In 2016 DSM introduced its new anti-pollution approach “Five Actives – Five Actions”. It builds on recent scientific advances to determine how leading DSM actives can be applied against pollution to improve skin comfort, protection, tone, quality, and perfection. ALPAFLOR® EDELWEISS, PEPHA®-TIGHT, PEPHA®-PROTECT, REGU®-FADE and PREREGEN® PF were the ideal candidates thanks to their known mode of action and proven in vivo efficacy. For the “Five Actives – Five Actions” approach, new in vitro studies were conducted on the pollutant urban dust (PM 2.5 & PM 10) benz(a)pyrene (BaP), a pollutant found in industrial combustion processes, car exhausts and cigarette smoke. Focus parameters were oxidative damage, skin barrier disruption, cell viability reduction, inflammation induction, and epigenetic modulation.

Results clearly showed that the “Five Actives – Five Actions” approach enables cosmetic manufacturers to design state of the art formulations with proven anti-pollution efficacy. This offers a solution to an increasing consumer desire for improved skin comfort, tone, quality, and perfection.

REFERENCES

By 2050, 70% of the world’s 6.4 billion people will be living in cities and potentially exposed to greater levels of environmental pollution than ever before (1). The skin, our biggest organ and the most important barrier between our internal selves and the world, is the first line of defense when it comes to anti-pollution protection.

The message that skin needs protection against the harmful effects of pollution also has the potential to raise consumer interested in their own skin condition. Hence, anti-pollution products with skin benefit claims may appeal to the 36% of men and 28% of women who are dissatisfied with their current skin’s condition (1). Young men in particular are likely to be receptive to such a message.

However, if improved skin protection is to encourage people who would not normally prioritize skin care, it has to make a persuasive argument for its benefits – and this is where we need strong scientific evidence for claim substantiation.

Nearly 20 years ago, DSM Personal Care was already analyzing the effects of the ozone on the skin, and in 1999 launched its first anti-pollution skin care active, PREREGEN® PF. Building on this research, DSM now focuses on developing this science, including epigenetics (the study of heritable changes in gene expression occurring without changes in DNA sequence) to examine how pollution influences the underlying skin functions.

Wanted – a holistic approach to anti-pollution protection
Any solution aimed at alleviating the effects of pollutants must address skin sensation as well as appearance. Moreover, faced with an environment experienced as harsh and unnatural, there is a consumer’s trend to derive solace and support from beauty products that re-connect them with nature. At the same time, tech-savvy consumers know how to check claims for skin ingredients, whether natural or not, and expect them to be substantiated by clear scientific evidence.

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