Cosmetic/Pharma Actives Incorporated

- Vitamins - vitamin A series, vitamin C palmitate, vitamin E, vitamin K, vitamin D and co-enzyme Q10
- Hydrophobic peptides
- Skin lipids - ceramides, cholesterol, cholesterol sulphate
- Anti-fungals - clotrimazole, ketoconazole, nystatin, piroctone olamine
- Anti-bacteria - erythromycin, neomycin sulphate
- Steroids - cortisone acetate, hydrocortisone, hydrocortisone acetate/butyrate, clobetasol propionate, clobetasone butyrate, dexamethasone, dexamethasone acetate
- Minoxidil, hexyl nicotinate

Botanical Actives Incorporated

- **Aesculus hippocastanum** (Horse Chestnut)
- **Capsicum annuum** (Chilli Pepper)
- **Centella asiatica** (Gotu Kola)
- **Cimicifuga racemosa** (Black Cohosh)
- **Ginkgo biloba** (Maidenhair Tree)
- **Glycine max** (Soy)
- **Glycyrrhiza glabra** (Liquorice)
- **Hippophae rhamnoides** (Sea-Buckthorn)
- **Melissa officinalis** (Lemon Balm)
- **Ruscus aculeatus** (Butcher’s Broom)
- **Trifolium pratense** (Red Clover)

Example Formulation Centella asiatica Extract (CAE)

| Solubility in Water | 1g / 1340ml ~ 0.08% |
| Solubility in Glycerin | 1g / 1000ml ~ 0.10% |
| Solubility in Ethanol | 1g / 33ml ~ 3.33% |
| Solubility in Lipodisq® | 1g / 8ml ~ 12.5% |

(CAE ~ 30% dry weight of Lipodisq®)

Contact Details

For further information please contact

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**About Us**
Malvern Cosmeceutics is a natural products driven development company based in the Malvern Hills, England. The company offers cosmetic manufacturers delivery solutions using its advanced skin penetration system Lipodisq®.

**Lipodisq® Technology**
- Lipodisq® - proprietary technology for use in dermal delivery of oily or hydrophobic actives
- Mimics structure and carrying ability of natural lipoproteins (HDL)

**Advantages of Lipodisq® Technology**
- Enables easy formulation of oil-soluble or hydrophobic actives into aqueous solutions or aqueous-based gels
- Long-term stability in aqueous environment
- Small biodegradable particles (20-40nm) facilitates optimal skin (stratum corneum) penetration
- Significantly smaller particle size than conventional cosmetic delivery systems e.g. liposomes
- Composition consists of cosmetically approved ingredients (INCI)
- Non-irritating
- Tolerant of conventional formulation excipients, e.g. preservatives, viscolisers etc.
- High active loading - up to 30% of dry weight
- Low material cost
- Lipodisq® particles accumulate in the stratum corneum then degrade harmlessly to give a sustained release of actives into lower skin layers

**Lipodisq® Technology Facilitates Skin Penetration**
Lipodisq® accumulate in the stratum corneum forming a reservoir for release of active agents.

**Skin Penetration Study**
Skin stripping from 1 cm² area exposed to Lipodisq® formulation containing oil-soluble cosmetic red dye.

N-IR spectroscopic image of marker dye contained on tape strips removed from skin. 1st (top left) to 16th (bottom right) strip, showing accumulation of dye in 14th strip.