Octanol (1-)

Botanical Source

Synonyms OCTAN-1-OL,OCTYL ALCOHOL,CAPRYL ALCOHOL,CAPRYLIC ALCOHOL (n-),HEPTYL CARBINOL,ALCOHOL C8

IUPAC Name

CAS Reference 111-87-5

E Number

Food Legislation

Council of Europe (CoE)	
Number	Comment
54	Listed by the Council of Europe as acceptable for use in food at up to 5 ppm.

US Food and Drug Administration	
Number	Comment
172.515	Approved by the US FDA. FDA 21 CFR 172.515

Joint FAO/WHO Expert Committee on Food Additives (JECFA)		
Number	ADI	Comment
97	No Safety concern @ intake	No safety concern at current levels of intake when used as a flavouring agent.

FEMA	
FEMA No.	Comment
2800	

Natural Occurrence and Use in Food
Found in apple, apricot, blueberry, cantaloupe, celery, cherry, fish, grape, mushroom, pear, peas, strawberry; used in chewing gum, beverages, ice cream, baked goods, candy.

Estimated Intake From Food and Drink	
Daily Intake mg/kg/day	FEMA Possible Average Daily
5	1.349

Tobacco Legislation

Tobacco				
Country	Cigarettes	RYO	Cigars	Pipe
Afghanistan				
Algeria				
Argentina				
Australia				
Bahrain				
Brazil				
Burundi				
Canada				
Comoros				
Djibouti				
EEC				
Egypt				
Eritrea				
EU TPD2				
Fiji				
France	Y	Y	Y	Y
GCC (Bahrain,				
Germany	Y	Y	Y	Y
Hong Kong				
Hungary	Y	Y	Y	Y
Iceland				
Iran				
Iraq				
Jordan				
Kazakhstan				
Kuwait				
Latvia				
Libya				
Macedonia				
Madagascar				

Malaysia				
Maldives				
Mexico				
Moldova				
Montenegro				
New Zealand				
Nigeria				
Norway				
Pakistan				
Palestine				
Papua New Guinea				
Rwanda				
Samoa				
Saudi Arabia				
Serbia				
Solomon Island				
Somalia				
Somaliland				
South Sudan				
Sri Lanka				
Sweden				
Switzerland	Y	Y	Y	Y
Syria				
Tunisia				
Turkey				
UK				0.001
United Arab				
Uzbekistan				
Vietnam				

Y=Permitted for use in tobacco products. If use is limited, the maximum permitted level is given.

Tobacco Product related Chemical and Biological Studies

Smoke Chemistry		
Published Source	Level Tested %	Comment
BAT	0.00100	At maximum application level this ingredient is not associated with significant increases in levels of Hoffmann analytes in smoke.

Ames Activity		
Published Source	Level Tested %	Comment
BAT	0.00100	Within the sensitivity and specificity of the system the Ames activity of the cigarette smoke condensate was not increased by the addition of the ingredient.

Micronucleus		
Published Source	Level Tested %	Comment
BAT	0.00100	Within the sensitivity of the in vitro micronucleus assay the activity of the cigarette smoke condensate was not increased by the addition of the ingredient.

Neutral red		
Published Source	Level Tested %	Comment
BAT	0.00100	Within the sensitivity of the test system the in vitro cytotoxicity of the cigarette smoke condensate was not increased by the addition of the ingredient.

Inhalation		
Published Source	Level Tested %	Comment
BAT	0.00100	The results indicate that the addition of the ingredient had no discernible effect on the inhalation toxicity of mainstream smoke.

