

## Stofdocument deel A

CAS-nr: 86290-81-5/8006-61-9

**Benzine**

C<sub>4</sub>-C<sub>12</sub>

koolwaterstoffen

VN-nr: 1203

GEVI: 33

**Synoniemen:** autobenzine (Engels: Gasoline)

Interventiewaarden		10 min.	30 min.	1 uur	2 uur	4 uur	8 uur
Voorlichtingsrichtwaarden	<b>VRW (mg/m<sup>3</sup>)</b>	510	510	510	510	510	510
Alarmeringsgrenswaarden	<b>AGW (mg/m<sup>3</sup>)</b>	11000	3600	3600	3600	3600	3600
Levensbedreigende waarden	<b>LBW (mg/m<sup>3</sup>)</b>	NA	NA	NA	NA	NA	NA
Datum vaststelling: 31-10-2017		1 mg/m <sup>3</sup> = 0,209 ppm; 1 ppm = 4,784 mg/m <sup>3</sup> *					
<b>Explosiegrens:</b> LEL = 1,4% ≈ 14.000 ppm ≈ 67.000 mg/m <sup>3</sup> (Damp met lucht explosief)			<b>Geur:</b> typerende geur <b>LOA:</b> niet afgeleid				
<b>Fysisch-chemische eigenschappen</b>						<b>Overige informatie</b>	
<b>Uiterlijk:</b> kleurloze tot strogele, deels vluchtige vloeistof <b>Brand:</b> zeer brandgevaarlijk		Molecuulmassa: ~115 g/mol  Zuurgraad: Niet afgeleid LogKow: 2-7				Publieke grenswaarde: 240 mg/m <sup>3</sup> MAK: niet afgeleid TLV-TWA: 1435 mg/m <sup>3</sup>	
<b>Relatieve dichtheid van verzadigd damp-lucht mengsel:</b> 1,15		Wateroplosbaarheid: 0,01-0,03 g/100 mL (Zeer slecht) Verzadigde dampdruk: 50-400 mbar					
<b>Toxicologische eigenschappen</b>							
<b>Effecten bij inhalatoire blootstelling</b>  <u>Onder VRW:</u> oogirritatie, tranen, keelpijn en hoest  <u>VRW → AGW:</u> euforie, hoofdpijn, duizeligheid  <u>Boven AGW:</u> verwardheid, misselijkheid, slaperigheid, bewustzijnsdaling, convulsies, ademstilstand				<b>Toxiciteit bij eenmalige, inhalatoire blootstelling</b>  ▪ Blootstelling aan benzine kan leiden tot irritatie aan ogen en luchtwegen en stoornissen van het centrale zenuwstelsel (CZS). ▪ Benzine veroorzaakt depressie van het centrale zenuwstelsel. ▪ Narcotische effecten worden soms (niet altijd) voorafgegaan door een excitatiefase (opwinding, euforie/'high', delier). ▪ Benzine bestaat uit vluchtige componenten en de dampen kunnen door verdringing van zuurstof verstikkingsgevaar opleveren.			
<b>Effecten bij blootstelling aan vloeistof</b>  <u>Huidcontact:</u> prikkeling, droge huid, roodheid. <u>Oogcontact:</u> prikkeling, roodheid en pijn.				<b>Carcinogeniteit</b>  IARC classificatie: 2B CRP: niet afgeleid			
<b>Beknopte medische informatie</b>							
<b>Ontsmetting damp</b> <i>algemeen:</i> frisse lucht, rust, en direct spoedeisende medische hulp inzetten.							
<b>Ontsmetting vloeistof</b> <i>huid:</i> verontreinigde kleding uittrekken, spoelen en wassen met water en zeep, bij klachten arts raadplegen. <i>ogen:</i> uitspoelen met water (evt. contactlenzen verwijderen). <i>inslikken:</i> mond laten spoelen (uitspugen!), GEEN braken opwekken, niet laten drinken en direct spoedeisende medische hulp inzetten.							
<b>Specifieke behandeling en materialen:</b> geen.							
Neem contact op met het NVIC (Tel:+31 (0)30 274 8888) voor informatie met betrekking tot medisch handelen							

\* deze conversiefactoren gelden voor een aerosol. In geval van een damp gelden de volgende conversiefactoren (uitgaande van een molmassa van 73 g/mol (cf AEGL proposed 2009)): 1 mg/m<sup>3</sup> = 0,329 ppm, 1 ppm = 3,037 mg/m<sup>3</sup>

