

**HET COLLEGE VOOR DE TOELATING VAN GEWASBESCHERMINGSMIDDELEN EN
BIOCIDEN**

BIJLAGE II bij het besluit d.d. 7-7-2017 tot toelating van het middel Insect Repellent Aerosol IR3535 30%, toelatingnummer NL-0015975-0000

Evaluation Report Mutual Recognition

Insect Repellent Aerosol IR3535 30%

07-07-2017

Biocidal product assessment report related to product
authorisation under (EU) Regulation 528/2012

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1 General information about the product application

Name and address of the authorisation holder	Name	Merck KGaA
	Address	Frankfurter Strasse 250 64293 Darmstadt Duitsland
Authorisation number	NL-0015975-0000	
Date of the authorisation	07-07-2017	
Expiry date of the authorisation	16-05-2027	

Trade name(s)	Insect Repellent Aerosol IR3535 30%
Evaluating member state	BE
Name of the product in RMS	Insect Repellent Aerosol IR3535 30%
Active substance	IR3535
PT	PT19
User category	Non-professionals

2 Summary of the product assessment

2.1 Classification and labelling

Based on the profile of the substance, the provided toxicology of the preparation, the characteristics of the co-formulants, the method of application and the risk assessment for the operator, as mentioned above, the following labeling of the preparation is proposed:

The identity of all substances in the mixture that contribute to the classification of the mixture *:			
-			
Pictogram:	GHS02	Signal word:	Warning
	GHS07		
H-statements:	H223	Flammable aerosol.	
	H229	Pressurised container: may burst if heated.	
	H319	Causes serious eye irritation.	
P-statements:	P101	If medical advice is needed, have product container or label at hand.	
	P102	Keep out of reach of children.	
	P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.	
	P251	Do not pierce or burn, even after use.	
	P264	Wash hands thoroughly after handling.	
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if	

		present and easy to do. Continue rinsing.
	P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.
Supplemental Hazard information:	-	
Child-resistant fastening obligatory?		No
Tactile warning of danger obligatory?		No

2.2 Packaging and shelf-life

Non-professional use

	Packaging authorised/ evaluated by RMS	Packaging applied for in NL	Packaging authorised in NL
Packaging size and type	25-250 ml aluminium aerosol can	25-250 ml aluminium aerosol can	25-250 ml aluminium aerosol can

The shelf life of the product is 24 months in aluminium.

2.3 Physico/chemical properties and analytical methods

For the assessment of the physical and chemical properties, analytical methods and risk assessment regarding physical and chemical properties we refer to the Product Assessment Report of the original authorisation.

2.4 Effectiveness against target organisms

For the assessment of the effectiveness against target organisms we refer to the Product Assessment Report of the original authorisation by the RMS Belgium (Insect Repellent Aerosol IR3535 30%, May 2017). The conclusions of the RMS are acceptable.

2.5.1 Authorised uses and use instructions

The applicant has provided a Dutch SPC. This has been adapted to our standards.

Protection time

The RMS has not included a protection time in the use instructions in the SPC. Users can only indirectly deduce a protection time from the use instructions (*"In case of strong perspiration and after having taken a swim, the repellent will need to be reapplied. Reapplication is authorized for adults only. Reapply only when noticeable reduction in repellence is observed and no later than ten hours after first application."*). Therefore, in the Dutch SPC the protection time of 10 hours will be explicitly included in the use instructions in section 4.1.

2.5 Risk assessment for human health

For the risk assessment for human health we refer to the Product Assessment Report of the original authorisation.

Insect Repellent Aerosol IR3535 30% is a ready-to-use insect repellent used to protect humans against mosquitoes and ticks. The overall aerosol product contains 30% w/w active substance IR3535 (ethyl 3-[N-acetyl-N-butyl] aminopropionate). However, when the

product is applied, the propellant is lost through evaporation, leaving only the liquid phase. This liquid phase then contains 30 % IR3535, which is in fact the concentration to which the skin is exposed. Therefore all exposure assessment calculations have been done taking into account a concentration of 30% IR3535. The ready-to-use product is a pump spray which is sprayed directly onto the exposed skin, plus distribution of the applied spray liquid on the skin by hand. The Product Assessment Report (PAR) was prepared by the RMS Belgium (BE).

Studies with a comparable product have been submitted and based on the study outcome no classification is warranted for acute dermal toxicity, for skin irritation or for sensitising properties (modified Buehler test). As none of the (co-)formulants are classified for sensitising properties, the Buehler test is considered acceptable. Based on the eye irritation study Insect Repellent Aerosol IR3535 30% is classified with H319: Causes serious eye irritation. No study was submitted for acute oral and inhalation toxicity; this was accepted by BE as these endpoints were based on the calculation rules in accordance to CLP. The conclusions of BE on formulation toxicity are accepted by the Ctgb.

Dermal absorption of the active substance from a similar formulation containing 20% IR3535 was determined in a human volunteer study submitted for the active ingredient. In this study, approx. 3 grams of the formulation were applied once to hands, arms, legs, feet, face and neck of each volunteer (ca. 50% of total body area). A dermal absorption value of 14% was derived. This value is also taken into account for the assessment in the PAR. This is accepted by the Ctgb.

For the primary exposure, the treated surface is assumed to be the uncovered parts of the body typically hands, arms, feet, legs and the face. It can be approximated by the total body surface area less the trunk. For the amount of product used BE did not use the amount tested in the efficacy studies, but used 3 grams per application for an adult based on information available. For the child, toddler and infant, a linear relationship between the body surface and the amount of repellent used is assumed. This is accepted by the Ctgb.