Mouse Skin Painting		
Published Source	Level Tested %	Comment

Toxicological Data on the Unburnt Ingredient

[+ve positive; -ve, negative; ? equivocal

With, with metabolic activation; without, without metabolic activation]

In vitro Studies

Species	Test Conditions	End Point	Results	Reference
Mouse lymphoma L5178Y cells.	Cells treated with 1-octanol, with and without S9 . Dose: 0.1 mg/ml.	Mutation.	-ve.	Heck et al, 1989; JECFA, 1998
Chinese hamster, lung V79 cells.	Cells were treated with n-octanol and the induction of aneuploidy (3 hours) and c-mitosis (30 min) was assessed . Dose: 0.0008 M [0.104 mg/ml].	Changes in chromosome number – aneuploidy; effect on cell division – c-mitosis (spindle–disturbing activity).	+ve. The number of cells with >22 chromosomes was 20/183 in the test cultures [10.9%] compared to 25/500 and 29/592 in the control cultures (5 and 4.9 % respectively) ($p<0.01$).	Önfelt, 1987
Chinese hamster V79 cells.	V79 cells treated with n-octanol alone or prior to treatment with N-methyl-N-nitrosourea (NMU, a known genotoxin). Dose: 0, 0.0001 or 0.001 mol/l [0.013 or 0.13 mg/ml].	Chromosome damage.	-ve	Stahl et al, 1981
Salmonella typhimurium, strains TA98, TA100, TA1535, TA1537 and TA1538.	Bacterial reverse mutation (Ames) test with and without S9 . Dose: 2 µl/plate [1.7 mg/plate].	Mutation.	-ve.	Heck et al, 1989, JECFA, 1998
Salmonella typhimurium, strains TA98, TA100, TA1535, TA1537 and TA1538.	Bacterial reverse mutation (Ames) test, with and without S9, using an in-house protocol similar to OECD test guideline 471. Study material Lorol C8 (>90% 1-octanol) suspended in Tween 80/aqueous. Dose 0.004, 0.020, 0.1, 0.5 and 2.5 mg/plate.	Mutation.	-ve. Cytotoxicity at The top two concentrations.	IUCLID 2000 ; OECD, 2006; Soap and Detergent Association, 2008
Salmonella typhimurium, strains TA98, TA100, TA1535 and TA1537; Escherichia coli, strain WP2uvrA.	Bacterial reverse mutation (Ames) test with and without S9. Dose: Up to 5 mg/plate.	Mutation.	-ve. Toxicity in all strains at 0.0781 mg/plate and above, and no bacterial survival at 0.313 mg/plate and above.	JETOC, 1997
Salmonella typhimurium, strains TA98 and TA100.	Bacterial reverse mutation (Ames) test, with and without S9, using Kalkohl 0898 (>90% 1-octanol). Dose 0.050, 0.158, 0.5, 1.58, 5 mg/plate.	Mutation.	-ve. No cytotoxicity at any of the tested concentrations .	OECD, 2006 ; Soap and Detergent Association, 2008.
Chick embryo.	Up to 50 chick embryos injected at 72-hour incubation with n-octanol (>90%) in olive oil. The control group received olive oil. Dose 0.05 M [6.5 mg/ml].	Teratogenicity.	No significant teratogenic potential. Malformations were observed in 6.45% of the treated embryos versus 7.9% of the controls.	Soap and Detergent Association, 2008

In vivo Studies

Species	Test Conditions	End Point	Results	Reference
Mouse, Swiss OF1.	Mice were exposed 1-octanol vapour for 5 minutes . Dose: Not specified.	Respiratory irritation.	RD50 (concentration required to evoke a 50% reduction in respiratory rate) 50 ppm [266	Muller and Greff, 1984; Schaper, 1993; Bos

