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Review of Proposed Changes to the Standard Criteria Relating to Microorganisms in the 'Recognised – Environmental Credential Scheme' for Cleaning Products

Review conducted by

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For

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EXECUTIVE SUMMARY

An independent expert review of proposed amendments to the Standard Criteria of the 'Recognised – Environmental Credential Scheme' for Cleaning Products was sought by Accord Australasia Limited. These amendments included the addition of specific clauses relating to products containing microorganisms. The review deemed the criteria to be appropriate in enabling Recognised® to differentiate commercial cleaning products with superior characteristics, in the context of the existing Standard Criteria document, and in light of the approaches taken by other ecolabels. The review also provided an additional point for consideration in relation to the efficacy of the product relative to verification of the population of microorganisms throughout its shelf life.

REVIEW OF INDIVIDUAL CRITERIA

6.4.1 Taxonomic Identification

This criterion deals with the accurate identification of the microorganism(s) against a recognised culture collection as listed in the WDCM, but does allow third party assessment of identification by a competent specialist. It is appropriate that identification against microorganisms only listed in recognised culture collections is required as only these microorganisms have been adequately characterised and their identity established.

The identification method required by the criteria is 16SrDNA or rRNA sequencing. Sequencing methods used in conjunction with suitably validated databases is the only technique available that can accurately confirm the identity of the microorganism. Other techniques such as Matrix Assisted Laser Desorption Ionization Time-of-Flight (MALDI-TOF), or biochemical profiling have accuracy rates <85% and <35% respectively. As indicated in the rationale of this criteria, some closely related species or strains may have different pathogenic impacts, and they would not be reliably distinguished by methods other than 16SrDNA or rRNA sequencing. Hence, the requirement to have the identity confirmed via 16SrDNA or rRNA sequencing is necessary.

6.4.2 Quality Assurance

The requirement to have a quality assurance program, capable of controlling the manufacturing process to the extent that microbial contamination is prevented, is necessary in order to ensure the end product contains only the species or strain/s as identified by the product label. In order to confirm compliance with such a program, control of the manufacturing process, provide traceability, and confirm compliance with quality control measures, the process should be well documented.

It is appropriate that the criteria require evidence that quality assurance / quality control is built in to the manufacturing procedure to ensure traceability of the end product with that of the microorganism(s) initially identified.

6.4.3 Impacts on organisms

Only those microorganisms (both vegetative and spore form) that have been defined by an appropriately qualified panel of experts, such as the WHO or other widely recognised standard committees as non-pathogenic should be used in these types of cleaning products to minimise risk of harm..

Organisms classified in this absolute form have been proven to pose low risk of harm to individuals, animal or the environment. This criteria extends to bacteriophages, which are only capable of infecting bacteria so pose no harm to individuals, animal or the environment.

It is appropriate that only microorganisms well defined as non-pathogenic are considered suitable for use in this application.

6.4.4 Susceptibility to antimicrobial agents

It may be desirable to remove the product containing microorganisms from surfaces or situations to which they are applied. For this reason, it is required that there is an effective disinfecting agent to facilitate their removal. The requirement that these microorganisms be susceptible to commonly available disinfectants (as defined by Australian Therapeutics Goods Order 54 Schedule 1, Option C or higher) ensures that they can be readily removed when required. It also ensures that appropriate control measures can put be in place to reduce the unwanted spread of microorganisms arising from such products.

Should a situation arise where an infection was caused by products containing microorganisms, assurance that such infections would be readily treatable should be available. This could be demonstrated by susceptibility testing against each major class of antibiotics. The recommended method is a reliable and readily available method to demonstrate susceptibility to thee antibiotic agents.

6.4.5 Exposure during use (YOPI, food handling/processing)

As the route of infection of microorganisms can increase their pathogenicity, administration via inhalation of aerosols or ingestion, should be avoided. It is therefore warranted to restrict the use of aerosol generating modes of application of these products or their use in areas which may lead to accidental ingestion, such as food preparation areas.

Whilst skin contact with non-pathogenic microorganisms is unlikely to cause infection in uncompromised people, contact with such products where breaks in the skin are present should also be warned against. This is dealt with in the requirements for accompanying information.

6.4.6 Genetically-Modified Organisms (GMO)

Due to the unknown risk of genetically modified organisms, it is appropriate that they be categorically excluded from cleaning products, unless specific permission is granted by the OGTR.

6.4.7 Accompanying Information

The accompanying information requirements are adequate for a product of this nature.

Efficacy and Minimum Population Verification

Consideration should be made to expanding the criteria to include a clause to demonstrate an effective minimum viable count of the target microorganism throughout the shelf life of the product. It would be expected that the minimum viable count would be known in order for the product to display its superior effects due to the presence of the target microorganisms.

Therefore, it would seem appropriate that the minimum viable count be demonstrated in order for the product to perform as expected.