

Stofdocument deel A

CAS-nr: 87-68-3

Hexachloorbutadien C₄Cl₆

VN-nr: 2279

GEVI: 60

Synoniemen: HCBD, perchloor-1,3-butadien (Engels: hexachloro-1,3-butadiene)

Interventiewaarden		10 min.	30 min.	1 uur	2 uur	4 uur	8 uur
Voorlichtingsrichtwaarden	VRW (mg/m³)	NA	NA	NA	NA	NA	NA
Alarmeringsgrenswaarden	AGW (mg/m³)	59	18	8,8	4,3	2,1	1,0
Levensbedreigende waarden	LBW (mg/m³)	180	55	26	13	6,3	3,1
Datum vaststelling: 31-10-2017		1 mg/m ³ = 0,0920 ppm; 1 ppm = 10,85 mg/m ³					
Explosiegrens: niet bekend			Geur: terpentijn-achtig				
			LOA: 188 mg/m ³				
Fysisch-chemische eigenschappen				Overige informatie			
Uiterlijk: kleurloze vloeistof		Molecuulmassa: 260,8 g/mol				Publieke grenswaarde:	
Brand: brandgevaar		Zuurgraad: -				niet afgeleid	
		LogKow: 4,8				MAK: 0,22 mg/m ³	
Relatieve dichtheid van verzadigd damp-lucht mengsel: 1,0		Wateroplosbaarheid: 0,05 g/100 ml (zeer slecht)				TLV-TWA: 0,22 mg/m ³	
		Verzadigde dampdruk: 0,5 mbar					
Toxicologische eigenschappen							
Effecten bij inhalatoire blootstelling				Toxiciteit bij eenmalige, inhalatoire blootstelling			
<u>Onder AGW:</u> hoesten, keelpijn				<ul style="list-style-type: none"> De damp is irriterend voor de ogen en slijmvliezen, en bij hogere concentraties irriterend op de luchtwegen. Na opname in het lichaam zijn met name de nieren het doelorgaan van deze stof. Sterfte kan mogelijk vertraagd optreden. 			
<u>AGW → LBW:</u> branderig gevoel, kortademigheid							
<u>Boven LBW:</u> sterfte							
LET OP: De afwezigheid van een VRW betekent niet dat blootstelling onder de AGW zonder effecten is.							
Effecten bij blootstelling aan vloeistof				Carcinogeniteit			
<i>Huidcontact:</i> roodheid				IARC classificatie: groep 3			
<i>Oogcontact:</i> roodheid, pijn				CRP: niet afgeleid			
Beknopte medische informatie							
Ontsmetting damp <i>algemeen:</i> frisse lucht, rust, en onmiddellijk arts raadplegen.							
Ontsmetting vloeistof							
<i>huid:</i> verontreinigde kleding uittrekken, minimaal 20 min. spoelen met veel water of douchen en arts raadplegen.							
<i>ogen:</i> minimaal 15 min. spoelen met water (evt. contactlenzen verwijderen), dan naar oogarts brengen, blijven spoelen tijdens vervoer.							
<i>inslikken:</i> mond laten spoelen (uitspugen!) en direct spoedeisende medische hulp inzetten.							
Specifieke behandeling en materialen: geen.							
Neem contact op met het NVIC (Tel:+31 (0)30 274 8888) voor informatie met betrekking tot medisch handelen							

Stofdocument deel B

CAS-nr: 87-68-3

Hexachloro-1,3-butadiene C₄Cl₆

UN-nr: 2279

Basis for the Dutch Intervention Values

VRW: Not recommended, in contrast to ERPG

AGW: Different rationale than ERPG, different values are derived, other time-points added

LBW: Based on information as described in ERPG-document, different values are derived, other time-points added

Date: 31-10-2017

ERPG 2004

Dutch Intervention Values (mg/m³)

	10 min	30 min	1 h	2 h	4 h	8 h	End point
VRW	NR	NR	NR	NR	NR	NR	Not recommended
AGW	59	18	8.8	4.3	2.1	1.0	One-third of LBW
LBW	180	55	26	13	6.3	3.1	Acute lethality rabbit, rat and guinea pig

Derivation of the Dutch Intervention Values

VRW: VRW-values were not derived for hexachloro-1,3-butadiene. There are no exposure-response data in humans or animals consistent with VRW-level effects. In absence of suitable data, the VRW-levels were set to Not recommended.

