

Evaluation Report for Category B, Subcategory 3.12, 3.13, 3.4 Application

Application Number: 2017-1634
Application: Changes to Product Labels – New Site or Host, Precautions and Application Method
Product: AQUCAR 742 Water Treatment Microbiocide
Registration Number: 24290
Active ingredients (a.i.): Glutaraldehyde and Alkyl(40% C12, 50% C14, 10% C16)dimethylbenzylammonium chloride
PMRA Document Number : 3038293

Purpose of Application

The purpose of this application was to amend the product label for AQUCAR 742 Water Treatment Microbiocide to add offshore oil and gas applications as a new section on the label, as well as other general label improvements.

Chemistry Assessment

A chemistry review was not required for this application.

Health Assessments

A dietary exposure assessment was not required for this application.

The product label amendment does not alter the toxicological profile of the product.

The use of AQUCAR 742 Water Treatment Microbiocide for use on offshore – water flood and injection systems and offshore - drilling muds/ drilling, completion, workover & and packer fluids for controlling slime-forming bacteria and sulfate-reducing bacteria in oil and gas industrial applications is not expected to increase over the exposure from the currently registered uses for AQUCAR 742 Water Treatment Microbiocide.

Environmental Assessment

Offshore drilling practices involve allowable discharge of biocide treated production fluids into the ocean at the site of drilling in accordance with provincial regulations. Alkyl (40% C12, 50% C14, 10% C16)dimethylbenzylammonium chloride and glutaraldehyde may enter the environment when these drilling fluids are eventually discharged to marine waters.

A screening level risk assessment for the offshore oil and gas use of alkyl (40% C12, 50% C14, 10% C16)dimethylbenzylammonium chloride was conducted. Risk quotients were below the level of concern, indicating that risks to non-target marine organisms are

acceptable based on the use.

A risk assessment for the offshore oil and gas use of glutaraldehyde was previously conducted. Risks to non-target marine organisms were acceptable. The results from that assessment remain valid for the uses.

After a scientific review of the available information, the PMRA has concluded that the environmental risks associated with the uses of AQUICAR 742 Water Treatment Microbiocide are acceptable when used according to the label directions.

Value Assessment

Value information was provided in support of the addition of offshore water flood and injection systems and offshore drilling muds and drilling completion, workover and packer fluids uses to the currently registered label for Aquicar 742 Water Treatment Microbiocide. The information supports the use of Aquicar 742 Water Treatment Microbiocide to control microorganisms in offshore water flood and injection systems at rates of 20 to 1200 ppm of product and in offshore drilling muds and drilling completion, workover and packer fluids at rates of 50-200 ppm of product. Therefore, the addition of offshore uses to the Aquicar 742 Water Treatment Microbiocide label is considered acceptable from a value perspective.

Conclusion

The Pest Management Regulatory Agency has completed an assessment of the available information and has found it sufficient to amend the product label for AQUICAR 742 Water Treatment Microbiocide.

References

A. List of Studies/Information Submitted by Registrant

PMRA Document Number	References
3020027	2019, Evaluation of the Fate of N-alkyl (40% C12, 50% C14, 10% C16)dimethylbenzylammonium chloride in processing fluids samples post-down hole, DACO 8.6
3020031	2015, Directive 98/8/EC concerning the placing biocidal products on the market- assessment report- PT 8, DACO: 12.5.8,12.5.9
3020032	2011, Alkyldimethylbenzylammonium Chloride (ADBAC) Category High Production Volume (HPV) Chemicals Challenge Final Test Status and Data Review, DACO: 12.5.8,12.5.9
3020033	2006, Reregistration Eligibility Decision for Alkyl Dimethyl Benzyl Ammonium Chloride (ADBAC), DACO: 12.5.8,12.5.9
3020034	2006, Ecological Hazard and Environmental Risk Assessment Chapter Alkyl Dimethyl Benzyl Ammonium Chloride (ADBAC), DACO: 12.5.8,12.5.9
2746553	2014, 10.2.3.2 Efficacy, DACO: 10.2.3.2

2772095 2017, Rationale for bridging the data for onshore use of AQUICAR 742 Water Treatment Microbiocide for offshore applications, DACO: 10.6

B. Additional Information Considered

i) Published Information

PMRA Document Number

References

- 3040942 Mulder, I., Siemens, J., Sentek, V., Amelung, W., Smalla, K., Jechalke, S., 2017. Quaternary ammonium compounds in soil: implications for antibiotic resistance development. *Rev. Environ. Sci. Biotechnol.* 17: 159-185. DACO 8.6.2.
- 3040946 Garcia, M.T., Campos, E., Sanchez-Leal, J., Ribosa, I., 1999. Effect of the alkyl chain length on the anaerobic biodegradability and toxicity of quaternary ammonium based surfactants. *Chemosphere* 38(15): 3473-3483. DACO 8.6.2.
- 3040947 Zeng, G-m, Jiang, M., Yang, Z-z, Yu, Z-g, Zh, M-y, Shen, L-q., 2015. Quaternary ammonium compounds (QACs): A review on occurrence, fate and toxicity in the environment. *Science of the Total Environment* 518-519: 352-362. DACO 8.6.2.

ii) Unpublished Information

- 3040941 American Chemical Council Fatty Nitrogen Derivatives Panel Cationics Task Group. 2001. Fatty Nitrogen Derived Cationics Category High Production Volume (HPV) Chemicals Challenge. US EPA High Production Volume Challenge Program. 423 pp. DACO 8.6.2.

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