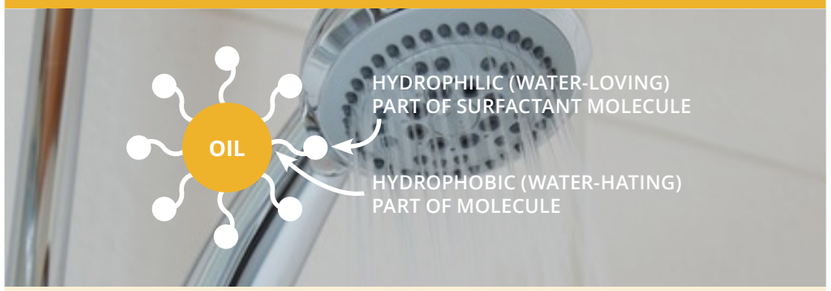
EVERYDAY CHEMICALS: SODIUM LAURYL SULFATE

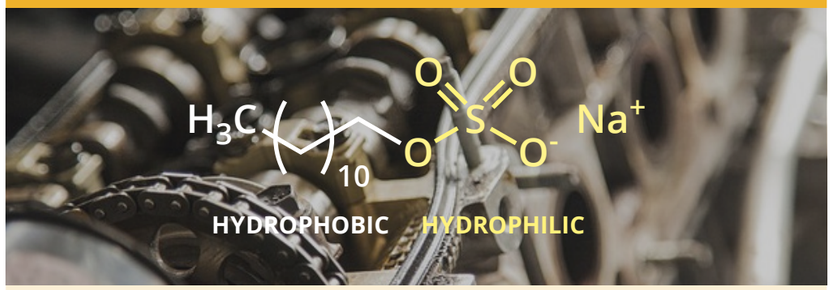
Sodium lauryl sulfate (also known as sodium dodecyl sulfate, or more simply abbreviated to SLS) is a surfactant chemical found in many cleaning and hygiene products, including toothpaste, shampoo, shaving cream and bubble baths. These, along with several other uses, are detailed below.

IN SHAMPOOS

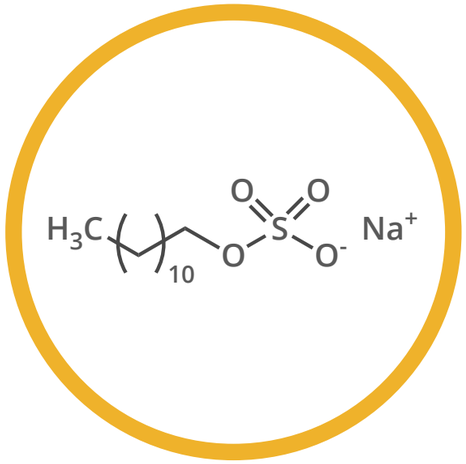


Sodium lauryl sulfate (SLS) is a surfactant, meaning the molecule contains a water-soluble portion and a water-insoluble portion. It attaches to oil and grease, suspending them in water and allowing them to be removed. It also lowers the surface tension of water, acting as a foaming agent and allowing bubbles to form.

IN ENGINE DEGREASERS



Sodium lauryl sulfate is found in some engine degreasers, where it acts in a similar capacity to remove grease. Generally it's present at a higher concentration in these cleaners than it is usually found at in shampoo. It's also used in industry as a leather-softening agent, wool-cleaning agent, and as a floor cleaner.

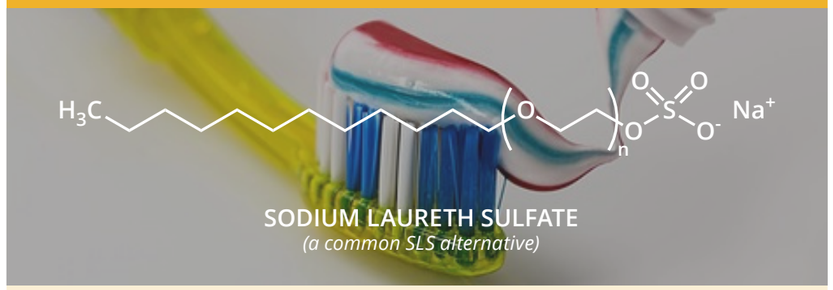


SODIUM LAURYL SULFATE

White powder

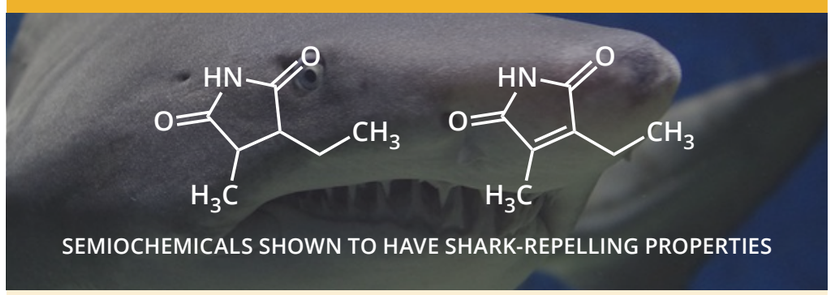
$CH_3(CH_2)_{11}OSO_3Na$

IN TOOTHPASTES



SLS is added to toothpaste as a foaming agent; it also interacts with taste receptors in the mouth. It suppresses sweet receptors and breaks down phospholipids that act as inhibitors on bitter receptors. Drinking orange juice after brushing your teeth tastes bad, as SLS dulls the sweet taste and promotes the bitter.

AS A POTENTIAL SHARK REPELLENT



A 2001 study confirmed that sodium lauryl sulfate acts as a shark repellent, as a result of its hydrophobic properties. Despite this, it does not meet the required criteria for use as a non-directional, cloud-based repellent. Semiochemicals and rare earth metal magnets have both been suggested as better alternatives.