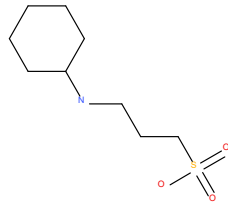




### 3-Cyclohexyl-1-propylsulfonic acid (CAPS)

CAPS is a chemical used as a buffering agent in biochemistry.

Molar masse:  
221.317 g/mol  
CAS: 1135-40-6  
C<sub>9</sub>H<sub>19</sub>NO<sub>3</sub>S



The measurements of the LANUV meet the following necessary criteria for clear identification:

- 1) Match of the exact mass,  $\pm 5$  ppm
- 2) Match of the isotope pattern, min. 70 %
- 3) Match of a reference spectrum
- 4) Match of the retention time with the reference substance

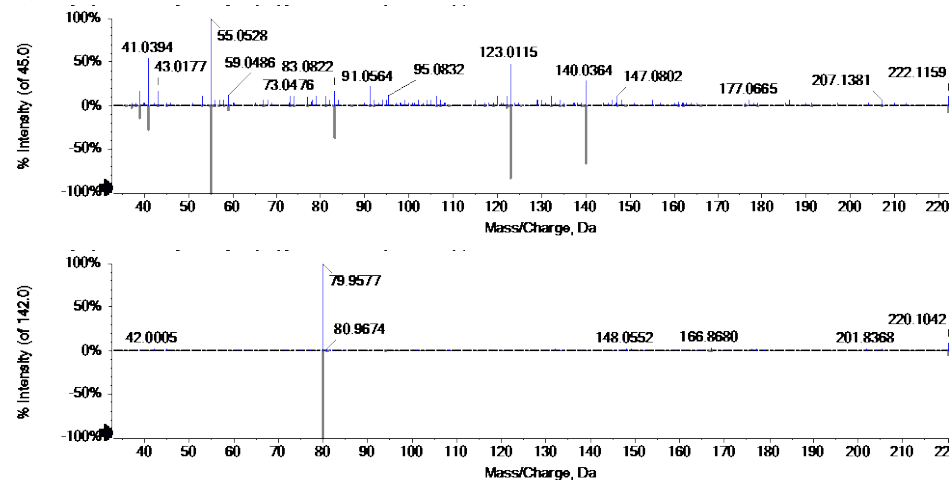


Figure 1: comparison of fragment-ion-spectra, blue: sample river Rhine near Flehe, grey: reference substance; top: ESI positive; bottom: ESI negative

### Analytics and occurrence

CAPS can be detected with the existing measurement method (LC-ESI-HRMS) in positive and negative mode. It was only detected in the river Rhine, and not in any of the other rivers analysed (Ems, Emscher, Erft, Lippe, Ruhr and Wupper). In the river Rhine, the general prevention value of 0.1  $\mu\text{g/L}$  for drinking water is repeatedly exceeded (see time course,  $\Delta = 0.57 \mu\text{g/L}$ ).

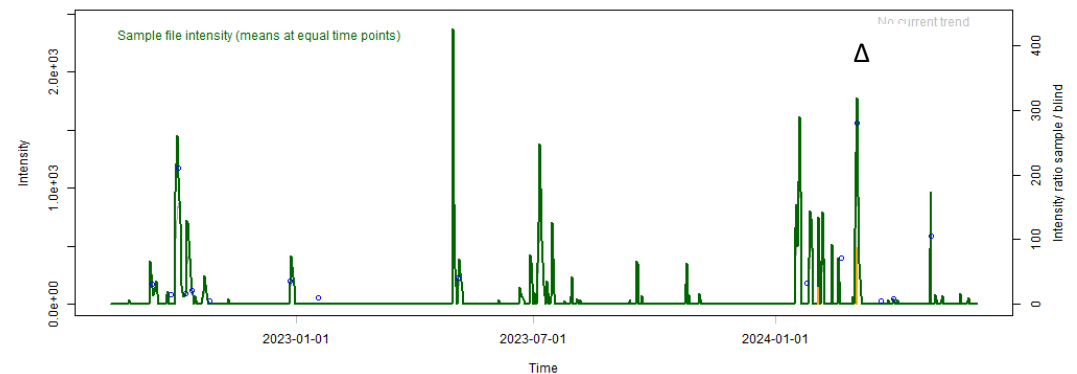


Figure 2: Time profile of CAPS in the river Rhine at Bad Honnef

### Relevance

An acute data set for CAPS is available in the ecotoxicology database of the European Chemicals Agency (ECHA). The results show no acute toxicity to microorganisms, algae, daphnia and fish up to the triple digit mg/L range.

# Non Target – News

## #21



No chronic ecotoxicity test results are available.<sup>(1)</sup>

The environmental fate data available from ECHA indicate that the substance is not readily biodegradable. A high potential for bioaccumulation is not expected.

### Further procedure:

The results of the Rhine non-target-screening project (<https://www.iksr.org/de/iksr/rhein-2040/rhine-project-non-target-screening>) have narrowed down the discharge to the region between Karlsruhe and Koblenz.

CAPS will continue to be monitored as part of the regular non-target-screening programme.

<sup>1</sup> ECHA: CAPS, <https://chem.echa.europa.eu/100.013.175/dossier-view/c271446d-ff85-44a5-80d8-eab76d81ecdf/4517f534-5bc3-4555-9f02-34ce2860abda> 4517f534-5bc3-4555-9f02-34ce2860abda, 27.03.2024