skin type, and skin pigmentation all influence whether it will occur. Other acute skin responses to ultraviolet light include tanning and photosensitivity. The most important cellular target for UVR is DNA, which has an absorption peak in the ultraviolet C (UVC) spectrum at 260 nm. It is generally accepted that UVC radiation is a cause of carcinogenicity in mammals.

STEM Flying Insect Light Trap is a device consisting of a lure (UV and blue/visible LED lights) and a glue trap. The glue on the trap is a potential skin and eye irritant. The device does not operate at or near a wavelength of 185 nm, therefore the normal operation of the device will not generate ozone.

Occupational/user exposure is expected, since continuous operation of the device is recommended, as well as handling the glue trap refill/cartridges. The risk due to exposure to individuals is acceptable when the device is used according to label directions.

Because of the use pattern and the design of the device, bystander and residential exposure to blue/visible light and ultraviolet A (UVA) radiation is expected. However, the risk due to exposure to bystanders and residents is considered acceptable for the device.

Value Assessment

A total of six efficacy trials were submitted; trials were performed in growth chambers and *in situ* indoor locations including trials on fruit flies, drain flies, fungus gnats, mosquitoes, and small moths. Justifications and a literature review were also submitted as evidence for claims of efficacy and value for this device. The submitted value information is sufficient to support a claim of attracting and trapping flying insects (fruit flies, drain flies, fungus gnats, mosquitoes, and small moths) for up to 30 days.

Chemistry and Environmental Assessments

Chemistry and environmental assessments were not required for this application.

Conclusion

The Pest Management Regulatory Agency has completed an assessment of the information provided, and has found the information acceptable to support the registration of STEM Flying Insect Light Trap.

References

PMRA Document Number	Reference
3460073	2023, Value summary, DACO: 10.1,10.2.1
3460074	2023, Mosquito justification Raid Essentials 3-29-23 EAL3, DACO: 10.2.3
3460075	2021, Gnat justification Raid Essentials 5-25-21, DACO: 10.2.3.1
3460076	2022, Drain fly rationale Raid Essentials 7-21-22, DACO: 10.2.3.1
3460077	2023, 30 Day Rationale Raid Essentials all insects 4-07-23 EAL, DACO: 10.2.3.1
3460078	2021, Mosquitoes Raid Essentials 30d 9-13-22 DLR, DACO: 10.2.3.2
3460079	2021, Fruit fly Raid Essentials Production 9-30-22.pdf, DACO: 10.2.3.2
3460080	2022, 9002090E7 Moth Final Report - Light Trap Field Study, DACO: 10.2.3.3
3506832	2023, Mosquito justification Raid Essentials 9-14-23EAL4.pdf, DACO: 10.2.3
3506833	2023, Raid Essentials Light Trap UV/Blue Wavelength Memo, DACO: 5.2
3506835	Burkett, Douglas A., Butler, J. F., and Kline, D. L., 1998, Field Evaluation of Colored Light-Emitting Diodes as Attractants for Woodland Mosquitoes and other Diptera in North Central Florida, Journal of the American Mosquito Control Association, 14(2): 186-195, 1998., DACO: 10.2
3506834	Bentley, Michael T., Kaufman, Phillip E., Kline, Daniel L., and Hogsette, Jerome A., 2009, Response of Adult Mosquitoes to Light-Emitting Diodes Placed in Resting Boxes and in the Field, Journal of the American Mosquito Control Association, 25(3): 285-291 (2009). https://doi.org/10.2987/08-5815.1 , DACO: 10.2
3460069	2022, E525270 UV Test Report, DACO: 5.2
3460070	2021, Light Trap EN62471 report 21070347HKG-001, DACO: 5.2
3460083	2023, 240694_refill, DACO: 5.2
3460084	2023, DACO 5.2 Use Description Raid Essentials FILT, DACO: 5.2
3460085	2023, LED Light Specs, DACO: 5.2
3460086	2021, schematics of light device, DACO: 5.2

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