



Evaluation Report for Category B, Subcategory 2.1 Application

Application Number: 2014-1282
Application: New End-Use Product Chemistry - Guarantee
Product: DX13 Dust
Registration Number: 32178
Active ingredients (a.i.): Silicon dioxide (present as 100% diatomaceous earth - freshwater source)
PMRA Document Number : 2594538

Purpose of Application

The purpose of this submission was to register a new commercial insecticide, DX13 Dust, for both indoor and outdoor uses to control ants, bed bugs, cockroaches, crickets, earwigs, fleas, and silverfish.

Chemistry Assessment

DX13 Dust is formulated as a dust containing silicon dioxide (present as 100% diatomaceous earth) at 82%. This end-use product has a specific gravity of 2.0 and pH of 6 – 8. The chemistry requirements for this product have been fulfilled.

Health Assessments

Toxicology and food residue assessment were not required for this application.

Available information suggests that DX13 Dust is of low acute oral, dermal, and inhalation toxicity, is minimally irritating to the eye, but not to the skin, and is not expected to be a dermal sensitizer. DX13 Dust is a respiratory irritant when inhaled. The label advises against inhalation and contact with the eyes as mitigative measures.

There are no formulants of concern present in DX13 Dust to the health of humans and pets.

Occupational exposure associated with DX13 Dust is characterized as short-term and intermediate in duration and is most likely to occur during application and clean-up of the treated area(s). Occupational exposure is limited with the use of appropriate personal protective equipment, hygiene, and ventilation statements on the label.

To ensure that bystander exposure is minimized, when DX13 Dust is applied in homes, hotels, motels, hospitals, food-processing plants, restaurants, offices and residential buildings, and other

commercial, industrial sites, and outdoors, people and/or pets should not be in the immediate vicinity. When applying DX13 Dust in an institution, occupants and patients should be removed from the area to be treated before using.

Since April 26, 2007, registrants have been required by law to report incidents to the PMRA, including adverse effects to health and the environment. Information on the reporting of incidents can be found on the PMRA website. Incidents were searched and reviewed for the active ingredient silicon dioxide (present as 100% diatomaceous earth) – fresh water fossils. As of November 19, 2015, 55 human and 48 domestic animal incident reports involving silicon dioxide (present as 100% diatomaceous earth) – fresh water fossils have been submitted to the PMRA. All incidents were either minor or moderate in severity. All incidents occurred in Canada and involved domestic class products that are formulated as a dust. In the majority of the incidents, the product had been applied inside or outside the home.

The most frequently reported routes of exposure reported in the human incidents were respiratory or oral, often from the application of the product. Several people also came into contact with an area that had been treated and reported symptoms. The most commonly reported symptoms were respiratory, such as irritated throat.

All domestic animals reported in the incidents were cats or dogs. The majority of the animals experienced gastrointestinal symptoms, such as vomiting. The route of exposure was most often reported as oral.

The incident report data were incorporated into the evaluation of silicon dioxide (present as 100% diatomaceous earth) – fresh water fossils.

Environmental Assessment

Based on the non-toxic mode of action and the limited use pattern of this product, the risk to non-target organisms in the environment is expected to be negligible if used according to label statements.

Value Assessment

DX13 Dust contains the active ingredient silicon dioxide (diatomaceous earth) which works as an insecticide by physically abrading the outer cuticle leading to dehydration and death of an insect. Based on laboratory efficacy trials and precedent products, the registration of DX13 Dust from a value perspective is supported.

Conclusion

The Pest Management Regulatory Agency has completed an assessment of the information provided and has found the information sufficient to support registration of DX13 Dust

References

PMRA Document Number	Reference
2413780	2014, Part 3 Chemistry – Dust DE Labs DX13 Dust. DACO: 3.0, 3.1, 3.1.1, 3.1.2, 3.1.3, 3.1.4, 3.2, 3.2.1, 3.2.2, 3.2.3, 3.3.1, 3.4, 3.4.1, 3.4.2, 3.5, 3.5.1, 3.5.10, 3.5.11, 3.5.12, 3.5.13, 3.5.14, 3.5.15, 3.5.16, 3.5.2, 3.5.3, 3.5.4, 3.5.5, 3.5.6, 3.5.7, 3.5.8, 3.5.9 CBI
2413782	2014, Correspondence Re: Enforcement Analytical Methods for insecticide registration from EP Minerals, LLC. DACO: 3.4.1 CBI
2413784	2014, Part 3 Chemistry – EP DX13 Dust Silicon Dioxide, Present as Diatomaceous Earth Waiver Request from Further Testing. DACO: 3.4.1 CBI
2413786	2014, Part 5 Exposure (Occupational and/or Bystander) – Dust: DX13 Dust: Silicon Dioxide, Present as Diatomaceous Earth: Waiver Request from Further Testing, Data Numbering Code: 5.1, 5.2, 5.3, 5.4, & 5.5
2483738	2014, Part 10 Value – Silicon Dioxide, Present as Diatomaceous Earth, Trials and Waiver Request from Further Testing – Supplemental. DACO: 10.2.3.2(D)
2513279	2015, Toxic effects of DX-13 aerosol/dust against silverfish, cockroaches and crickets. DACO: 10.2.3.2(D)
2513650	2015, Part 10 Value – Silicon Dioxide, Present as Diatomaceous Earth, Trials and Waiver Request from Further Testing – Supplemental 2. DACO: 10.2.3.2(D)
2531603	2015, Part 10 Value – Silicon Dioxide, Present as Diatomaceous Earth, Trials and Waiver Request from Further Testing – Supplemental 3. DACO: 10.2.3
2202331	2012, Part 10 Value – Aerosol, Silicone Dioxide, Present as Diatomaceous Earth. DACO: 10.1, 10.2, 10.2.1, 10.2.2, 10.2.3, 10.2.3.1, 10.2.3.2, 10.3, 10.3.1, 10.3.2

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