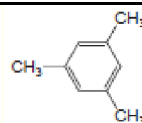


Stofdocument deel A

CAS-nr: 108-67-8

1,3,5-trimethylbenzeen

C₉H₁₂



VN-nr: 2325

GEVI: 30

Synoniemen: mesityleen (Engels: 1,3,5-trimethylbenzene)

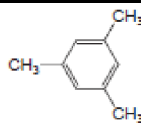
Interventiewaarden		10 min.	30 min.	1 uur	2 uur	4 uur	8 uur
Voorlichtingsrichtwaarden	VRW (mg/m³)	450	450	450	450	450	450
Alarmeringsgrenswaarden	AGW (mg/m³)	1000	1000	1000	1000	1000	1000
Levensbedreigende waarden	LBW (mg/m³)	NA	NA	NA	NA	NA	NA
Datum vaststelling: 16-10-2018		1 mg/m ³ = 0,200 ppm; 1 ppm = 5 mg/m ³					
Explosiegrens: LEL = 0,8 Vol% ≈ 40.000 mg/m ³			Geur: typerende geur LOA: 173 mg/m ³				
Fysisch-chemische eigenschappen						Overige informatie	
Uiterlijk: kleurloze vloeistof Brand: brandgevaarlijk		Molecuulmassa: 120,2 g/mol Zuurgraad: geen data LogKow: 3,4				Publieke grenswaarde: 100 mg/m ³ (8h) MAK: 100 mg/m ³ TLV-TWA: 125 mg/m ³	
Relatieve dichtheid van verzadigd damp-lucht mengsel: 1,01		0,005 g/100 Wateroplosbaarheid: ml (zeer slecht) Verzadigde dampdruk: 2,7 mbar					
Toxicologische eigenschappen							
Effecten bij inhalatoire blootstelling Onder VRW: prikkelende ogen en neus. VRW → AGW: coördinatiestoornissen, rode ogen, hoofdpijn, misselijkheid, keelpijn en hoesten. Boven AGW: sufheid, duizeligheid, bewusteloosheid, toevallen, ademstilstand				Toxiciteit bij eenmalige, inhalatoire blootstelling ▪ Blootstelling aan trimethylbenzenen kan leiden tot depressie van het centrale zenuwstelsel. ▪ Het effect van blootstelling beperkt zich meestal tot sufheid. Bij hoge blootstellingsconcentraties kan dit verergeren tot bewusteloosheid en ademstilstand. ▪ Irritatie aan de ogen en luchtwegen			
Effecten bij blootstelling aan vloeistof <i>Huidcontact:</i> roodheid, branderig gevoel, pijn <i>Oogcontact:</i> roodheid, pijn				Carcinogeniteit IARC classificatie: niet geëvalueerd CRP: niet afgeleid			
Beknorte medische informatie							
Ontsmetting damp <i>algemeen:</i> frisse lucht, rust, en arts raadplegen							
Ontsmetting vloeistof <i>huid:</i> verontreinigde kleding uittrekken, spoelen en wassen met water en zeep, bij aanhoudende klachten arts raadplegen. <i>ogen:</i> uitspoelen met water (evt. contactlenzen verwijderen), bij aanhoudende irritatieklachten (oog)arts raadplegen. <i>inslikken:</i> mond laten spoelen (uitspugen!), GEEN braken opwekken, niet laten drinken en direct spoedeisende medische hulp inzetten.							
Specifieke behandeling en materialen: geen							
Neem contact op met het NVIC (Tel:030-2748888) voor informatie met betrekking tot medisch handelen.							

Stofdocument deel B

CAS-nr: 108-67-8

1,3,5-trimethylbenzene

C₉H₁₂



UN-nr: 2325

Basis for the Dutch Intervention Values

VRW: Same point of departure as for AEGL, but values were flat-lined, 2hr value added

AGW: Same point of departure as for AEGL, but values were flat-lined, 2hr value added

LBW: Not recommended, in accordance with AEGL

Date: 16-10-2018

AEGL document: final 2013

Dutch Intervention Values (mg/m³)

	10 min	30 min	1 h	2 h	4 h	8 h	End point
VRW	450	450	450	450	450	450	Mild neurotoxic effects in rats and slight ocular irritation
AGW	1000	1000	1000	1000	1000	1000	Ocular and nasal irritation and neurotoxicity in rats
LBW	NR	NR	NR	NR	NR	NR	No adequate data

Derivation of the Dutch Intervention Values

Little difference in toxicity has been observed between the different trimethylbenzene (TMB) isomers (1,2,4-TMB, 1,2,3-TMB, and 1,3,5-TMB). Since data for some individual TMB isomers is insufficient to set adequate limit values, data from all three isomers are used to set the limit values for the individual TMB isomers.

