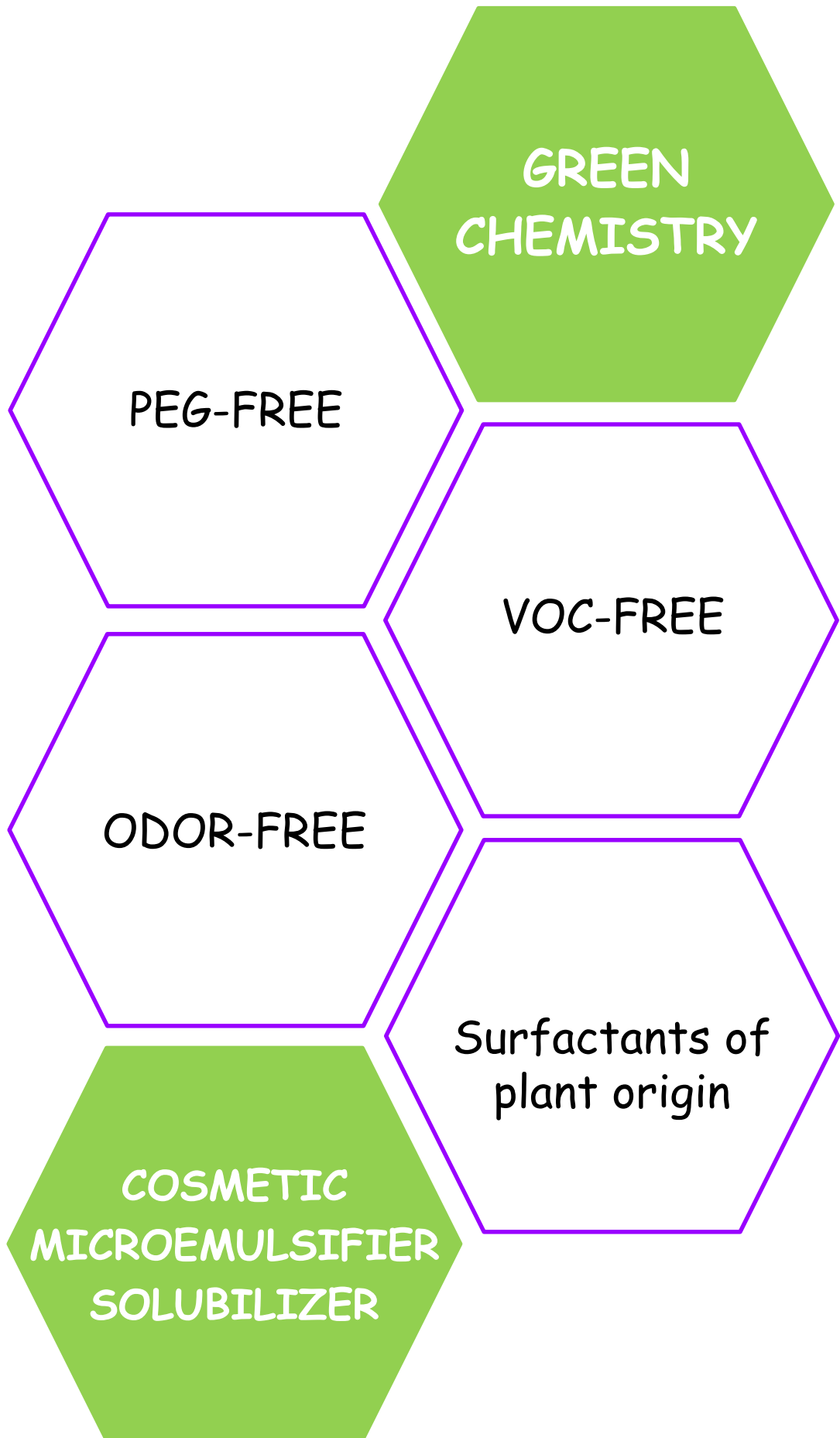


MAKIGREEN SOLVE

MAKIGREEN SOLVE



Since many years, the cosmetic industry started a strategical move towards natural products based on sustainable ingredients, ie coming from vegetal resources. In this context, DAITO KASEI, supported by the experience of microemulsion specialists, is pleased to introduce non irritant solubilizer, MAKIGREEN SOLVE, containing surfactants derived from natural origin. MAKIGREEN SOLVE presents optimized performance properties, up to the point to approach those of the traditional products based on polyoxyethylene and polyoxypropylene derivatives whose skin irritancy is questionable.

