



Nederlandse Voedsel- en
Warenautoriteit
*Ministerie van Economische Zaken,
Landbouw en Innovatie*

Dutch benchmark

Test laboratories
lighters

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NVWA

Benchmark; why



Doubts about outcome of obtained results.....

- Performance of labs?
- Different samples?
- (Mis-) interpretation of standard?

Benchmark; how



- Selection of 6 samples
- 3 test laboratories
- Blind



- 3.2 Flame height measurement
 - 3.4 Resistance to spitting sputtering and flaring
 - 3.5 Flame extinction
 - 3.6 Volumetric displacement
 - 4.4 Resistance to dropping
 - 4.5.1 Resistance to elevated temperature
 - 4.7.1 Burning behaviour
 - 4.9 Resistance to continuous burning
 - 6. Instructions and warnings
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- The **NEN-EN 13869** Lighters - Child-resistance for lighters - Safety requirements and test methods is not a part of the bench mark



Number 1

- TÜV: Complies
- Veritas: Complies
- NVWA: Failed (Volumetric displacement)

Number 2

- TÜV: Complies
- Veritas: Failed (sputtering and flaring/ burning behaviour)
- NVWA: Complies

Number 3

- TÜV: Complies
- Veritas: Complies except for instructions and warnings
- NVWA: Failed (Volumetric displacement)

Number 4

- TÜV: Complies
- Veritas: Complies except for instructions and warnings
- NVWA: Complies

Quick scan benchmark 2



Number 5

- TÜV: Complies
- Veritas: Failed (sputtering and flaring)
- NVWA: Complies

Number 6

- TÜV: Complies
- Veritas: Failed (volumetric displacement)
- NVWA: Failed (Volumetric displacement)

Number 7

- TÜV: Complies
- Veritas: Complies
- NVWA: Failed (Drop test)

Benchmark; outcome



	TUV	Veritas	NVWA
1	C	C	F (1)
2	C	F(2)	C
3	C	C	F(1)
4	C	F(3)	C
5	C	F(2)	C
6	C	F(1)	F(1)
7	C	C	F(4)

1. Volumetric displacement
2. Sputtering and flaring

3. Instructions and warnings
4. Drop test

Benchmark; discussion



- Results were not homogeneous!
- Is the production of lighters standardised?
- Is the sampling $n = 50$ enough?
- Is the standard still valid?
- Are the laboratories capable?