

Stofdocument deel A

CAS-nr: 107-30-2

Chloormethylether

CH₃OCH₂Cl

VN-nr: 1239

GEVI: 663

Synoniemen: methylchloormethylether, chloormethoxymethaan, CMME (Engels: chloromethyl methyl ether)

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)	2,9	2,0	1,6	1,2	1,0	0,72
Levensbedreigende waarden	LBW (mg/m³)	12	8,5	6,8	5,4	4,3	3,1
Datum vaststelling: 13-05-2009		1 mg/m ³ = 0,299 ppm; 1 ppm = 3,35 mg/m ³					
Explosiegrens: geen data			Geur: typerende geur				
			LOA: niet afgeleid				
Fysisch-chemische eigenschappen						Overige informatie	
Uiterlijk: kleurloze vloeistof		Molecuulmassa: 80,5 g/mol				Publieke grenswaarde:	
Brand: zeer brandgevaarlijk		Zuurgraad: Geen data				niet afgeleid	
		LogKow: Geen data				MAK: niet afgeleid	
Relatieve dichtheid van verzadigd damp-lucht mengsel: 1,4		Wateroplosbaarheid: reactie				TLV-TWA: niet afgeleid	
		Verzadigde dampdruk: 213 mbar					
Toxicologische eigenschappen							
Effecten bij inhalatoire blootstelling				Toxiciteit bij eenmalige, inhalatoire blootstelling			
<u>Onder AGW:</u> luchtwegirritatie, hoesten				<ul style="list-style-type: none"> Stof werkt irriterend tot bijtend op ogen, huid en luchtwegen. Chloormethylether kan longoedeem veroorzaken. De verschijnselen hiervan kunnen vertraagd optreden. Bis(chloormethyl)ether kan als verontreiniging aanwezig zijn en is toxischer dan chloormethylether. 			
<u>AGW → LBW:</u> benauwdheid, longoedeem, koorts							
<u>Boven LBW:</u> ademnood, sterfte							
Effecten bij blootstelling aan vloeistof				Carcinogeniteit			
<u>Huidcontact:</u> bijtend, roodheid, pijn, brandwonden				IARC classificatie: 1.			
<u>Oogcontact:</u> bijtend, roodheid, pijn, slecht zien				CRP: 1,30 mg/m ³ (afgeleid van CRP voor dichloordimethylether)			
Beknopte medische informatie							
Ontsmetting damp							
<i>algemeen:</i> frisse lucht, rust, halfzittende houding en direct spoedeisende medische hulp inzetten.							
<i>ogen:</i> minimaal 15 min. spoelen met water (evt. contactlenzen verwijderen).							
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!), GEEN braken opwekken en direct spoedeisende medische hulp inzetten.							
Specifieke behandeling en materialen: geen.							
Neem contact op met het NVIC (Tel: 030 - 274 8888) voor informatie met betrekking tot medisch handelen							

Stofdocument deel B

CAS-nr: 107-30-2

Chloromethyl methyl ether

CH₃OCH₂Cl

UN-nr: 1239

Basis for the Dutch Intervention Values

VRW: Not recommended, in accordance with AEGL.

AGW: AEGL value adopted (except 10 min value for which time scaling was applied), 2hr value added.

LBW: AEGL value adopted (except 10 min value for which time scaling was applied), 2hr value added.

Date: 13-05-2009

AEGL document: Final, 2012

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	2.9	2.0	1.6	1.2	1.0	0.72	Threshold of irreversible lung lesions in animals
LBW	12	8.5	6.8	5.4	4.3	3.1	Threshold of animal lethality

Derivation of the Dutch Intervention Values

VRW: Not recommended, because no studies were available showing VRW type effects.

