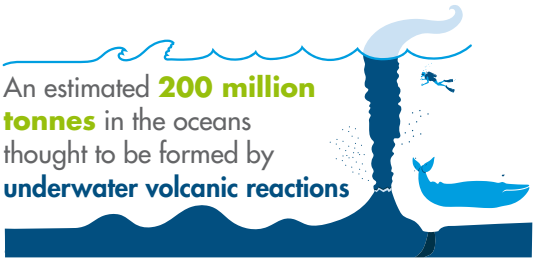
EFCTC
European FluoroCarbons Technical Committee

TRIFLUOROACETIC ACID (TFA)

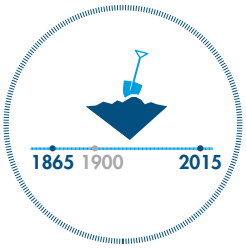
TFA is a **naturally occurring substance** but can also be produced by the breakdown of some HFCs or HFOs and HCFCs in the atmosphere.

WHERE IS TFA FOUND?



An estimated **200 million tonnes** in the oceans thought to be formed by **underwater volcanic reactions**

In **fog, rain** and **rivers**



In the **soil**, even in soil samples dating back **as far as 1865**.

HOW DOES TFA MAKE IT ASHORE?

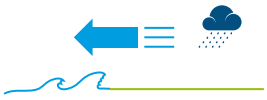
TFAs on land are believed to have been transported by the **mechanical action of wind** on the sea, just like sea salt aerosol.

The aerosol is then **deposited when it rains**

After potentially **travelling several hundred kilometres** because the atmospheric life of **TFA** is **two weeks**.

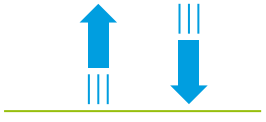
HOW MUCH TFA MAKES IT FROM THE OCEANS TO LAND?

36.000 tonnes annually into the atmosphere from the seas as an aerosol



32.000 tonnes will make its way back into the oceans when it rains

3.800 tonnes find its way to land



TFA is also evaporated from the land and re-deposited

POTENTIAL IMPACT OF TFA

TFA deposited on land and in water **has the potential to accumulate in terminal water bodies** (eg lakes) and in **plants**. However, based on the relative insensitivity of aquatic organisms to **TFA**, they are not expected to be impaired significantly. Its **toxicity** to algae, plants, fish, crustaceans animals and humans was found to be **very low**.

THE EFFECTS OF F-GASES

Some HFCs, HCFCs and HFOs, containing the CF3-C group, can break down to TFA, the amount depending on the specific molecule.

By 2050 the total additional contribution of TFA to the oceans was estimated at less 7.5%. With the 2016 Kigali Amendment, the TFA due to global HFC use, is projected to be lower but partially offset by increased use of HFOs.