			mg/m3].	et al, 1992
Human.	A [single or repeated] 48-hour covered application(s) of 1-octanol in petrolatum to the skin of 25 human volunteers in a maximization test [for skin sensitization]. Dose: 2%.	Skin irritation.	No skin irritation.	Opdyke, 1973
Human.	Two 4-hour covered patch-tests in which 0.2 ml octanol was applied to the skin of 28 and 27 volunteers, respectively. Skin was assessed 24, 48 and 72 hours after patch removal. Dose: 99%.	Skin irritation.	Positive reactions were observed in 5/28 [18%] and 4/27 [15%] subjects.	Basketter et al, 1997; 2004; Griffiths et al, 1997
Human.	Application of undiluted octanol to the skin of 12 volunteers (24-hour covered contact). Skin was assessed at 24-hour intervals for 5 days. Dose 100%.	Skin irritation.	Not irritating.	Katz, 1946
Rabbit, New Zealand White.	0.5ml of a C8 alcohol (Kalcohl 0898; >90% 1-octanol) was applied under 4-hour semi-occlusive contact to the skin of three female rabbits. The other flank of each animal was used as the control site. Skin was scored using Draize system and examined at 1, 24, 48 and 72 hours post application and then at 7, 10, 13 and 16 days. Study conducted to OECD test guideline 404 and to GLP. Dose >90%.	Skin irritation.	Slightly irritating. Draize Score: Erythema: Individual mean 24+48+72 hour scores 1.0, 2.0 and 1.3; group mean 24+48+72 hour score 1.43; oedema: all scores 0. Erythema had subsided by day 7.	Soap and Detergent Association, 2008; OECD, 2006
Rabbit, New Zealand white.	Undiluted 1-octanol (Alfol® 8; >90% 1-octanol) was applied under 24-hour covered contact to intact or abraded rabbit skin. Groups of 2 male and 2 females were exposed to 1000 and 4000 mg/kg bw and a group of 4 males and 4 females was exposed to 2000 mg/kg bw. The animals were observed for 14 days and all decedents and survivors were subject to gross examination. There was no control group. Dose: 100% (1000, 2000 and 4000 mg/kg bw).	Skin irritation, mortality, clinical signs of systemic toxicity, body weight.	Severe skin irritation. Slight to severe erythema and oedema, particularly in animals with abraded skin. Microscopic examination revealed severe skin damage with maceration and erosion of the abdominal skin and musculature. Intact skin LD50 2000 - 4000 mg/kg bw. Abraded skin LD50 1000-2000 mg/kg bw. Combined intact and abraded skin LD50 2000 mg/kg bw. Generalized weakness and inactivity were recorded in most animals following exposure to 1-octanol. Death occurred within 4 days of treatment. The number of deaths at 1000, 2000 and 4000 mg/kg bw, for intact skin were 0/2, 1/4 and 2/2 and for abraded skin 0/2, 3/4 and 2/2. In the dead animals, post mortem examination revealed severe skin damage with maceration and erosion of the abdominal skin and muscles. Blanching and multiple focal haemorrhages of the	Soap and Detergent Association, 2008

