



Stofdocument deel A

CAS-nr: 10025-87-3

Fosforoxychloride

POCl₃

VN-nr: 1810

GEVI: X668

Synoniemen: fosforylchloride, fosforyltrichloride (Engels: phosphorus oxychloride)

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)	NA	NA	NA	NA	NA	NA
Levensbedreigende waarden	LBW (mg/m³)	21	21	16	13	10	5,1
Datum vaststelling: 28-11-2008		1 mg/m ³ = 0,157ppm; 1 ppm = 6,38 mg/m ³					
Explosiegrens: geen data			Geur: muffe, doordringende geur				
			LOA: onvoldoende betrouwbare gegevens				

Fysisch-chemische eigenschappen		Overige informatie
Uiterlijk: kleurloze, rokende vloeistof	Molecuulmassa: 153,4 g/mol	Publieke grenswaarde: niet afgeleid MAK: 1,3 mg/m ³ TLV-TWA: 0,64 mg/m ³
Brand: niet brandbaar	Zuurgraad: geen data	
	LogKow: geen data	
Relatieve dichtheid van verzadigd damp-lucht mengsel: 1,2	Wateroplosbaarheid: reactie	
	Verzadigde dampdruk: 36 mbar	

Toxicologische eigenschappen

Effecten bij inhalatoire blootstelling <u>Onder VRW:</u> geen informatie <u>VRW → AGW:</u> geen informatie <u>AGW → LBW:</u> irritatie, benauwdheid, longoedeem, larynx- en glottisoedeem <u>Boven LBW:</u> longoedeem en chemische pneumonitis, sterfte	Toxiciteit bij eenmalige, inhalatoire blootstelling <ul style="list-style-type: none"> Fosforoxychloride werkt zeer irriterend op de luchtwegen en slijmvliezen. Inademing van hoge concentraties kan blijvende longschade veroorzaken. Inademing kan tevens leiden tot larynx- en glottisoedeem, met risico op verstikking door zwellingen in de keel. Blootstelling aan fosforoxychloride kan longoedeem en chemische pneumonitis veroorzaken. De verschijnselen hiervan kunnen vertraagd optreden en versterkt worden door lichamelijke inspanning.
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Effecten bij blootstelling aan vloeistof <u>Huidcontact:</u> bijtend, roodheid, pijn, ernstige brandwonden <u>Oogcontact:</u> bijtend, roodheid, pijn, slecht zien	Carcinogeniteit IARC classificatie: niet geclassificeerd CRP: niet afgeleid
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Beknopte medische informatie

Ontsmetting damp <u>algemeen:</u> frisse lucht, rust, halfzittende houding en direct spoedeisende medische hulp inzetten. <u>ogen:</u> minimaal 15 min. spoelen met water (evt. contactlenzen verwijderen), dan naar oogarts brengen, blijven spoelen tijdens vervoer.
Ontsmetting vloeistof <u>huid:</u> verontreinigde kleding uittrekken, minimaal 20 min. spoelen met veel water of douchen en arts raadplegen. <u>ogen:</u> minimaal 15 min. spoelen met water (evt. contactlenzen verwijderen), dan naar oogarts brengen. Blijven spoelen tijdens vervoer. <u>inslikken:</u> mond laten spoelen (uitspugen!), GEEN braken opwekken en direct spoedeisende medische hulp inzetten.
Inademing/inslikken van fosforoxychloride kan tevens leiden tot larynx- en glottisoedeem, met risico op verstikking door zwellingen in de keel. Intubatie (borgen van vrije luchtwegen), eventueel gevolgd door beademing moeten in ernstige gevallen z.s.m. worden uitgevoerd (door specialisten).
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: 10025-87-3

Phosphorus oxychloride

POCl₃

VN-nr: 1810

Basis for the Dutch Intervention Values

VRW: Not recommended, in accordance with AEGL

AGW: Not recommended, in accordance with AEGL

LBW: Same point of departure as for AEGL values but using different uncertainty factors, 2h value added

Date: 28-11-2008

AEGL document: Final, 2011

Dutch Intervention Values (mg/m³)

	10 min	30 min	1 h	2 h	4 h	8 h	End point
VRW	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	-
AGW	N.R.	N.R.	N.R.	N.R.	N.R.	N.R.	-
LBW	21	21	16	13	10	5.1	Threshold of lethality in animals

Derivation of the Dutch Intervention Values

VRW: Exposure-response data were unavailable for developing VRW values for phosphorus oxychloride.

