

The Ultimate Self Heating Effect

In cosmetics, glycols, magnesium sulfate and other mineral-based zeolites are typically incorporated in to self-heating formulations to provide a warming effect. When these materials come in contact with water, transitioning from anhydrous to hydrated, they produce an exothermic (heat-producing) reaction. Zeolites can be difficult to formulate with as they are very hygroscopic and once in contact with water or moisture, they provide an instantaneous, short-lived burst of heat.



Natural Hot™ is a technology that provides a significant and sustained heating effect when in contact with water. Special surface treatment / coating of select zeolite powders controls the rate at which these powders hydrate. This causes water to permeate more slowly, prolonging the exothermic reaction to provide a longer lasting warming effect.

BENEFITS

- ◆ Helps open pores and allow for deep cleansing
- ◆ Heat will leave skin feeling clean, refreshed and invigorated
- ◆ Safe / Produces a true heat without altering blood flow
- ◆ Highly perceivable
- ◆ Provides truly therapeutic feel

APPLICATIONS

- ◆ Cleansers and products
- ◆ Shave preparations
- ◆ Hair and scalp treatment
- ◆ Therapeutic massage oils
- ◆ Anhydrous facial masks
- ◆ Body wraps and packs

TYPICAL PROPERTIES

Composition (INCI)
Appearance
Odor
Bulk Density
pH (4% in water)
Lead
Arsenic

NATURAL HOT™-MAG

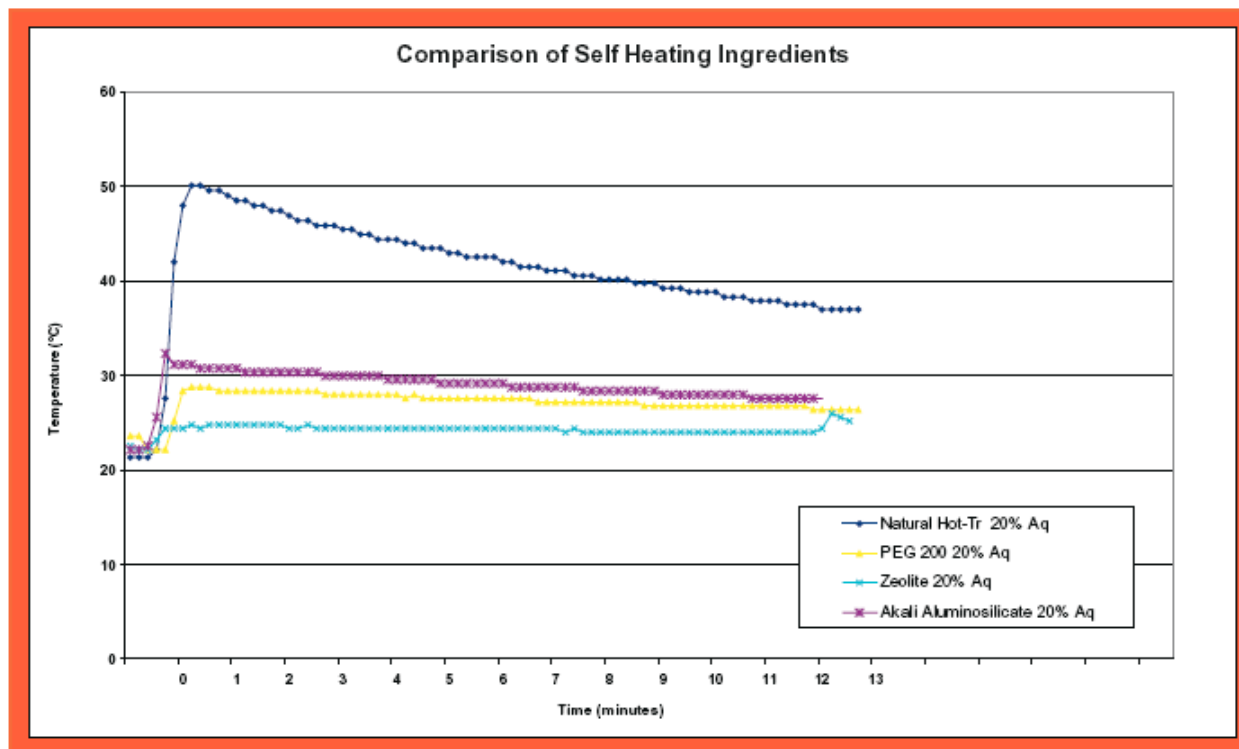
DC2335
Magnesium Sulfate (and) Silica (and)
Dimethicone
White/nearly white powder
Odorless
0.20-0.35 gms/cc
6.0-9.0
< 5 ppm
<3 ppm

NATURAL HOT™-TR

DC2333
Calcium Chloride (and) Dimethicone
(and) Silica
White/nearly white powder
Odorless
0.25-0.35 gms/cc
8.5-10.5
< 5 ppm
<3 ppm

EFFICACY

Natural Hot™-TR was evaluated for heating effect in a 20% aqueous solution and compared to PEG 200 20% aq, Zeolite 20% aq, and Alkali Aluminosilicate 20% aq. Results were reported in terms of maximum temperature rise and heating duration.



Natural Hot™-TR demonstrated a dramatic initial spike in temperature followed by a prolonged heating effect.

FORMULATION GUIDELINES

Natural Hot™ is activated by water, therefore achieve the maximum heating effect, formulations must be anhydrous. Compounds containing hydroxyl and ethoxy groups, or residual water including certain fragrances, glycols and glycerin should be avoided as they will diminish the self-heating effect. For foaming products, we recommend using powdered surfactants to build lather.

To activate the self-heating properties of **Natural Hot™**, simply apply the finished product to wet skin.

Recommended Use Level

10 – 40 %

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