Rijksinstituut voor Volksgezondheid en Milieu
Ministerie van Volksgezondheid, Welzijn en Sport

Stofdocument deel A

CAS-nr: 78-95-5

Chlooraceton

CH_3COCH_2Cl

VN-nr: 1695

GEVI: 663

Synoniemen: acetonylchloride, chloormethylmethylketon, 1-chloor-2-propanon (Engels: chloroacetone)

Interventiewaarden		10 min.	30 min.	1 uur	2 uur	4 uur	8 uur
Voorlichtingsrichtwaarden	**VRW (mg/m^3)**	NA	NA	NA	NA	NA	NA
Alarmeringsgrenswaarden	**AGW (mg/m^3)**	31	21	17	8,4	4,2	4,2
Levensbedreigende waarden	**LBW (mg/m^3)**	92	64	50	25	13	13

Datum vaststelling: 13-05-2009

1 mg/m^3 = 0,260 ppm; 1 ppm = 3,85 mg/m^3

Explosiegrens: LEL = 3,4 vol% ≈ 130.000 mg/m^3

Geur: penetrante, verstikkende geur

LOA: niet afgeleid

Fysisch-chemische eigenschappen

Uiterlijk: kleurloze vloeistof, wordt geelbruin aan de lucht

Brand: zeer brandgevaarlijk

Relatieve dichtheid van verzadigd damp-lucht mengsel: 1,03

Molecuulmassa:	92,5 g/mol
Zuurgraad:	geen data
LogKow:	0,3
Wateroplosbaarheid:	10 g/100 ml (goed)
Verzadigde dampdruk:	16 mbar

Overige informatie

Publieke grenswaarde: niet afgeleid

MAK: niet afgeleid

TLV-TWA: niet afgeleid

TLV-Ceiling: 3,85 mg/m^3

Toxicologische eigenschappen

Effecten bij inhalatoire blootstelling

*Onder **AGW**:* oogirritatie, tranenvloed, irritatie aan luchtwegen, hoesten

AGW → LBW: ernstige irritatie, oogschade, longontsteking, ernstige longoedeem, benauwdheid

Boven LBW: sterfte

Toxiciteit bij eenmalige, inhalatoire blootstelling

- Chlooraceton veroorzaakt irritatie van de ogen en luchtwegen.
- Chlooraceton kan longoedeem veroorzaken. Verschijnselen hiervan kunnen vertraagd optreden.

Effecten bij blootstelling aan vloeistof

Huidcontact: bijtend, ernstige brandwonden, blaren

Stof kan door de huid opgenomen worden.

Oogcontact: bijtend, roodheid, slecht zien, ernstige brandwonden

Carcinogeniteit

IARC classificatie: niet geclassificeerd

CRP: niet afgeleid.

Beknopte medische informatie

Ontsmetting damp

algemeen: frisse lucht, rust, halfzittende houding, en direct spoedeisende medische hulp inzetten.

ogen: minimaal 15 min. spoelen met water (evt. contactlenzen verwijderen), dan naar oogarts brengen, blijven spoelen tijdens vervoer.

Ontsmetting vloeistof

huid: bij verbranding aan de huid vastgeplakte kleding NIET lostrekken, eerst spoelen met veel water, dan pas kleding uittrekken, daarna weer spoelen en arts raadplegen.

ogen: minimaal 15 min. spoelen met water (evt. contactlenzen verwijderen), dan naar oogarts brengen, blijven spoelen tijdens vervoer.

inslikken: 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: +31(03)0 - 274 8888) voor informatie met betrekking tot medisch handelen

National Institute for Public Health and the Environment
Ministry of Health, Welfare and Sport

Stofdocument deel B

CAS-nr: 78-95-5 **Chloroacetone** **CH_3COCH_2Cl** **UN-nr: 1695**

Basis for the Dutch Intervention Values

VRW: AEGL value is adopted, 2h value added

AGW: AEGL value is adopted, 2h value added

LBW: AEGL value is adopted, 2h value added

Date: 13-05-2009 | AEGL document: Final, 2012

Dutch Intervention Values (mg/m^3)

	10 min	30 min	1 h	2 h	4 h	8 h	End point
VRW	NR	NR	NR	NR	NR	NR	-
AGW	31	21	17	8.4	4.2	4.2	One third of LBW values
LBW	92	64	50	25	13	13	Threshold of lethality in animals

Derivation of the Dutch Intervention Values

VRW: Data are insufficient for derivation of VRW values for chloroacetone. Therefore, VRW values are not recommended.