			gastric mucosa, liver friability, moderate haematuria [blood in the urine] and a slight accumulation of amber, watery peritoneal fluid. In the surviving animals body weight showed “moderate to severe loss” in 2 animals, was unchanged in 3 others and showed “slight to moderate gain” in three others. “Rabbits surviving to 14 days showed moderate to marked peeling of the skin (desquamation), severe erosion and multiple focal haemorrhages of the gastric mucosa and slight accumulation of clear or amber viscous fluid in the peritoneal cavity.”	
Rabbit.	Draize skin irritation test in which octyl alcohol was applied under a 4-hour semi-occlusive patch to the clipped skin of 6 rabbits; reaction scored for erythema/eschar and oedema at 24, 48 and 72 hours. Dose Not specified.	Skin irritation.	Primary index (PII) = 5.3. [Primary irritation score is the average erythema and oedema scores (each on a scale of 0-4) read at 1, 24, 48 and 72 hours; a score of ≥5 for the undiluted material indicates “primary skin irritant.”]	Kodithala et al, 2002
Mouse, HR/De.	0.1 ml neat or diluted n-octyl alcohol (purity >98%) was applied under 24-hour covered contact to the skin of groups of 3 hairless mice. The skin reaction was read 1, 24 and 48 hours after patch removal. Dose17/09/2020 20, 50 or 100%.	Skin irritation.	Skin irritation scores were 5.7 at 100%; 3.2, 2.0 and 1.7 at 50% (in squalene, triethyl citrate [TEC] and castor oil respectively) and 2.1 at 20% (in squalene). [Primary irritation score is the average erythema and oedema scores (each on a scale of 0-4) read at 1, 24, 48 and 72 hours; a score of ≥5 for the undiluted material indicates “primary skin irritant.”]	Iwata et al, 1987
Rabbit, New Zealand White.	0.1 ml undiluted Kalcol 0898 (>90% 1-octanol) was instilled into one eye of 3 female rabbits and left without rinsing. The untreated eye acted as the control. The animals were observed for 22 days and the eyes scored at 24, 48 and 72 hours. Study performed to OECD test guideline 405 and to GLP. Dose: >90%.	Eye irritation.	Irritating. Average scores (24, 48 and 72 hours post-treatment): Cornea: Individual scores 2, 1, 1 (group mean 1.33); Iris: 1, 1, 1 (group mean 1.0); Conjunctivae (redness): 2.3, 1.7, 1.3 (group mean 1.8); Conjunctivae (chemosis): 1, 1.3, 0.7 (group mean 1.0). An inflamed iris (iritis), slight to moderate conjunctivitis and areas of very slight/slight corneal opacity were observed during the first 72 hours. Very slight conjunctivitis observed in all 3 animals at days 8 and 15, persisted in 2	Soap and Detergent Association, 2008; OECD, 2006

			animals until day 22. Iritis persisted in one animal until day 22. Swollen lower eyelids were evident in 2 rabbits at 72 hours remained until day 8 in one animal.	
Rabbit, New Zealand White.	0.1 ml of the undiluted test material (>90% 1-octanol) was instilled into one eye of 3 rabbits and the eye left unrinsed. The untreated eye acted as the control. The animals were observed for 21 days and the eyes scored at 24, 48 and 72 hours. Study performed to OECD test guideline 405. Dose: >90%.	Eye irritation.	Irritating. Average scores (24, 48 and 72 hours post-treatment): Cornea: Individual 1, 2, 2 ;Mean 1.7 Iris: Individual 0, 1, 1; Mean 0.7 Conjunctivae (redness): Individual 1.7, 2.3, 2.7; Mean 2.2 Conjunctivae (chemosis): Individual 1.7, 3, 2.7; Mean 2.5 Overall irritation score: MMAS (modified maximum average score) 41.0 Eye symptoms had resolved by day 14.	ECETOC, 1998
Rabbit, New Zealand White.	0.1 ml of the undiluted test material (>90% 1-octanol) was instilled into one eye of 6 female rabbits and left without rinsing. The untreated eye acted as the control. The animals were observed for 96-hours and scored according to Draize. Study performed to OECD test guideline 405. Dose: >90%.	Eye irritation.	Irritating. Mean scores for 24-, 48- and 72-hour timepoints (also 96-hour mean): Cornea: 2.23 (2) Iris: 0.7 (0.5) Conjunctivae (redness): 2.57 (2) Conjunctivae (chemosis): 1.9 (1) Corneal damage which extended over 75% of affected eye(s) surface at 24 hours was reduced to 5% at 96-hours.	Soap and Detergent Association, 2008
Human.	Maximization test on 25 volunteers with alcohol C-8 in petrolatum . Dose: 2%.	Skin sensitization.	No evidence of skin sensitization.	Opdyke, 1973
Human.	Two groups of 12 male students were exposed to 1-octanol for 4 hours in a 29-m3 laboratory. One group had reported enhanced chemical sensitivity and the other were age-matched controls. In a crossover design, each subject was exposed to each concentration. Symptoms were measured during the first and last hour of exposure with neurobehavioural tests performed throughout. Dose17/09/2020 0.1 or 6.4 ppm [0.53 or 34 mg/m3].	Neurobehavioral effects: tiredness, annoyance (sensory irritation, throat irritation), olfactory symptoms.	Compared to pre-exposure ratings, exposure to 1-octanol elevated mean tiredness rating (statistically significant at the high concentration). Exposure to both concentrations of 1-octanol was associated with statistically-significantly enhanced olfactory symptoms and annoyance. There was a slightly reduced performance in one of the neurobehavioural tasks. Olfactory symptoms [nasal irritation and runny/itchy, burning or dry nose] were reported at both exposure concentrations but decreased in intensity from the beginning to the end of exposure. Exposure to 6.4 ppm statistically significantly increased sensory irritation	van Thriel et al, 2003