## Stofdocument deel B

CAS-nr: 86290-81-5/8006-61-9

**Gasoline**

C<sub>4</sub>-C<sub>12</sub> hydrocarbons

UN-no: 1203

### Basis for the Dutch Intervention Values

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

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

**LBW:** Not recommended.

Date: 31-10-2017

ERPG, 2008

### Dutch Intervention Values (mg/m<sup>3</sup>)

	10 min	30 min	1 h	2 h	4 h	8 h	End point
<b>VRW</b>	510	510	510	510	510	510	Eye and throat irritation in humans
<b>AGW</b>	11000	3600	3600	3600	3600	3600	Unsteadiness and dizziness in humans
<b>LBW</b>	NR	NR	NR	NR	NR	NR	Not recommended

### Derivation of the Dutch Intervention Values

**VRW:** The VRW is based on a human study evaluating the acute irritation during controlled exposure to air containing gasoline vapour. Male and female volunteers were exposed in various groups to various concentrations gasoline vapour. At concentrations of 500 ppm (1518 mg/m<sup>3</sup>) for one hour, tested in 9 males, slight irritation of the eyes and throat were observed. Similar effects were also observed at 900 ppm (2733 mg/m<sup>3</sup>) for one hour. At 2600 ppm (7895 mg/m<sup>3</sup>) for one hour, slight dizziness and transient eye irritation was noticed, whereas 10,700 ppm (32491 mg/m<sup>3</sup>) applied for 4-7 minutes via facemask, resulted in unsteadiness (described as drunkenness). An exposure of 1518 mg/m<sup>3</sup> for one hour was used as PoD for deriving the VRW values. The default uncertainty factor of 3 was considered sufficient to account for intraspecies differences. Time scaling was not applied as eye and throat irritation is considered to be concentration-dependent rather than concentrationxtime-dependent.

**AGW:** The AGW is based on the same human volunteer study as used for VRW. An exposure of 10,700 ppm (32,491 mg/m<sup>3</sup>) applied for 4-7 minutes via facemask, resulted in unsteadiness (described as drunkenness). This was used as POD for deriving the AGW values. The default uncertainty factor of 3 was considered sufficient to account for intraspecies differences. Based on the composition of gasoline (consisting mostly of C<sub>5</sub>-C<sub>6</sub> paraffins), in line with n-hexane and butane, a steady state blood concentration is assumed to be reached in approximately 30 minutes. Timescaling was therefore applied from 10 min to 30 min, for which the 4-7 min exposure duration from the human study was set equal to a 10 min exposure duration. The AGW-values from 30 min to 8 hour were flatlined.

**LBW:** LBW values are not recommended, because no appropriate animal data are available. It is not apparent that concentrations high enough to cause death can be attained. On the basis of the likelihood that lethal concentrations cannot be attained and sustained under ambient conditions, LBW values were not derived.

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

Gasoline induces irritation of eyes, nose and throat; dizziness, mucous membrane irritation, anaesthesia, and central nervous system depression. Death is postulated to be due to either central nervous system depression due to asphyxia leading to respiratory failure or cardiac sensitization to circulating catecholamines leading to fatal arrhythmia.

Gasoline is not embryotoxic or reproductive toxic in animals.

H304: May be fatal if swallowed and enters airways; H340: May cause genetic defects; H350: May cause

cancer.

<b>Carcinogenicity and derivation of the CRP value</b>	<b>Odour and derivation of the LOA value</b>
<p>IARC classification: 2B (possibly carcinogenic to humans) No carcinogenic risk potency (CRP) was derived.</p>	<p>Odour: characteristic odour  <math>OT_{50}: 2.3 \text{ mg/m}^3</math> [API, 1994]<sup>a</sup>  <math>LOA = 11.8 * OT_{50} * 1.33 = 36 \text{ mg/m}^3</math>            (The concentration Level leading to distinct Odour Awareness (I=3) is calculated using the formula: <math>I = 2.33 * \log (C/OT_{50}) + 0.5</math>. A correction factor of 1.33 is applied to this value)            The LOA lies below the LBW, AGW, and VRW values.</p>

<b>Other standards and guidelines (1h values in mg/m<sup>3</sup>, unless otherwise indicated)<sup>b</sup></b>			
<b>VRW level</b> 510	<b>AEGL-1</b> -	<b>ERPG-1</b> 654	<b>IDLH:</b> -
<b>AGW level</b> 3600	<b>AEGL-2</b> -	<b>ERPG-2</b> 3270	
<b>LBW level</b> NR	<b>AEGL-3</b> -	<b>ERPG-3</b> 13,080	

<sup>a</sup> API (American Petroleum Institute). 1994. Odor threshold studies performed with gasoline and gasoline combined with MTBE, ETBE and TAME, with cover letter dated 02/22/95. API Publication 4592, prepared by TRC Environmental, Windsor, CT. OTS0557644, available from the National Technical Information Service, Springfield, VA.

<sup>b</sup> Note that the ERPG values as presented here (in mg/m<sup>3</sup>) are derived using the conversion factors of the ERPG.