RMS BE indicated there is no concern for indirect secondary exposure for adults, children and infants from the use of the biocidal product as a Repellent Subtype PT19.01. Exposure via hand-to-mouth transfer is of minor concern when the product is used as intended (not to be applied to children's hands), and inhalation of volatilised residues after application is limited. Secondary exposure for a parent applying (spraying) the product on children and herself/himself is minor compared to primary dermal exposure. This is accepted by the Ctgb.

In de CAR of IR3535 an overall AEL of 5 mg/kg bw/day was derived and this value was used for the assessment. Based on the assessment, safe use was identified for an adult, child, toddler and infant when the following risk mitigation factors are taken into account:

- Use repellent safely. Always read the label and product information before use.
- Suitable for children older than 1 year. Keep out of reach of children. Avoid breathing vapours/spray. Use only outdoors or in a well-ventilated area.
- ONLY apply to exposed skin: arms, hands, legs and face. For treatment of the face, spray the repellent solution onto the palm of the hand and distribute the solution over the skin of the face thereby taking care to protect the eyes. Do not spray into the eyes or apply to eye area. An adult should apply the product to children below 11 years of age. Do not use on children's hands. Do not apply over cuts, wounds, freshly shaven or irritated skin. Do not use under clothing.
- Maximum number of applications per day: twice for adults, once for children above the age of 1 year. Product is suitable only for children older than 1 year. Caution must be taken when using these products on children. Use products very responsibly. Mechanical protection (clothing, mosquito nets) is to be preferred.
- Only for external use. Do not inhale. Use only as directed.

Furthermore, BE did not identify any substance of concern. This accepted by the Ctgb.

Overall conclusion

Based on this risk assessment, it was concluded that no adverse health effects are expected for the unprotected non-professional user after dermal and respiratory exposure to IR3535 as a result of the application of Insect Repellent Aerosol IR3535 30%, when used in accordance to the SPC.

Furthermore, when used according to the SPC, no adverse health effects are expected for the general public by indirect exposure to IR3535 as a result of the application of Insect Repellent Aerosol IR3535 30%

For the SPC, the following risk mitigation measures need to be included:

- Use repellent safely. Always read the label and product information before use.
- Suitable for children older than 1 year. Keep out of reach of children. Avoid breathing vapours/spray. Use only outdoors or in a well-ventilated area.
- ONLY apply to exposed skin: arms, hands, legs and face. For treatment of the face, spray the repellent solution onto the palm of the hand and distribute the solution over the skin of the face thereby taking care to protect the eyes. Do not spray into the eyes or apply to eye area. An adult should apply the product to children below 11 years of age. Do not use on children's hands. Do not apply over cuts, wounds, freshly shaven or irritated skin. Do not use under clothing.
- Maximum number of applications per day: twice for adults, once for children above the age of 1 year. Product is suitable only for children older than 1 year. Caution must be taken when using these products on children. Use products very responsibly. Mechanical protection (clothing, mosquito nets) is to be preferred.
- Only for external use. Do not inhale. Use only as directed.

2.6 Risk assessment for the environment

Insect Repellent Aerosol IR3535 30% is a non-professional insect repellent (PT19) with ethyl-butylacetylaminopropionate (IR3535, 30%) as active substance. It is to be marketed for topical application to skin of humans to repel various mosquito and tick species. The product is sprayed onto the skin, on uncovered parts of the body (face, hands, arms and legs) up to twice a day for adults, and once a day for children above the age of 1 year. According to the BE CA's information, the product contains no substances of concern other than the active substance, but this cannot be definitely checked by CMS NL as no MSDS were provided.

For the risk assessment for the environment we refer to the Product Assessment Report of the original authorisation.

The risk assessment was made according to the final version of the PT19 ESD. Two scenario's were run, namely:

- Consumption approach in which IR3535 is discharged to the sewer during showering;
- Swimming model to calculate direct emission to surface water;

Scenarios were run by applying the default parameters as specified in the ESD. Endpoints (fate and ecotox) were in accordance with the CAR. No new data have been submitted meanwhile. Although IR3535 cannot be classified as readily biodegradable, a simulation study demonstrated that 99% of the active substance is degraded during the passage through the sewage treatment plant (STP) leaving no metabolites. The risk assessment was entirely based on the physical-chemical and ecotoxicological properties of IR3535, product specific information was not submitted.

No unacceptable risks were identified for the STP, surface water, sediment, and soils when the product is applied according to the SPC where residues are released during showering

and swimming. A precautionary measure was however added to the SPC to avoid emission of surplus fluids to the sewer, e.g. disposal of excess fluids and flushing empty bottles. Considering that the product is not classified for the environment and the low PEC:PNEC ratio's for the aquatic compartment (0.066 max), no risks could be expected when residues are accidentally released to the sewer. The precautionary measure is therefore sufficient.

Overall conclusion for the aspect environment: The conclusions in the risk assessment of the RMS are valid.

2.7 Measures to protect man, animals and the environment

For the measures to protect animals and the environment we refer to the Product Assessment Report of the original authorisation and the SPC of the CMS NL.

2.8 Substitution/exclusion criteria and comparative assessment

Insect Repellent Aerosol IR3535 30% does not contain any active substances that are considered candidate for substitution.

3 Proposal for decision

The authorisation of Insect Repellent Aerosol IR3535 30% is based on mutual recognition of the authorisation of RMS BE. For the evaluation we refer to the product assessment report which has been composed by the RMS conform the Common Principles.

It is concluded that the application of Insect Repellent Aerosol IR3535 30% according to the use instructions as stated in the SPC, will be effective and that there will be no harm for the health of humans and for the environment.