Determination TOC of HUNTEX ASSP-06:

1. Recipe of ASSP-06:

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| --- | --- | --- | --- |
| Chemical Name | CAS-No | Concentration (%) | Classification GHS |
|  |  |  |  |
| Substantive organomodified siloxane | 134737-05-6 | 5 | Not classified.  (Refer to SDS of Supplier) |
| POE Derivative | 9016-88-0 | 5 | Not classified.  (Refer to SDS of Supplier) |

1. Calculation TOC of ingredients:
   1. TOC of POE derivative :

Molecular formula of POE derivative: ( C8H6O4.C2H6O2(C2H4O)n. H2O)H

Refer to: <https://chem.nlm.nih.gov/chemidplus/rn/9016-88-0#formulas>

Molecular weight of POE = 324

Or M of POE = 8\*12+ 6 + 4\*16 + 2\*12 + 6 + 2\*16 + 46n+ 19 = 247 + 46n

So that : 247+ 46n = 324 → n = 77/46 = 1.67

Molecular weight of C = 8\*12+2\*12+2\*12\*n = 120 + 24n

* With n=1:

Molecular weight of C = M1 = 120 + 24\*1 = 144

So carbon mass portion of POE = 144/ 324 = 0.444 ⇔ 44.4%

And TOC1 of POE /1 kg of product ASSP-06 = 50g\* 0.444= 22.2 g

* With n= 2

Molecular weight of C = M2 = 120 + 24\*2 = 144 + 48 = 192

So carbon mass portion of POE = 192/ 324 = 0.59 ⇔ 59 %

And TOC2 of POE /1 kg of product ASSP-06 = 50g\* 0.59 = 29.5 g

2.2 Calculation TOC of siloxane:

Molecular formula of SILOXANE : C72H166N4O19Si10

Refer to : <https://www.upichem.com/products/quaternium-80-2/>

Molecular weight of siloxane = 1670

Molecular weight of C = 12\*72 = 864

So carbon mass portion of siloxane mass = 864/1670 = 0.52 ⇔ 52%

And TOC of siloxane /1 kg of product ASSP-06 = 50g\*0.52 = 26g

1. TOC of ASSP-06:

TOC1 of ASSP-06 = TOC1 of POE + TOC of siloxane = 22.2 + 26 = 48.2 g/ kg of product.

TOC2 of ASSP-06 = TOC2 of POE + TOC of siloxane = 29.5 + 26 = 55.5 g/ kg of product.

So TOC value of product will be from 48.2g to 55.5g

With product POS-92 , calculation TOC of it is also the same with ASSP-06.