AGW: AGW values were based on an acute toxicity study in which rats and hamsters were exposed to 12.5-225 ppm (42-753 mg/m³) CMME (content of BCME not given) for 7 hours. Toxic effects were not attributed to specific concentrations, but it was stated that animals that died, and to a lesser degree, animals that survived, had increased relative lung weights, pulmonary congestion, edema, hemorrhage, and acute necrotizing bronchitis. Therefore, 12.5 ppm (42 mg/m³) was considered the LOAEL for serious or irreversible lung lesions in both species. An estimated NAEL of 4.2 ppm (14 mg/m³) for serious or irreversible lung lesions in both species was obtained by dividing the LOAEL by an adjustment factor of 3. An uncertainty factor of 10 was used: 3 for interspecies extrapolation and 3 for intraspecies variability. A modifying factor of 1.7 was also applied because the BCME content in technical grade CMME in the key study was unknown; it was obtained by assuming 10% BCME (the maximum reported) and accounting for the greater BCME toxicity (rat 7h-LC₅₀ was 55 ppm (184 mg/m³) for CMME and 7 ppm for BCME in the key study), as follows: modifying factor = $[0.1 \times (55/7)] + [0.9 \times 1] = 1.7$. Scaling across time was performed using $n=3$ and $n=1$ for exposure durations shorter and longer, respectively, than 7 hours. In contrast to the 10 minute AEGL-2 value, time scaling was also applied for the 10 minute AGW value.

LBW: LBW values were based on the LC₅₀ study in which rats and hamsters exposed for 7 hours to 12.5-225 ppm (42-753 mg/m³) CMME (content of BCME not given) had increased relative lung weights, congestion, edema, hemorrhage, and acute necrotizing bronchitis. The effects occurred in animals that died, and to a lesser degree, in animals that survived. The threshold for lethality, expressed as the 7h-BMCL₀₅, was approximately 18 ppm (60 mg/m³) for hamsters and 19 ppm (64 mg/m³) for rats if it is assumed that $n=20$ for all test concentrations (n , the number of animals, was not specified and thus had to be assumed; a lower number of animals per group would lower the BMCL₀₅, because less confidence is 'given' to the observed mortality percentage); 18 ppm (60 mg/m³) was used for derivation of LBW values. An uncertainty factor of 10 was used: 3 for interspecies extrapolation and 3 for intraspecies variability. As for AGW, a modifying factor of 1.7 was applied because the content of BCME in technical grade CMME in the key study was unknown. Time scaling was performed using $C^n \cdot t = k$, with the default values of $n = 1$ and $n = 3$. In contrast to the 10 minute AEGL-3 value, time scaling was also applied for the 10 minute LBW value.

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

The mechanism of CMME toxicity has not been elucidated. CMME hydrolyzes completely and irreversibly in water to form HCl, methanol, and formaldehyde. The HCl and formaldehyde can form BCME, although the kinetics of the conversion of CMME to BCME has not been defined. The respiratory tract is the primary site of

technical grade CMME toxicity.

No studies on the developmental or reproductive effects in humans and/or animals were located.

H302: Harmful if swallowed; H312: Harmful in contact with skin; H332: harmful if inhaled; H350: May cause cancer.

Carcinogenicity and derivation of the CRP value

IARC classification: 1 (carcinogenic to humans)

Technical grade CMME may have carcinogenic potency, but this is expected to be based on the contaminant BCME (bis-chloromethyl ether). No carcinogenicity data are available for CMME but the AEGL TSD provides a preliminary carcinogenicity assessment for CMME with a 10% BCME contamination. Assuming that BCME is ten-fold more potent than CMME provides a CRP for CMME of 0.39 ppm (1.30 mg/m³).

Odour and derivation of the LOA value

Typical odour

No LOA was derived due to lack of reliable data.

Although a LOA was not established, data from workers show that workers detect the odour at or around the AGW level and therefore, odour is regarded not useable as warning for health effects.

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

VRW level NR	AEGL-1 NR	ERPG-1 NA	IDLH: not established
AGW level 1.6	AEGL-2 1.5	ERPG-2 3.4	
LBW level 6.8	AEGL-3 6.7	ERPG-3 33	