FEATURED PRODUCT

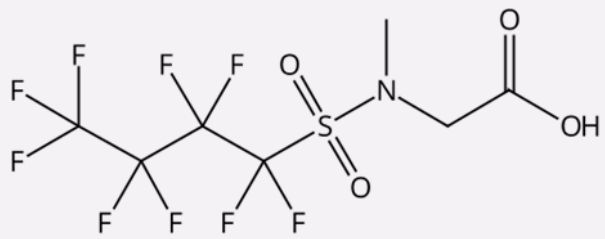
N-Methyl-n-perfluorobutanesulfonylglycine (N-MeFBSAA)

N-Methyl-n-perfluorobutanesulfonylglycine (Methyl perfluorobutane sulfonamidoacetic acid; MeFBSAA) is a perfluoroalkyl sulfonamido derivative, belonging to the PFAS family[1]. Perfluorobutane sulfonamido derivatives were introduced as short chain replacements to perfluorooctane sulfonyl derivatives and are used in paper and carpet treatments for water and stain resistance[1].

N-methyl or N-ethyl perfluorobutane sulfonamidoethanol (MeFBSE or EtFBSE) and MeFBSAA are building blocks for a broad range of fluorotelomer products. MEFBSAA is a precursor to perfluorobutane sulfonate (PFBS) and can also be formed when certain fluorinated compounds break down in the environment[1]. MeFBSAA and perfluorobutane sulfinate (PFBSI) have been shown to arise from anaerobic biodegradation of MeFBSE in live sludge[2]. More information on the manufacture and biotransformation pathways of perfluoroalkane sulfonamido derivatives can be found in a critical review published by Buck *et al.*[3]

N-Methyl-n-perfluorobutanesulfonylglycine

Synonym: Methyl perfluorobutane sulfonamidoacetic acid
Abbreviation: MeFBSAA
CAS: 159381-10-9
Molecular Weight: 371.18
Molecular Formula: C7H6F9NO4S



The presence of MeFBSAA was first reported in 2011 by Huset *et al* in landfill leachate, with concentrations ranging from 58–440 ng L^{-1} [4]. The origin likely to be discarded items, like clothing and paper products, that were treated with a PFAS. In 2017 Newton *et al* reported high concentrations of MeFBSAA in the Tennessee River, downstream from fluorochemical manufacturing facilities, near Decatur, Alabama, USA[5]. Levels exceeded 1 µg L^{-1} at one of the sites[5]. The river is a source of drinking water for hundreds of thousands of people[6].

In August 2021 the Flemish Minister for the Environment instructed the company 3M to immediately stop discharging process waters from PFBSA-containing processes into the Scheldt[6]. The company will have to demonstrate that they have implemented the necessary measures to significantly reduce levels of the PFBSA, MeFBSA and MeFBSAA in their industrial wastewater[6]. Water from the treatment plant will be analysed weekly[6].

There is no doubt that MeFBSAA is a significant polyfluoro contaminant arising as an intentional product or an unintentional by-product of production processes[5]. The high levels detected imply it, along with other PBSAs, are being used in large quantities and thus it has the potential to impact human health and the environment[5].

Chiron have synthesised native and deuterium labelled reference materials to support monitoring of MeFBSAA:

14172.7-50-ME	**N-Methyl-n-perfluorobutanesulfonylglycine**	N-MeFBSAA	50 µg/mL in methanol
14949.7-50-ME	**N-Methyl-n-perfluorobutanesulfonylglycine-d3**	N-MeFBSAA-d3	50 µg/mL in methanol

Chiron also offer the hexane and the octyl isomers, both as native and as deuterium labelled for use as internal standards.

14950.9-50-ME	**N-Methyl-n-perfluorohexanesulfonylglycine**	N-MeFHSAA	50 µg/mL in methanol
14951.9-50-ME	**N-Methyl-n-perfluorohexanesulfonylglycine-d3**	N-MeFHSAA-d3	50 µg/mL in methanol
13257.11-50-ME	**N-Methyl-n-perfluorooctanesulfonylglycine**	N-MeFOSAA	50 µg/mL in methanol
13258.11-50-ME	**N-Methyl-n-perfluorooctanesulfonylglycine-d3**	N-MeFOSAA-d3	50 µg/mL in methanol

For a quotation, please contact us today at **sales@chiron.no**

References

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Chiron AS | Stiklestadveien 1 | N-7041 | Trondheim | Norway
+47 73 87 44 90 sales@chiron.no **www.chiron.no**