			(p<0.0083).	
Human.	Two groups of 12 male students were exposed to 1-octanol for 4 hours. One group had reported enhanced chemical sensitivity and the other were age-matched controls. Heart and breathing rate were measured throughout the exposure. Dose17/09/2020 0.1 or 6.4 ppm [0.53 or 34 mg/m3].	Breathing and heart rates.	Heart and breathing rates were generally unaffected by exposure to atmospheres containing 1-octanol	Haumann et al, 2003
Rat, Sprague-Dawley.	Groups of rats (5/sex/group) were exposed to 1-octanol for 1 or 4 hours and then observed for 7 days. The control group consisted of 2 males and 2 female rats. All test and control animals were subject to gross necropsy and the lungs were examined microscopically. Dose17/09/2020 0, 5600 or 6390 mg/m3.	Mortality, signs of overt toxicity, body weight, microscopic examination of the lungs.	4-hour LC50 >5600 mg/m3. No deaths at 6390 mg/m3 for 1 hour. In total, 3 males but no females exposed to 5600 mgm3 died within 1-2 days treatment. All exposed rats lost body weight and the survivors of the 4-hour exposure did not regain weight until after day 6. Signs of toxicity included salivation, gasping, rapid respiration, inactivity, rales [crackling sound in the lungs], coldness, redness around the eyes and nose, ocular opacity, exophthalmus [protrusion of the eyeball] and anogenital staining. Necrosis of the bronchial epithelium with alveolar oedema and infiltration of alveolar macrophages was observed. Microscopic examination of the lungs of rats exposed for 1 hour revealed no microscopic lesions other than minimal alveolar haemorrhage in 1 male. Lungs from control rats appeared normal. In animals exposed for 4-hour microscopic lesions included necrosis of the bronchial epithelium (4/5 males, 2/5 females), alveolar oedema (4/5 males, 4/5 females) with accumulation of alveolar macrophages (10/10), congestion 2/5 males, 1/5 females), alveolar haemorrhage (1/5 males, 1/5 females), regeneration of the bronchial epithelium (2/5 males, 3/5 females) and alveolar hyperplasia (1/5	Soap and Detergent Association, 2008 ; OECD, 2006