Composition

INCI Name
Caprylyl/capryl glucoside
Polyglyceryl-4 caprate
Polyglyceryl-6 laurate
Pentylene glycol
Sodium dilauramidoglutamide lysine

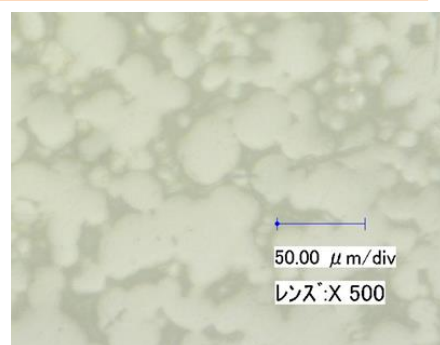
Chemical and physical properties

Appearance	Liquid
Color	Colorless to pale yellow
Odor	Odorless
pH	~7,0
Active matters	~70%
HLB	14

Its unique composition has been designed to enable water to be used as a substitute for alcohol in many cosmetic and perfumery products. **MAKIGREEN SOLVE +**, Ecocert grade, is based on 100% renewable raw materials.

Features and benefits

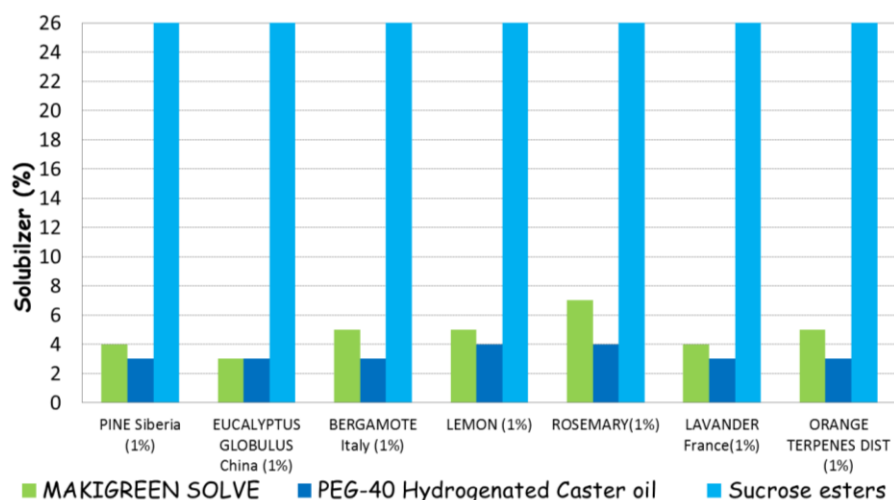
- Crystal clear solutions
- Cold processable
- Less emulsifier required
- No discoloration
- Smooth feeling on the skin, no sticky feel
- Odor value is enhanced
- Liquid cubic emulsion is formed and brings the following properties: water retention, control of water release, good skin feel
- the water in the emulsion will gradually evaporate and the relative content of the oils and the emulsifiers will gradually increase, which will lead to the breakdown of the emulsion particles, and turn the liquid cubic structure into lamellar liquid cubic structure



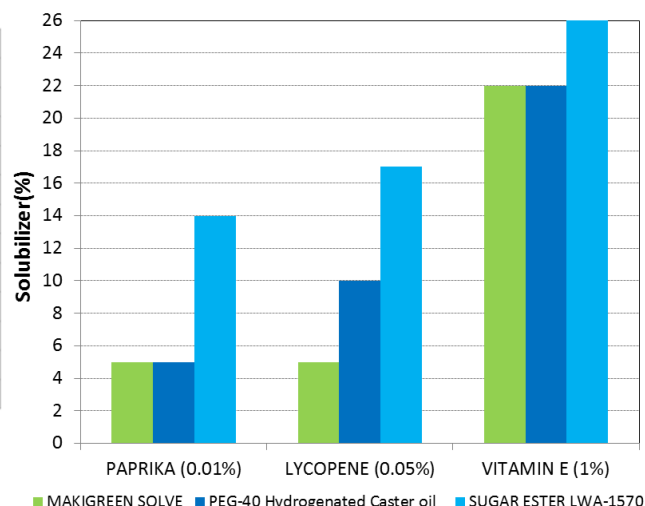
Use guideline

- Mix MAKIGREEN SOLVE with the ingredient to be solubilized until a clear mixture is obtained. Add slowly the water phase under high shear
- MAKIGREEN SOLVE is compatible with commonly used cosmetic ingredients
- MAKIGREEN SOLVE is stable over the pH range of 3 to 12. For pH<3, the concentration may be slightly increased.

