

Dear Yifaat Baron,

Thank you for the opportunity to comment on the “Study to support the review of the list of restricted substances and to assess a new exemption request under RoHS 2 (Pack 15)”.

Norwegian authorities have focus on reducing the use and release of hazardous substances, and restriction of new substances in EEE will be an important contribution to our work. Norway have data that may be useful for the study.

We have reports from screening of several substances in the environment, e.g MCCP and TBBPA. A large amount of data is available for these substances, so I am not sure if this will make much difference to your process, but some environmental data are available from Norway. Please see reports in links below:

## **TBBPA**

### 2,2,6,6-tetrabromo-4,4-isopropylidenediphenol

For the years 2002-2012, the results have been compiled in the report [Compilation of Norwegian Screening Data for Selected Contaminants \(2002 – 2012\)](#) and some more recent data is available:

Urbanfjord 2014

<http://www.miljodirektoratet.no/Documents/publikasjoner/M375/M375%20komplett%20iten.pdf>

Urbanfjord 2015

<http://www.miljodirektoratet.no/Documents/publikasjoner/M601/M601.pdf>

Urbanfjord 2016

<http://www.miljodirektoratet.no/Documents/publikasjoner/M812/M812.pdf>

some older reports:

[http://www.miljodirektoratet.no/no/Tema/Miljoovervakning/Naturovervakning/Giftfritt-miljo/Miljogifter-i-en-urban-fjord/Rapporter-fra-Miljogifter-i-en-urban-fjord/\)](http://www.miljodirektoratet.no/no/Tema/Miljoovervakning/Naturovervakning/Giftfritt-miljo/Miljogifter-i-en-urban-fjord/Rapporter-fra-Miljogifter-i-en-urban-fjord/)

Environmental pollutants in large Norwegian lakes,

2015<<http://www.miljodirektoratet.no/Documents/publikasjoner/M548/M548.pdf>> ,

Environmental pollutants in large Norwegian lakes, 2016-

<http://www.miljodirektoratet.no/Documents/publikasjoner/M807/M807.pdf>

Contaminants in coastal waters of Norway (Milkys)

2012<<http://www.miljodirektoratet.no/Documents/publikasjoner/M69/M69.pdf>> ,

Contaminants in coastal waters of Norway (Milkys) 2015

<http://www.miljodirektoratet.no/Documents/publikasjoner/M618/M618.pdf>

Contaminants in coastal waters of Norway (Milkys) 2016

<http://www.miljodirektoratet.no/Documents/publikasjoner/M856/M856.pdf>

some older reports

[http://www.miljodirektoratet.no/no/Tema/Miljoovervakning/Naturovervakning/Giftfritt-miljo/Miljogifter-langs-kysten-MILKYS/Rapporter-fra-Miljogifter-i-kystomradene-MILKYS/\)](http://www.miljodirektoratet.no/no/Tema/Miljoovervakning/Naturovervakning/Giftfritt-miljo/Miljogifter-langs-kysten-MILKYS/Rapporter-fra-Miljogifter-i-kystomradene-MILKYS/)

Riverine Inputs and Direct discharges to Norwegian coastal waters - 2013

<http://miljodirektoratet.no/Documents/publikasjoner/M264/M264.pdf>

Riverine Inputs and Direct discharges to Norwegian coastal waters - 2015

<http://www.miljodirektoratet.no/Documents/publikasjoner/M634/M634.pdf>

Riverine Inputs and Direct discharges to Norwegian coastal waters - 2016

<http://www.miljodirektoratet.no/Documents/publikasjoner/M862/M862.pdf>

some older reports -

[http://www.miljodirektoratet.no/no/Tema/Miljoovervakning/Naturovervakning/Giftfritt-miljo/Overvakning-av-elvetilforsler-og-direkte-utslipp-til-norske-kystomrader-Elvetilforselsprogrammet/Rapporter-fra-Elvetilforselsprogrammet/\)](http://www.miljodirektoratet.no/no/Tema/Miljoovervakning/Naturovervakning/Giftfritt-miljo/Overvakning-av-elvetilforsler-og-direkte-utslipp-til-norske-kystomrader-Elvetilforselsprogrammet/Rapporter-fra-Elvetilforselsprogrammet/)

Screening programme 2016 (derivates of TBBPA)

<http://www.miljodirektoratet.no/Documents/publikasjoner/M806/M806.pdf>

We have also performed a short arctic environmental monitoring campaign where an attempt was made to detect the substance, but only one sample was above LOD. The report is available from [this link](#).

Environmental pollutants in the terrestrial and urban environment – 2015 -

<http://www.miljodirektoratet.no/Documents/publikasjoner/M570/M570.pdf>

Environmental pollutants in the terrestrial and urban environment – 2016 -

<http://www.miljodirektoratet.no/Documents/publikasjoner/M752/M752.pdf>

(some older reports

<http://www.miljodirektoratet.no/no/Tema/Miljoovervakning/Naturovervakning/Giftfritt-miljo/Miljogifter-i-terrestrisk-og-bynart-miljo/Rapporter-fra-programmet-Miljogifter-i-terrestrisk-og-bynart-miljo/>)

See also:

- Huber S, Warner NA, Nygård T, Remberger M, Harju M, Uggerud HT, et al. A broad cocktail of environmental pollutants found in eggs of three seabird species from remote colonies in Norway. Environ Toxicol Chem. 2015;34(6):1296–308.