VRW: Repeated exposure of male and female rats to 1,2,4-TMB at 1,000 ppm (5,000 mg/m³) for 6 h, 5 days a week, 12 exposure resulted in initial signs of slight ocular and nasal irritation (see AGW). Rats exposed to 250-2000 ppm (1250-10,000 mg/m³) of either 1,2,4-, 1,3,5- or 1,2,3-TMB for four hours, exhibited decreased rotarod performance (mild neurological effect) with an EC₅₀ calculated to be 954, 963, and 768 ppm, respectively, corresponding with 4770, 4814, and 3840 mg/m³. Since the EC₅₀ values of individual TMBs are similar, an average EC₅₀ for all three trimethylbenzenes of 900 ppm (4500 mg/m³) was calculated for the trimethylbenzene group and used as point of departure (PoD). Using the specific EC₅₀ of 768 ppm (3840 mg/m³) for 1,2,3 TMB would result in similar VRW values. The default total uncertainty factor of 10 (3x3) was considered sufficient to account for inter- and intraspecies differences. The steady state in blood is reached after 1-2 hours. Therefore, the values for 1-8 hours were flat-lined. Time scaling to 10 and 30 minutes would lead to values conflicting with VRWs derived from slight ocular and nasal irritation observed at 1000 ppm (5000 mg/m³) in the other rat study (application of total UF of 10). Therefore, the 10 and 30 minute values were also set at 450 mg/m³.

AGW: The AGW is based on a repeated inhalation toxicity study with rats. Rats (n=4/sex) were exposed to 1000 (5000 mg/m³) or 2000 ppm (10,000 mg/m³) 1,2,4-TMB for 6h/d, for 12 days in a 5 days/week dosing regimen. The exposed rats suffered from nasal and ocular irritation, respiratory difficulty, lethargy, tremors, and decreased weight gain. Exposure at 1,000 ppm (5,000 mg/m³) resulted in initial signs of slight ocular and nasal irritation. All animals survived and no hematology changes or gross or histopathologic lesions were noted after exposure at either 1,000 or 2,000 ppm. There is no adequate data available, specifically with 1,3,5-TMB to derive the AGW. The level of 2,000 ppm (10,000 mg/m³) from the study with 1,2,4-TMB was used as point of departure. The PoD is above the criteria for AGW, because the effects could lead to an impaired ability to escape. However, because the key study involved repeated exposures, 2,000 ppm was considered a conservative estimate of effects from a single exposure. Furthermore, no effects were reported in mice exposed to 1,2,4-TMB for up to 2,000 ppm (10,000 mg/m³) for 12h. The default total uncertainty factor of 10 (3x3) was considered sufficient to account for inter- and intraspecies differences. The effects seen at this PoD include nasal and ocular irritation (in the absence of histopathological changes) as well as neurotoxicity. The combination of both effects support flatlining of AGW values over all time points.

LBW: No values for LBW could be derived due to lack of adequate data.

Additional toxicological information (including relevant results of a general literature search, if any)

Little is known about the mechanism of TMB toxicity. At higher concentrations, direct irritation of mucous

membranes and narcosis was apparent in some of the animal studies; expected clinical effects include nasal/skin and eye irritation reduced consciousness and tremors.

Substance is not a reproductive toxicant

H332: harmful if inhaled, H315: causes skin irritation, H319: causes serious eye irritation, H335: may cause respiratory irritation

Carcinogenicity and derivation of the CRP value

IARC classification: not evaluated
No carcinogenic risk potency (CRP) was derived

Odour and derivation of the LOA value

Odour: typical scent
OT: 11 mg/m³ (from AIHA, 1989)
LOA = 11.8 * OT * 1.33 = 173 mg/m³
(The concentration Level leading to distinct Odour Awareness (I=3) is calculated using the formula: $I = 2.33 * \log(C/OT) + 0.5$. A correction factor of 1.33 is applied to this value)

The LOA is below all VRW values.

Other standards and guidelines (1h values in mg/m³, unless otherwise indicated) ^a

VRW level 450	AEGL-1 690	ERPG-1 -		IDLH: -
AGW level 1000	AEGL-2 1800	ERPG-2 -		
LBW level NR	AEGL-3 NR	ERPG-3 -		

^a Note that the AEGL values as presented here (in mg/m³) are derived using the conversion factors of the AEGL.