Solubilization of essential oils



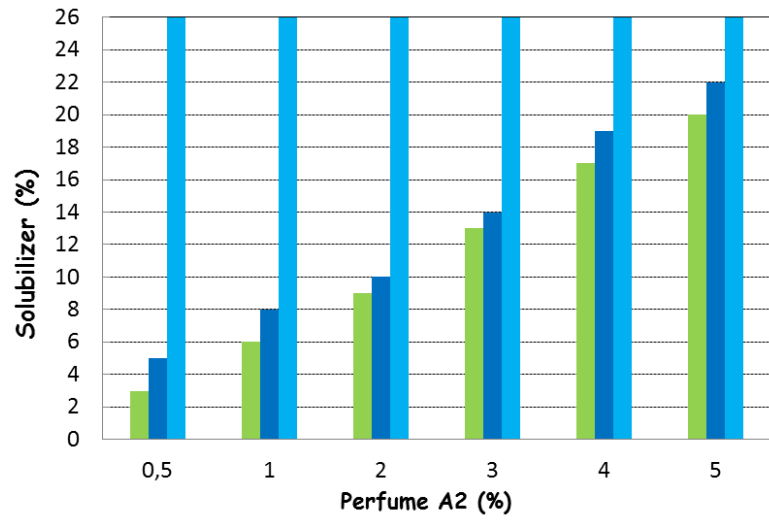
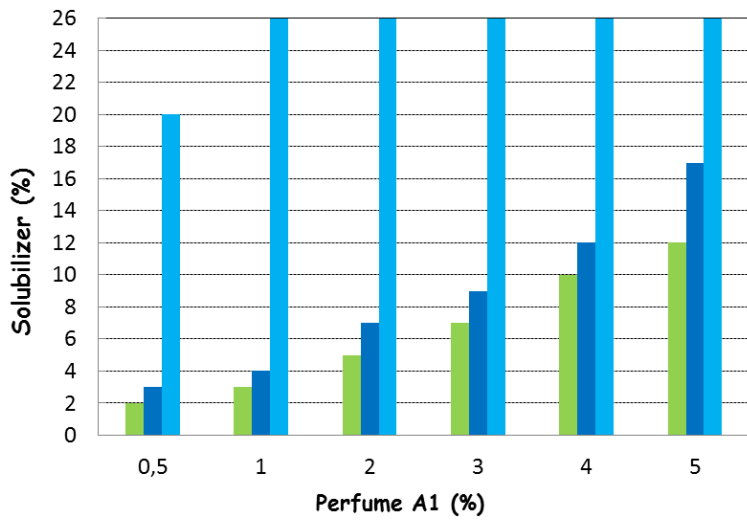
Solubilization of oil natural dyes/actives



The efficacy of MAKIGREEN SOLVE is comparable to the market standard PEG-40 hydrogenated castor oil.

MAKIGREEN SOLVE solubilizes most essential oils used in aromatherapy preparations.

Solubilization of perfumes



The efficacy of MAKIGREEN SOLVE is better than the market standard PEG-40 hydrogenated castor oil.

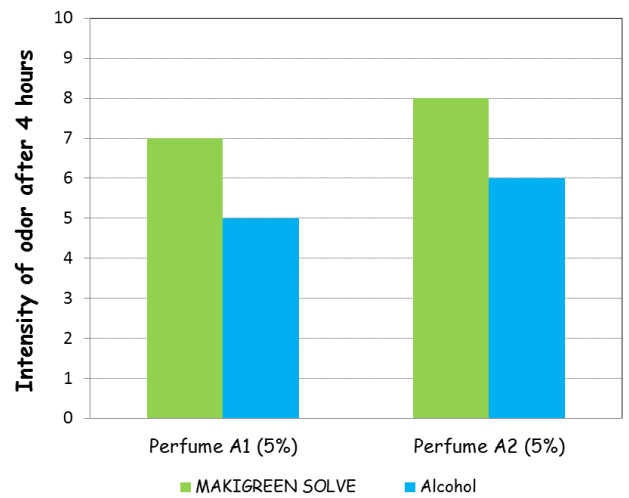
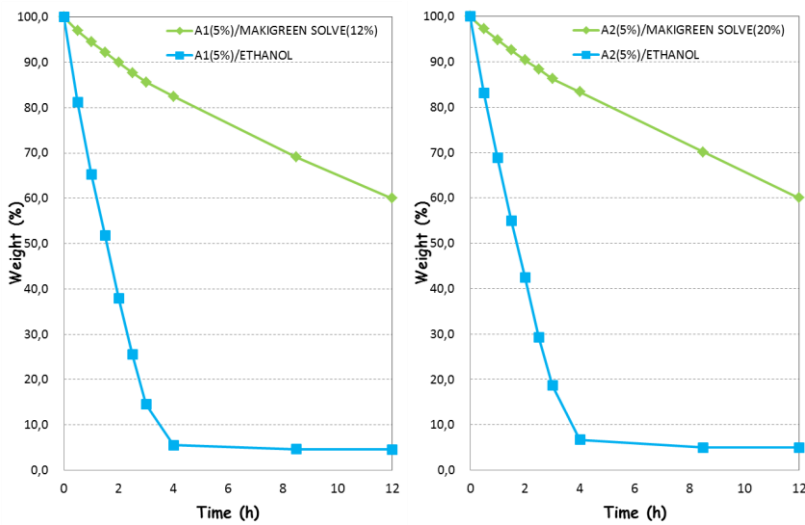
The more concentrated the fragrance, the more MAKIGREEN SOLVE is efficient.