			females). Male rats appeared to be more susceptible to the toxic effects of inhaled 1-octanol than females.	
Rat, Sprague Dawley.	A group of ten male albino rats aspirated 0.2 ml of n-octanol liquid. Control group of 15 animals. Dose: 166 mg/rat [approx. 550 mg/kg bw].	Mortality, macroscopic lung changes and lung weight.	All rats died after a few breaths. Death was attributed to respiratory and/or cardiac failure. Macroscopic examination of the lungs revealed small areas of pulmonary haemorrhage and oedema. Lung weights of exposed animals were approx. twice that of the controls.	Gerarde and Ahlstrom, 1966
Mouse.	2-hour inhalation exposure . Dose: Not specified.	Mortality.	2-hour “TCLo (lowest published toxic concentration)”) 4500 mg/m3.	RTECS, 2011
Rat, Holtzman albino.	Groups of rats (5/sex/group) were given undiluted 1-octanol and observed for 14 days. Test substance identified as Alfol® 8 (99.5% 1-octanol). Dose: 4680, 6600, 9330, 13,170, 18,600 and 26,280 mg/kg bw.	Mortality, overt toxicity.	LD50 18,240 mg/kg bw. All deaths occurred within 24 hours. 1, 5 and 8 deaths were recorded at dose levels of 9330, 18600, and 26,280 mg/kg bw, respectively. No deaths were recorded at the other dose levels. Diarrhoea, weakness, ataxia and malaise in most animals at 9330 mg/kg bw and above. Animals that did not die overnight recovered in ≤6 days. In the animals that died, most had pulmonary and adrenal congestion and some also had slight congestion of the stomach. In the sacrificed animals, body weight gains were normal and gross necropsy was unremarkable. At 26,280 mg/kg bw, there were bloody encrustations around the nostrils.	Soap and Detergent Association, 2008 ; OECD, 2006
Rat.	Test material described as RIFM sample no. 71-7, alcohol-C8 . Dose Up to 5000 mg/kg bw.	Mortality.	LD50 >5000 mg/kg bw.	Opdyke, 1973
Rat, Wistar.	A group of 5/sex was given Lorol 8 (>90% 1-octanol), administered as a 25% aqueous suspension at a constant volume of 20 ml/kg bw, and observed for 14 days. Test performed to OECD test guideline	Mortality, clinical signs of toxicity, necropsy examination.	LD50 >5000 mg/kg bw. No deaths. Slight sedation and piloerection during the first 24 hours post-dosing. No	IUCLID, 2000; OECD, 2006; Soap and Detergent

	401 and to GLP. Dose 5000 mg/kg bw.		remarkable gross pathology and no indication of specific target organ toxicity.	Association, 2008
Mouse.	Not specified .	Mortality.	LD50 1790 mg/kg bw.	OECD, 2006; Soap and Detergent Association, 2008
Mouse.	Not specified .	Mortality.	LD50 15,000 mg/kg bw. Changes in the brain, liver and urinary system are reported in the citing sources.	OECD, 2006 ; Soap and Detergent Association, 2008
Rabbit	Not specified; Dose: Up to 5000 mg/kg bw.	Mortality.	LD50 >5000 mg/kg bw.	Opdyke, 1973
Mouse.	Intravenous injection.	Mortality.	LD50 69 mg/kg bw.	HSDB, 2006
Rat.	Intraperitoneal injection .	Toxicity .	Ataxia at 700 mg/kg bw.	BAuA, 2008
Rat.	“Intermittent” exposure for 107 days .	Not specified	“TCLO (lowest published toxic concentration)” 27 mg/m3. Toxic effects included “recording from peripheral motor nerve”.	RTECS, 2011
Rat.	“Intermittent” exposure for 137 days .	Effect on blood, lungs and kidneys.	“TCLO (lowest published toxic concentration)” 270 mg/m3. Toxic effects included “changes in [blood] circulation”, emphysema and kidney tubules changes.	RTECS, 2011
Mouse.	1-Octanol was administered by oral gavage for one month at a single dose level . Dose: 179 mg/kg bw/day.	Not specified	“No cumulative effects were observed”.	EFSA, 2008 ; JECFA, 1998
Mouse, A/He.	Animals were dosed by intraperitoneal injection, 3 times/week for 8 weeks .	Not specified	MTD (maximum tolerated dose) 500 mg/kg bw.	BAuA, 2008
Rat, white (outbred).	Males (10/control group and probably 10/treatment group) were administered a single dose of octyl alcohol at one-fifth of the acute LD50 by oral gavage and, 48 hours later, bone marrow chromosomes were examined for evidence of polyploidy, gaps or aberrations.	Chromosome damage, changes in chromosome number.	Equivocal. There was no effect on the number of chromosomes or on the incidence of cells with chromosome gaps. There was an increase in the incidence of cells with chromosome aberrations when compared with the controls (2.6% compared with 0 %. Similar results were obtained for a series of about 14 alcohols .	Barilyak and Kozachuk, 1988
Chinese hamster.	Sister chromatid exchange (SCE) assay. One hamster given an intraperitoneal injection of n-octanol (in saline), sacrificed 24 hours later and bone marrow cells assessed for the induction of SCEs. Two control animals were treated with water. The study was carried out as part of an investigation of the effects of n-alkanols on the induction of SCE by NMU (N-methyl, N-nitrosourea, a known genotoxic agent) and NMU acted as a positive control. The experiment	Chromosome damage.	-ve (n-octanol alone).	Stahl and Bayer, 1983