AGW: Exposure-response data were unavailable for developing AGW values for phosphorus oxychloride. Because of the lack of information regarding the exposure-response relationship, estimating AGW values by the reduction of LBW values would be tenuous and difficult to justify.

LBW: In lieu of additional data, the available 4-hr LC₅₀ values may be considered for development of the LBW values for phosphorus oxychloride. Because the rat appears to be a slightly more sensitive species, the 4-hr LC₅₀ of 48.4 ppm (310 mg/m³) for rats was used as the basis for the LBW values. The 4-hr LC₅₀ value of 32-ppm (200 mg/m³) reported for rats was not verified and, therefore, was not used as the basis for the LBW values. In the absence of complete data regarding the entire exposure-response curve and under the assumption that the differential between nonlethal and lethal exposures would be small, the lethality threshold was estimated as one-third of the 4-hour rat LC₅₀ (i.e., 48.4 ppm/3 = 16.1 ppm (103 mg/m³)). This is also justified because many respiratory tract irritants have exposure-response relationships in which the transition from progressive irritation and repairable epithelial tissue damage to lethal pulmonary damage occurs abruptly. The limited data suggest that rats and guinea pigs appear to respond similarly to phosphorus oxychloride and phosphorus trichloride. This similarity favours the use of the same UFs for both substances, despite the sparse database. Therefore, as for phosphorus trichloride, an overall uncertainty factor of 10 was applied for phosphorus oxychloride consisting of a factor of 3 for interspecies variability and of 3 for intraspecies variability. The intraspecies uncertainty factor was limited to 3 because a critical mechanism of phosphorus oxychloride toxicity appears to involve irritation and destruction of epithelial tissue with lethality resulting, at least in part, from damage to respiratory epithelium. It is assumed that such a basic contact irritation mechanism would not vary greatly among individuals and that a 3-fold reduction would be sufficient even for individuals with moderately compromised respiratory function. Time-scaling was performed using the $C^n \times t = k$ equation with $n = 3$ when extrapolating to shorter time points and $n = 1$ when extrapolating to longer time points. Due to uncertainties in extrapolating from a 4-hour exposure to a 10-minute exposure, the 10-minute LBW value is set equivalent to the 30-minute LBW.

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

Most information regarding the toxic response of humans to phosphorus oxychloride is limited to secondary reports that lack quantitative exposure-response data. According to these reports, the chemical appears to be extremely irritating to the respiratory tract and other mucous membranes. Both port-of-entry and systemic effects have been reported. Primary reports describe occupational exposures to phosphorus oxychloride but these involve simultaneous exposures to other irritating chemicals and/or lack definitive exposure concentration/duration terms. The reports affirm signs and symptoms of nasopharyngeal, ocular, and dermal irritation, and ventilatory dysfunction following acute exposures. Concurrent exposures to other chemicals, especially those having the same effects and targets as phosphorus oxychloride, compromise the usefulness



of the human exposure data.

The acute lethality of inhaled phosphorus oxychloride likely results from damage of respiratory epithelium and subsequent pulmonary oedema however the precise mechanism of toxicity of inhaled phosphorus oxychloride has not been elucidated.

Definitive quantitative exposure-response toxicity data in animals were limited to lethality data for rats and guinea pigs The available studies affirm the extreme irritation properties of phosphorus oxychloride although the exposures described also resulted in lethality.

No data are available regarding the developmental/reproductive toxicity of phosphorus.

H302: Harmful if swallowed; H314: Causes severe skin burns and eye damage; H330: Fatal if inhaled; H372: Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity and derivation of the CRP value	Odour and derivation of the LOA value
<p>IARC classification: not classified</p> <p>No carcinogenic risk potency (CRP) was derived.</p> <p>Information regarding the potential carcinogenicity of phosphorus oxychloride in humans or experimental animals is not available.</p>	<p>Odour: musty, pungent odour</p> <p>No LOA was derived due to lack of reliable data.</p>

Other standards and guidelines (1h values in mg/m³, unless otherwise indicated)			
VRW level N.R.	AEGL-1 N.R.	ERPG-1 not derived	IDLH: not derived
AGW level N.R.	AEGL-2 N.R.	ERPG-2 not derived	
LBW level 16	AEGL-3 5.4	ERPG-3 not derived	