At high concentration ($\geq 5\%$ of fragrance) less emulsifier is required than the other green commercial products.

Perfume reference	Type of odor	%natural oils	%musk	%DPG or solvent
A1	woody	70	1	0
A2	musky	2	70	2

Perfume's characteristics

Substantivity: volatility and odor's intensity

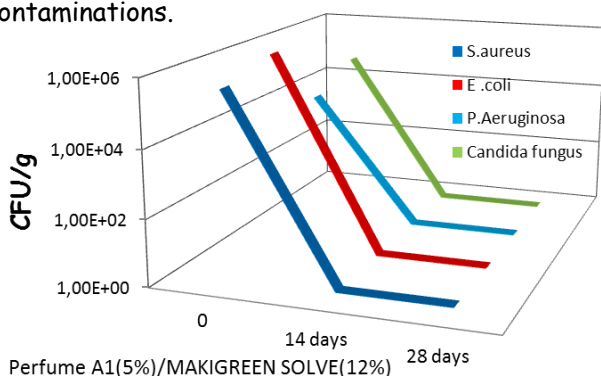


The volatility of the water based fragrances has been compared to the alcoholic compositions. Water based fragrances show the slower rate of evaporation with a prolonged and continuous release.

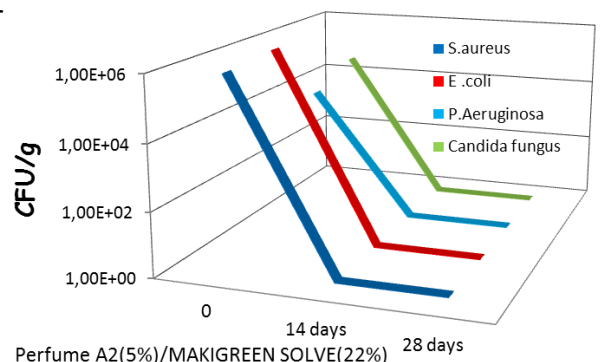
MAKIGREEN SOLVE boosts the development of perfume's odor.

Antimicrobial stabiliser blend

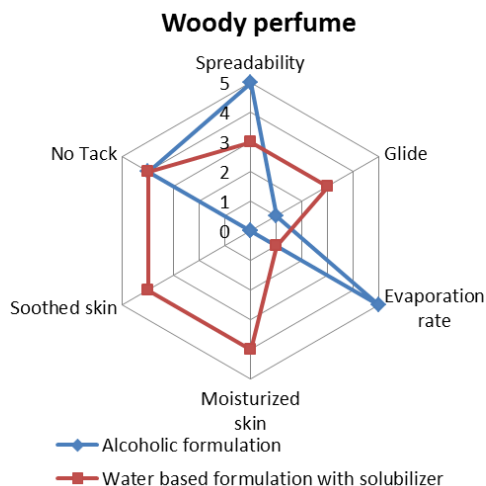
MAKIGREEN SOLVE can effectively stabilize water based perfumes (5% fragrance) against typical microbiological contaminations.



Challenge test



Sensorial profile



Applications

- Skin care: DKE 272B Sparkling massage gel, DKE 274 Make up removing water, DKE 275 Purifying micellar solution, DKE 276 Exfoliating cleansing gel
- Make-up: DKE302-2 Matt evanescent aqueous foundation - ASL
- Hair care: DKE 286 Styling water for hair
- Toiletries: DKE 285 Perfumed tonic alcohol free

Regulation

Product safety: MAKIGREEN SOLVE produces non irritation to the eyes (at 0,15%) and to the skin (at 25%), is non mutagenic and non phototoxic. This product is non sensitizing to the skin.

Material Safety Data Sheets are available for all DAITO KASEI products.

REACH: The ingredients, unless they are exempted, are registered or will be registered on May 2018.

The ingredients are listed on major chemical inventories such CTFA, CosIng, KCID, IECIC2003 and/or IECIC2014.

For additional information

Please contact:

DAITO KASEI EUROPE SAS
 62 boulevard Henri Navier
 Taverparc Bât 5.2
 95150 Taverny - FRANCE
 ☎ : +33(0)1 30 40 01 01
 📠 : +33(0)1 30 40 01 11
 ✉ : dkeurope@dkeurope.fr

HEAD OFFICE
DAITO KASEI KOGYO Co., LTD
 1-6-28 Akagawa, Asahiku
 Osaka - JAPAN
 ☎ : 81 6 6922 1632
 📠 : 81 6 6921 9562

DAITO KASEI CHINA
 6F/room 612
 555 Wuding road Jing An District
 Shanghai, CHINA 200040
 ☎ : +86 21 32 53 25 16

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