



## Evaluation Report for Category B, Subcategory 2.6 Application

**Application Number:** 2018-2548  
**Application:** New EP Product Chemistry-New Combination of Technical Grade Active Ingredients  
**Product:** Brigade Bird Repellent Cubes  
**Registration Number:** 34097  
**Active ingredients (a.i.):** Crushed garlic, methyl anthranilate  
**PMRA Document Number:** 3212379

### Purpose of Application

The purpose of this application was to register Brigade Bird Repellent Cubes, a new end-use product to repel various species of birds from various outdoor sites and from crops.

### Chemistry Assessment

Brigade Bird Repellent Cubes is formulated as a solid containing methyl anthranilate at 17.64% (when packed) and crushed garlic at 14.0%. This end-use product has a density of 1.5488 – 1.5595 g/cm<sup>3</sup> and pH of 10.12 (1% solution). The required chemistry data for Brigade Bird Repellent Cubes have been provided, reviewed and found to be acceptable.

### Health Assessments

Brigade Bird Repellent Cubes are of low acute toxicity by both the oral and dermal routes, and are skin, eye and respiratory irritants, as well as potential sensitizers. Individuals who are sensitive or allergic to garlic should avoid handling the product.

Occupational exposure is acceptable when Brigade Bird Repellent Cubes are used according to label directions. Precautionary statements, personal protective equipment and the directions for use on the product label, aimed at mitigating user exposure, are adequate to protect individuals from any potential risk due to occupational exposure.

Bystander exposure will not result in health risks of concern when the product is used according to label directions. Brigade Bird Repellent Cubes are not permitted for use around residential properties. Consequently, the risk to bystanders and individuals in residential areas is acceptable.

A dietary exposure assessment was not required, as Brigade Bird Repellent Cubes are not applied directly to crops.

## **Environmental Assessment**

The use of Brigade Bird Repellent Cubes is acceptable from an environmental perspective when used according to label directions.

## **Value Assessment**

The submitted value information supported the use of Brigade Bird Repellent Cubes to repel sparrows, grackles, European starlings, robins, cardinals, blackbirds and blue jays on root and tuber vegetables, pome fruit, stone fruit, berries and small fruits, and cereal grains and in and around structures for up to 3 months.

## **Conclusion**

The Pest Management Regulatory Agency has completed an assessment of the information provided, and has found it sufficient to register Brigade Bird Repellent Cubes.

## References

### A. List of Studies/Information Submitted by Registrant

<b>PMRA Document Number</b>	<b>Reference</b>
2893951	2018, The Viscosity of Brigade Bird Repellent Cubes, DACO: 3.5.9 CBI
2893952	2018, Brigade Bird Repellent Cubes Oxidation/Reduction: Chemical Incompatibility, DACO: 3.5.8 CBI
2893953	2018, The pH of Brigade Bird Repellent Cubes, DACO: 3.5.7 CBI
2893954	2018, The Specific Gravity of Brigade Bird Repellent Cubes, DACO: 3.5.6 CBI
2893955	2018, Container Material and Description for Brigade Bird Repellent Cubes, DACO: 3.5.5 CBI
2893956	2018, Formulation Type for Brigade Bird Repellent Cubes, DACO: 3.5.4 CBI
2893957	2018, Odour Assessment of Brigade Bird Repellent Cubes, DACO: 3.5.3 CBI
2893958	2018, The Physical State of Brigade Bird Repellent Cube, DACO: 3.5.2 CBI
2893959	2018, Dielectric Breakdown Voltage of Brigade Bird Repellent Cubes, DACO: 3.5.15 CBI
2893960	2018, Miscibility of Brigade Bird Repellent Cubes, DACO: 3.5.13 CBI
2893961	2018, Explodability of Brigade Bird Repellent Cubes, DACO: 3.5.12 CBI
2893962	2018, Flammability of Brigade Bird Repellent Cubes, DACO: 3.5.11 CBI
2893963	2018, Accelerated Storage Studies For Brigade Bird Repellent Cubes, DACO: 3.5.10,3.5.14 CBI
2893964	2018, The Colour of Brigade Bird Repellent Cubes, DACO: 3.5.1 CBI
2893967	2018, The Formulation Process of Brigade Bird Repellent Cubes, DACO: 3.2.1,3.2.2 CBI
3087315	2018, [CBI Removed] Enforcement Analytical Method, DACO: 3.4.1 CBI
3087316	2020, Analysis Report for Methyl Anthranilate Content in [CBI Removed], DACO: 3.5.10 CBI
3205788	2021, ARC Chromatogram, DACO: 3.5.10 CBI
3205789	2021, Brigade Cube and Granular Results, [CBI Removed], DACO: 3.5.10 CBI
3212709	2021, Storage Studies For Brigade Bird Repellent Cubes, DACO: 3.5.14 CBI
2893950	2018, Toxicology Summary for Brigade Bird Repellent Cubes, DACO: 4.1
2893945	2018, DACO 5.2 Use Description / Exposure Scenarios for Brigade Bird Repellent Cubes, DACO: 5.2
2893946	1994, DER, DACO: 4.6.1,4.6.2,4.6.3,4.6.4,4.6.5,4.6.6
2893949	2018, Request for waiver, toxicology data, DACO: 4.6.1, 4.6.2, 4.6.3, 4.6.4, 4.6.5, 4.6.6
3011139	2016, BD-135 Test Study, DACO: 10.2,10.2.3.3
3011140	2014, Evaluation of BD-135 Block a and Granular Pouches Bird Repellent, DACO: 10.2,10.2.3.3
2893969	2018, Value Summary for Brigade Bird Repellent Cubes, DACO: 10.1

2995017	2019, Application Rates, Brigade Cubes, Granular, May, 2019, DACO: 10.1,10.2.3.3
2995026	2019, Value Summaries and Efficacy: Small-scale Trials (Field, Greenhouse), DACO: 10.1,10.2.3.3

## B. Additional Information Considered

### Published Information

PMRA Document Number	Reference
3192427	Bassioukas, K, D. Orton and R. Cerio, 2004. Occupational airborne allergic contact dermatitis from garlic concurrent with Type I allergy. Contact Dermatitis 50: 39-50.
3192442	Papageorgiou, C. J.P-Corbet, F. Menezes-Bradao, M. Pecegueiro and C. Benezra. 1983. Arch Dermatol Res 1983 275: 229-234
3195485	ChemID Plus Garlic Oil. National Institute of Health, US National Library of Medicine. <a href="https://chem.nlm.nih.gov/chemidplus/rn/8000-78-0">https://chem.nlm.nih.gov/chemidplus/rn/8000-78-0</a> (accessed 12/9/2020).
3195486	ChemID Plus Diallyl disulfide. National Institute of Health, US National Library of Medicine. <a href="https://chem.nlm.nih.gov/chemidplus/rn/2179-57-9">https://chem.nlm.nih.gov/chemidplus/rn/2179-57-9</a> (accessed 12/9/2020).
3195484	PubChem Allicin. National Institute of Health, US National Library of Medicine. <a href="https://pubchem.ncbi.nlm.nih.gov/compound/Allicin">https://pubchem.ncbi.nlm.nih.gov/compound/Allicin</a> (accessed 11/9/2020).

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