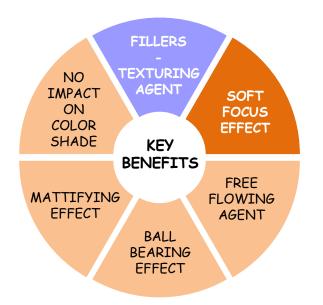
Formulation Concept

INCI Name

POLYMETHYL METHACRYLATE



Use guideline

Emulsions:

- W/O emulsions: Add at the end of process
- O/W emulsions: Disperse MAKIBEADS 2 into the oil phase
- The low oil absorption permits incorporation of significant level MAKIBEADS 2 without initial or long term viscosity changes
- Use level: 1-5%

Lipsticks:

- · Help to reduce sweating and cracking in poured products and sticks.
- Provide mattifying effect
- Use level: 1-2%

Powders:

- Mix with other powders
- Prevent reagglomeration of powders
- No color fading
- Use level: up to 60%

Cosmetic benefits

- · Provide a smooth feeling
- · Enhance slip and spreadability

Chemical and physical properties

- Plain spherical beads
- · White powder
- Characteristic odor
- Specific area ≈ 2m²/g

Formulation

- pH: stable over a pH range of 4 to 10
- Film formers: reduce film gloss
- · Alcohols: compatible
- Pigments: compatible
- · Pearls: compatible
- · Talc, mica: compatible
- · Organic solvents: incompatible
- **Heat**: heat sensitive (T<100°C)

Color shade

TiO2 untreated red iron











MAKIBEADS 2

ASL-red iron







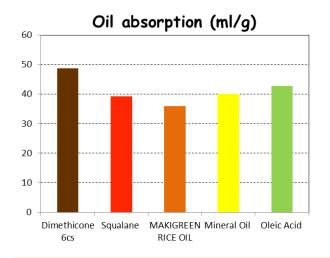


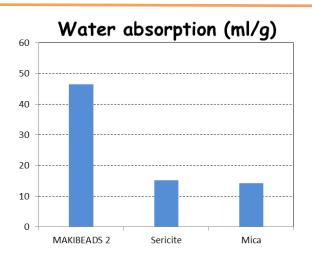




Revised date: October 2014

Oil and water absorption





Low oil and water absorptions

Applications

SKIN CARE PRODUCTS

DKE 155 Smooth chamallow concealer-ASL

FOUNDATION

DKE 23 Pressed powder foundation-OTS

Safety and regulatory information

Product safety: PMMA is considered non toxic by a single oral dose, produces minimal ocular irritation and does not cause skin irritation.

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

REACH: PMMA is exempted from registration

PMMA is listed on the major chemical inventories such CTFA, CosIng, AICS, DSL, KCID, IECIC2003 and/or IECIC2014.

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DAITO KASEI