AGW: The only data consistent with the definition of AGW with both concentration and duration parameters are the clinical signs observed in rats exposed to 132 ppm (508 mg/m^3) for 1-hour. However, in this rat study, 132 ppm was also the only concentration causing no mortality and it is the same as the concentration used as the point-of-departure for LBW values. Therefore, the AGW values for chloroacetone will be based upon a 3-fold reduction in the LBW values; this is considered an estimate of a threshold for irreversible effects.

LBW: The estimated 1-hour male rat lethality threshold of 131 ppm (504 mg/m^3) ($BMCL_{05}$) was used as the basis of the LBW values. Interspecies and intraspecies uncertainty factors of 3 each were applied because chloroacetone is highly irritating and clinical signs are likely caused by a direct chemical effect on the tissues; this type of port-of-entry effect is not expected to vary greatly between species or among individuals. The interspecies uncertainty factor of 3 is also supported by the fact that data suggest little species variability with regard to lethality from oral and dermal exposure to chloroacetone. The intraspecies uncertainty factor of 3 is considered sufficient because data from the more sensitive males were used as the point-of departure. Time-scaling was performed using the equation $C^n \times t = k$, using default values of n=1 and n=3 for extrapolation to longer and shorter exposure durations, respectively. The 4-hour value was also adopted as the 8-hour value because time scaling would yield an 8-hour LBW value approaching occupational standards.

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

Chloroacetone is toxic by inhalation, ingestion, and dermal contact. No information regarding the mechanism of toxicity of chloroacetone was located. However, symptoms of acute inhalation exposure suggest that it is an irritant, causing immediate lacrimation at low concentrations and contact burns of the skin and eyes, nausea, bronchospasm, delayed pulmonary edema, and death at higher concentrations.

Human toxicity data are limited. Chloroacetone is highly irritating and causes ocular, upper-respiratory tract, and dermal irritation. Immediate lacrimation has been reported at approximately 5 ppm (19 mg/m^3). A concentration of 26 ppm (100 mg/m^3) was reportedly intolerable after 1 minute, and a concentration of 605 ppm (2328 mg/m^3) chloroacetone was reported to be lethal after 10 minutes of exposure.

Animal toxicity data are limited to acute lethality studies in rats, mice, and rabbits, and repeated-exposure studies in rats. The limited data suggest that male rats are approximately 2.3 times more sensitive than female rats to the effects of chloroacetone administered by inhalation. Oral lethality data suggest that mice and rats have similar sensitivities. Oral and dermal LD_{50} values show little variability with regard to species and route of exposure. Clinical signs included restlessness, labored breathing, nasal irritation, salivation, lacrimation, dyspnea, and pulmonary edema at necropsy.

Developmental/reproductive studies regarding acute human exposure or animal exposure to chloroacetone were not found.

No harmonized H-sentences for human health.

Carcinogenicity and derivation of the CRP value
IARC classification: not classified No carcinogenic risk potency (CRP) was derived. Carcinogenicity studies regarding human exposure to chloroacetone were not available. Two available animal studies where equivocal with respect to tumor promoter activity of chloroacetone. No experimental carcinogenicity studies are available.

Odour and derivation of the LOA value
Odour: Pungent, suffocating odour. No LOA was derived due to lack of reliable data Odour is not considered a good warning property because the first effect experienced is lacrimation (at approximately 5 ppm (19 mg/m^3)) followed by irritation of the upper respiratory tract and skin.

Other standards and guidelines *(1h values in mg/m^3, unless otherwise indicated)*				
VRW level **N.R.**	*AEGL-1* N.R.	*ERPG-1* not derived		*IDLH*: not derived
AGW level **17**	*AEGL-2* 17	*ERPG-2* not derived		
LBW level **50**	*AEGL-3* 50	*ERPG-3* not derived		