

## Evaluation Report for Category B, Subcategory 3.11 and 3.12 Application

**Application Number:** 2014-2037  
**Application:** Changes to Product Labels – New pests and new site  
**Product:** DE Labs DX13  
**Registration Number:** 30966  
**Active ingredients (a.i.):** Silicon dioxide (present as 100% diatomaceous earth - freshwater source)  
**PMRA Document Number :** 2601551

### Purpose of Application

The purpose of this submission was to amend the commercial insecticide, DE Labs DX13, containing 6.56% silicon dioxide, with the addition of 6 new pests (ants, cockroaches, crickets, earwigs, fleas and silverfish) and to add a new use sites (hospitals, food-processing plants, restaurants, offices and residential buildings, and other commercial, industrial sites, and outdoors).

### Chemistry Assessment

A chemistry assessment was not required for this application.

### Health Assessments

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

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

Occupational exposure associated with DE Labs DX13 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 DE Labs DX13 is applied in homes, motels, hotels, 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 DE Labs DX13 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**

DE Labs DX13 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 use expansion of DE Labs DX13 can be supported from a value perspective.

### **Conclusion**

The Pest Management Regulatory Agency has completed an assessment of the available information and is able to support the addition of new pests and new use for the domestic end-use product, DE Labs DX13.

### **References**

<b>PMRA Document Number</b>	<b>Reference</b>
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- 2202381 2012, Part 5 Exposure (Occupational and/or Bystander) – Aerosol: 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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