## MCCP:

Lake Mjøsa study

2013 <<http://www.miljodirektoratet.no/old/klif/publikasjoner/3028/ta3028.pdf>> ,

Environmental pollutants in large Norwegian lakes,

2015 <<http://www.miljodirektoratet.no/Documents/publikasjoner/M548/M548.pdf>> ,

Environmental pollutants in large Norwegian lakes, 2016-

<http://www.miljodirektoratet.no/Documents/publikasjoner/M807/M807.pdf>

Monitoring of environmental contaminants in air and precipitation – 2014 -

<http://www.miljodirektoratet.no/Documents/publikasjoner/M368/M368.pdf>

Monitoring of environmental contaminants in air and precipitation – 2015 -

<http://www.miljodirektoratet.no/Documents/publikasjoner/M579/M579.pdf>

Monitoring of environmental contaminants in air and precipitation – 2016 -

<http://www.miljodirektoratet.no/Documents/publikasjoner/M757/M757.pdf>

some older reports:

<http://www.miljodirektoratet.no/no/Tema/Miljoovervakning/Naturovervakning/Giftfritt-miljo/Langtransporterte-atmosfariske-miljogifter/Rapporter-fra-overvakning-av-langtransporterte-forurensninger-i-luft-og-nedbor/>

Contaminants in coastal waters of Norway (Milkys)

2012 <<http://www.miljodirektoratet.no/Documents/publikasjoner/M69/M69.pdf>> ,

Contaminants in coastal waters of Norway (Milkys) 2015

<http://www.miljodirektoratet.no/Documents/publikasjoner/M618/M618.pdf>

Contaminants in coastal waters of Norway (Milkys) 2016

<http://www.miljodirektoratet.no/Documents/publikasjoner/M856/M856.pdf>

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<http://www.miljodirektoratet.no/no/Tema/Miljoovervakning/Naturovervakning/Giftfritt-miljo/Miljogifter-langs-kysten-MILKYS/Rapporter-fra-Miljogifter-i-kystomradene-MILKYS/>)

Urbanfjord 2014

<http://www.miljodirektoratet.no/Documents/publikasjoner/M375/M375%20komplott%20liten.pdf>

Urbanfjord 2015

<http://www.miljodirektoratet.no/Documents/publikasjoner/M601/M601.pdf>

Urbanfjord 2016

<http://www.miljodirektoratet.no/Documents/publikasjoner/M812/M812.pdf>

some older reports:

<http://www.miljodirektoratet.no/no/Tema/Miljoovervakning/Naturovervakning/Giftfri-ritt-miljo/Miljogifter-i-en-urban-fjord/Rapporter-fra-Miljogifter-i-en-urban-fjord/>)

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<http://miljodirektoratet.no/Documents/publikasjoner/M264/M264.pdf>

Riverine Inputs and Direct discharges to Norwegian coastal waters - 2015

<http://www.miljodirektoratet.no/Documents/publikasjoner/M634/M634.pdf>

Riverine Inputs and Direct discharges to Norwegian coastal waters - 2016

<http://www.miljodirektoratet.no/Documents/publikasjoner/M862/M862.pdf>

some older reports -

<http://www.miljodirektoratet.no/no/Tema/Miljoovervakning/Naturovervakning/Giftfri-ritt-miljo/Overvakning-av-elvetilforsler-og-direkte-utslipp-til-norske-kystomrader-Elvetilforselsprogrammet/Rapporter-fra-Elvetilforselsprogrammet/>)

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Environmental pollutants in the terrestrial and urban environment – 2016 -

<http://www.miljodirektoratet.no/Documents/publikasjoner/M752/M752.pdf>

(some older reports

<http://www.miljodirektoratet.no/no/Tema/Miljoovervakning/Naturovervakning/Giftfri-ritt-miljo/Miljogifter-i-terrestrisk-og-bynart-miljo/Rapporter-fra-programmet-Miljogifter-i-terrestrisk-og-bynart-miljo/>)

In addition these may be useful:

- [Literature survey of emerging contaminants in the Barents Sea and climate change effects on contaminant fate](#)
- [Perfluorinated alkylated substances, brominated flame retardants and chlorinated paraffins in the Norwegian Environment - Screening 2013](#)
- [Medium chained chlorinated paraffins \(MCCPs\) A survey of products in Norway](#)
- Huber S, Warner NA, Nygård T, Remberger M, Harju M, Uggerud HT, et al. A broad cocktail of environmental pollutants found in eggs of three seabird species from remote colonies in Norway. *Environ Toxicol Chem.* 2015;34(6):1296–308.
- Klif. Compilation of Norwegian Screening Data for Selected Contaminants (2002 – 2012). 2012.
- Miljodirektoratet. Perfluorinated alkylated substances, brominated flame retardants and chlorinated paraffins in the Norwegian Environment - Screening 2013. 2013. Available from: <http://www.miljodirektoratet.no/Documents/publikasjoner/M-40/M40.pdf>
- NIVA. Screening of selected new organic contaminants - brominated flame retardants, chlorinated paraffins, bisphenol-A and trichlosan. 2004. Available from: <http://www.miljodirektoratet.no/old/klif/publikasjoner/kjemikalier/2006/ta2006.pdf>

- Petersen M, Bussmann P, Grümping R, Liek G. Analysis of short-chain (C10-C13) and medium-chain chlorinated paraffins (C14-C17) in norwegian sediment and water samples by GC/ICNI-MS. Organohalogen Compd. 2006;68:2101–4.
- Reth M, Ciric A, Christensen GN, Heimstad ES, Oehme M. Short- and medium-chain chlorinated paraffins in biota from the European Arctic - differences in homologue group patterns. Sci Total Environ. 2006;367(1):252–60.

Regards

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