

Design for sustainability (DfS) scorecard



With our DfS scorecard, we drive sustainability improvement during the product development process through multiple product sustainability criteria divided into seven impact areas.

NAO Squalene Emprove® Expert Ph. Eur.

Same quality and performance, derived without sharks



Impact areas



MATERIALS

Results

Fermentation-produced squalene eliminates the need to source the material from sharks. Squalene is traditionally sourced from a variety of sharks, and of the 307 shark species assessed by the International Union for Conservation of Nature (IUCN), 50 are classified as endangered, threatened or vulnerable.



SUPPLIERS & MANUFACTURING

Redistillation of shark-derived squalene requires the use of synthetic chemicals such ethyl benzoate, an aquatic hazard and flammable solvent. Fermentation-produced squalene eliminates the need for synthetic chemicals, instead using glucose as the primary feedstock for yeast in a bioreactor.



PACKAGING

The amber bottle is coated with Corticoid TC100 (hot end coating) and RP40 (cold end coating) to minimize scratches and wear marks. Please verify with your local recycler if they can accept these coated bottles for recycling.



ENERGY & EMISSIONS

Though a detailed comparison was not conducted, the redistillation of squalene involves several high-temperature distillation and saponification steps, while fermentation-derived squalene requires the use of a bioreactor and downstream purification equipment.



WATER

Though a detailed comparison was not conducted, the redistillation of squalene from sharks uses water for cooling during distillation, while fermentation-produced squalene requires water during fermentation and purification.



USABILITY & INNOVATION

No change compared to baseline product in consideration of our DfS criteria



CIRCULAR ECONOMY

No change compared to baseline product in consideration of our DfS criteria

Baseline product: Squalene, redistilled from animal (ARK2140)