AGW: In the absence of human data and due to the limited animal data consistent with AGW-level effects, AGW-values were set to one third of the LBW.

LBW: LBW-values were based on an acute inhalation lethality study in rats, guinea pigs, rabbit and cats. Animals were exposed to hexachloro-1,3-butadiene (whole body exposure concentrations of 240-3290 mg/m³ for exposure durations ranging from 20 to 420 minutes). Doseresp was applied to calculate the LC₀₁ values. Rat LC₀₁ values for a 10 min, 30 min, 1h, 2h, 4h and 8h exposure duration were 4139, 1300, 626, 302, 145 and 70 mg/m³, respectively, and the corresponding n-value was 0.949. Guinea pig LC₀₁ values for a 10 min, 30 min, 1h, 2h, 4h and 8h exposure duration were 808, 181, 70.4, 27.4, 10.7 and 4.14 mg/m³, respectively, and the corresponding n-value was 0.734. Rabbit LC₀₁ values for a 10 min, 30 min, 1h, 2h, 4h and 8h exposure duration were 387, 166, 97.5, 57.2, 33.5 and 19.7 mg/m³, respectively, and the corresponding n-value was 1.299. Calculation of LC₀₁ values was not possible for the cat dataset. There is a difference between rat vs. guinea pig and rabbit in sensitivity and n. In absence of information on the representativeness for humans, the data were combined. For each time point, the mean LC₀₁ values were calculated based on the three datasets and used as PoD. Combined LC₀₁ values for a 10 min, 30 min, 1h, 2h, 4h and 8h exposure duration were 1778, 549, 265, 129, 63 and 31 mg/m³, respectively, and the corresponding n-value was 0.99. The default uncertainty factor of 10 (3x3) was considered sufficient to account for inter- and intraspecies differences.

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

Hexachloro-1,3-butadiene is irritating to the mucous membranes. The major systemic target organ is the kidney.

The available data indicate that hexachloro-1,3-butadiene is not toxic for the developing foetus after inhalation, except for a reduction in foetal body weight. There is no information on the potential effects on fertility via the inhalation route in the available literature for this chemical.

No harmonized H-statements for human health.

Carcinogenicity and derivation of the CRP value

IARC classification: 3 (not classifiable as to its carcinogenicity to humans)

Odour and derivation of the LOA value

Odour: mild to faint turpentine-like, pungent
OT: 12 mg/m³ [Ruth, 1986]

No carcinogenic risk potency (CRP) was derived. Reliable inhalation data were not available. An inhalation unit risk of 0.22 per mg/m³ is reported (US EPA), however this value is not used for calculation of the CRP as the unit risk is based on oral data.

$$LOA = 11.8 * OT * 1.33 = 188 \text{ mg/m}^3$$

(The concentration Level leading to distinct Odour Awareness (l=3) is calculated using the formula: $l = 2.33 * \log(C/OT_{50}) + 0.5$. A correction factor of 1.33 is applied to this value)

Other standards and guidelines (1h values in mg/m³, unless otherwise indicated) ^a			
VRW level NR	<i>AEGL-1</i> -	<i>ERPG-1</i> 10.7	<i>IDLH</i> : not derived
AGW level 8.8	<i>AEGL-2</i> -	<i>ERPG-2</i> 32.1	
LBW level 26	<i>AEGL-3</i> -	<i>ERPG-3</i> 106.9	

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