	was repeated with a second animal. Dose 0.001 mol/kg bw [130 mg/kg bw].			
Mouse, Swiss.	Groups of 40 female mice were treated with 20-µl dermal applications of 1-octanol at 20% w/v in cyclohexane [about 3 mg or 100 mg/kg bw/application], 3/week for 60 weeks, starting 1 week after treatment with a known tumour initiator (7,12-dimethylbenz[a]anthracene (DMBA)). Control animals were treated with acetone and were not initiated with DMBA. Dose 3 mg/mouse [approx. 100 mg/kg bw/application].	Skin tumour-promotion study and skin irritation.	Equivocal evidence of carcinogenicity. 1 animal developed a squamous cell carcinoma which led to the investigator claiming a probable weak tumour promoting activity. A further 26 surviving animals showed no tumours. As there was no control group receiving only the initiation treatment, the results do not support this claim . Cutaneous irritation. Depilation and erythema were most severe between weeks 6 and 12. Skin appeared “almost normal after 20 weeks”.	Sicé, 1966
Mouse, A/He strain.	Groups of 15/sex received intraperitoneal injections of octyl alcohol 3 times/week for 8 weeks at the maximum tolerated dose (MTD) and a 1:5 dilution of the MTD. Animals were killed 24 weeks after the start of treatment. A small number of organs were examined at necropsy and the lung tissue was examined microscopically. Two control groups - one untreated and the other injected with purified tricaprylin along with a urethane positive control group were included . Dose 0, 2400, 12,000 mg/kg bw.	Lung tumours.	No evidence of lung carcinogenicity .	Stoner et al, 1973
Rat, Sprague-Dawley.	Groups of about 15 pregnant females were exposed to saturated atmospheres of octyl alcohol at “the maximum concentration that could be generated” for 7 hours/day on days 1-19 of gestation and killed on gestation day 20. At necropsy, a wide range of endpoints of developmental toxicology were recorded. Dose 0 or 400 mg/m3.	Maternal toxicity – body weight gain, feed and water consumption; developmental toxicity resorptions, sex ratio, litter size, foetal weights, resorptions and malformations - external, visceral and skeletal.	NOAEC (maternal and developmental) >400mg/m3 (the only concentration tested).There was no evidence of maternal or developmental toxicity.	Nelson et al, 1990; 1996

Rat, Wistar.	Groups of 8-10 pregnant females/group were given 1-octanol (99.9%) as an aqueous emulsion (containing 0.005% Cremophor EL®) by oral gavage on days 6-15 of gestation and the foetuses examined for skeletal and visceral abnormalities on day 20. There were two control groups – distilled water and distilled water containing the emulsifier 0.005% Cremophor EL®. Dose 0, 1, 5, 7.5 and 10 mmol/kg bw/day [130, 650, 975 and 1300 mg/kg bw/day].	Maternal toxicity – body weight gain, food consumption clinical observations; developmental toxicity - foetal: weight, external, visceral and skeletal abnormalities, variations and retardations, live/dead foetuses, dead implantations, resorptions, conception rate, pre- and post-implantation losses.		Hellwig and Jäckh, 1997

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