



SALTIDIN® Clear Gel 20 %

Saltidin® (known as Picaridin in the US)

Issued in February 2011

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1. Preliminary Remarks

The use of repellents by application to skin and clothing is an important means of human protection against blood-sucking insects and ticks as well as arthropod-borne disease transmission.

Saltidin® belongs to a new generation of synthetic repellents developed as an alternative to DEET.

Developed by Bayer AG using molecular modelling techniques, Saltidin® showed the best performance among more than 800 substances against a variety of arthropods and the best characteristics as far as safety and compatibility with skin and plastic materials are concerned.

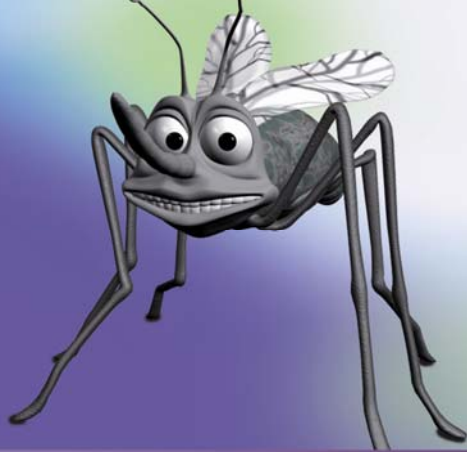
Presently, this molecule is owned by Saltigo GmbH (LANXESS Group) and is marketed by LANXESS Corporation (previously a Division of Bayer Corporation) in the USA.

Saltidin® is a safe and reliable insect repellent and stands for effective protection against various diseases transmitted by:

- ✓ Mosquitoes
- ✓ Ticks
- ✓ Flies
- ✓ Horseflies
- ✓ Sandflies
- ✓ Biting midges
- ✓ Fleas
- ✓ Ants
- ✓ Cockroaches

Due to its broad spectrum of efficacy, its favourable toxicological and cosmetic properties, Saltidin® can be safely used by consumers.

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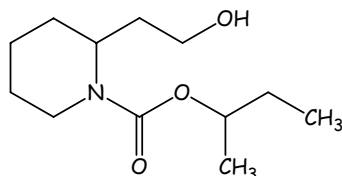
2. Physical and Chemical Properties

Chemical Name: 1-PIPERIDINECARBOXYLIC ACID, 2-(2-HYDROXY-ETHYL), 1-METHYLPROPYLESTER

Commercial Name: Saltidin®

Other Names: Icaridin, KBR 3023, Bayrepel™, Picaridin, (US EPA Registration)

Structure:



Empirical Formula: C₁₂H₂₃NO₃

ELINCS Number 423-210-8

CAS Number 119515-38-7

Molecular weight: 229.3 g/mol

Melting point: < -170 °C

Boiling point: 272 °C at 1013 hPa

Viscosity: 30.7 sec. flow time accord. To DIN 53211, Dynamic: 129 mPa.s at 20 °C

Vapour pressure: 3.4 x 10⁻⁴ hPa at 20 °C
5.9 x 10⁻⁴ hPa at 25 °C
7.1 x 10⁻³ hPa at 50 °C

Flash point: 142 °C

Density: 1.036 g/m³ at 20 °C

Solubility: In water: 8.6 g/L at 20 °C
In propane-2-ol: > 250 g/L at 20 °C
In acetone: > 250 g/L at 20 °C
In n-heptane: > 250 g/L at 20 °C
In xylene: > 250 g/L at 20 °C

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Appearance:	Clear liquid, colourless to brownish
Odour:	Slightly odorous
Storage conditions:	Store at room temperature

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3. Formulation

Saltidin® Clear Gel 20% (high viscosity)

3.1 Formulation:

No	Ingredient	CAS no.	Supplier	Content %
	Phase A			
1	Ethanol denatured	64-17-5		29,00
2	Water deionised			38,92
3	Polyethylene glycol 400	25322-68-3		10,00
4	Perfume Floral D 12889 G	Not available	Symrise	1,00
	Phase B			
3	Saltidin®	119515-38-7	Saltigo GmbH	20,60
4	Pionier NP 37K	9003-01-4 (Polymer Mixture)	Hansen&Rosenthal	0,40
	Phase C			
5	AMP 95	124-68-5	Angus GmbH	0,08

Cosmetic additives: Saltidin® is compatible with many cosmetic additives such as Dexpanthenol (Pro-vitamine B5) or Aloe Vera in formulations.

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3.2 Preparation:

1. Mix Phase A at room temperature under stirring. (diminish solution)
2. Mix Phase B at room temperature under stirring for 15 minutes. (dispersion)
3. Put Phase B to Phase A, and neutralize with AMP 95 to pH 5.5 - 7. (clear gel)

3.3 Physical data:

pH-value	5.0 - 7.0
Oudor	Perfume conform
Appearance	Clear viscous gel
Content Saltidin® [%]	19 - 21

3.4 Packaging material:

	Volume	Material	Manufacturer
Tube	50 ml/100ml	HDPE	Hermann Koch GmbH
Bottle	100ml	HDPE	Hermann Koch GmbH
Gel applicator	100ml	HDPE	Hermann Koch GmbH

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3.5 Stability

Short term stability for 6 weeks.

This clear gel is stable after storage for 6 weeks at 20°C, 40°C, 45°C and at 50°C.

The above formulation is intended solely as a guide for our business partners and others interested in our product. As the conditions of use and application of the suggested formulation are beyond our control, it is imperative that it be tested to determine, to your satisfaction, whether it is suitable for your intended use(s) and application(s). This application-specific analysis at least must include testing to determine suitability from a technical, as well as health, safety and environmental standpoints. Further, although the ingredients, quantities thereof and properties of compounds or finished goods mentioned herein reflect our recommendation at the time of publication, this guide may not be subject to continuous review and/or updating, and you agree that use is undertaken at your sole risk. All information is given without warranty or guarantee, and it is expressly understood and agreed that you assume, and hereby expressly release us from all liability, in fort contract or otherwise, incurred in connection with the use of this guide.

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4. Customer information

Further information on toxicity tests and effectiveness of Saltidin® formulations are listed in the table "Possible formulations" under the link "All Family Insect Repellent Spray 20%" and "All Family Insect Repellent Cream 20%".

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