

APPENDIX D. GASOLINE BLENDING STREAMS CATEGORY DATA MATRIX

	64741-41-9	64741-46-4	64741-54-4	64741-55-5	64741-63-5	64741-66-8	64741-68-0	64741-70-4	64741-83-9	64741-87-3	68919-37-9	68955-35-1	Unleaded Gasoline (no US TSCA CASRN; EU CASRN 86290-81-5)	Read Across Range to Untested Category Members	
Endpoint	Naphtha, petroleum, heavy straight run	Naphtha, petroleum, light straight-run	Naphtha, petroleum, heavy catalytic cracked	Naphtha, petroleum, light catalytic cracked	Naphtha, petroleum, light catalytic reformed	Naphtha, petroleum, light alkylate	Naphtha, petroleum, heavy catalytic reformed	Naphtha, petroleum, isomerized	Naphtha, petroleum, heavy thermal cracked	Naphtha, petroleum, sweetened	Naphtha, petroleum, full-range reformed	Naphtha, petroleum, catalytic reformed			
							PHYSICAL-CHEMICAL PROPERTIES								
Melting Point ¹ (°C)														-138 - +13.2	
Boiling Point (°C)		49 - 177		37 - 168			37 - 175				39 - 114		58 - 200	34 - 220	37 - 200
Vapor Pressure (hPa)		1290 - 9150	5930	5550	5500			7330 - 7860				4630		1290 - 9150	
Partition Coefficient		2.13 - 4.85		1.23 - 4	2.13 - 4.54	3.11 - 4.54							2.13 - 4.76	2.13 - 4.5	1.23 - 4.85
Water Solubility ¹ (mg/L)															<1 - 2000
							ENVIRONMENTAL FATE								
Photodegradation, OH ⁻ reaction T _{1/2} ¹ (h or d)		0.8 d - 16 d		1.4 h - 16 d	1.5 d - 16 d	1.1 d - 16 d							0.6 d - 16 d	0.8 d - 16 d	1.4 h - 16 d
Stability in Water															"stable", hydrolysis unlikely
Environ. Distribution ¹		97%+ to air		97%+ to air inherently	97%+ to air inherently	99%+ to air inherently							97%+ to air	97%+ to air	97%+ to air
Biodegradation classification	ready														inherently biodegradable
							ENVIRONMENTAL EFFECTS								
Acute Fish (mg/L WAF loading rate)		15 - 18	15	46	2.09 - 34	8.2		10						11 - 16	2.09 - 46
Acute Daphnia (mg/L WAF loading rate)		4.5 - 18	13	18	0.9	32		10						7.6 - 12	0.9 - 32
Algae (mg/L WAF loading rate)		3.6 - 6.4	5.3 - 6.3	64	1.1 - 8.5	45		25 - >50						0.25 - 4.2	1.1 - 64
							HEALTH EFFECTS^{2,3,4}								
Acute (mg/m ³)				LC50 > 5,300		LC50 > 5,000							LC50 > 5,000		LC50 > 5,000
Repeated-Dose (mg/m ³)	LOAEL = 13,650 NOAEL = 2,275			LOAEL: 23,400 NOAEL: 7,700	LOAEL = 27,750 NOAEL = 9,250	LOAEL = 24,300 NOAEL = 8,102								LOAEL = 6,572 NOAEL = 1,507	LOAEL: 6,572 - 27,800 NOAEL: 1,507 - 10,153
Genotoxicity, <i>in vitro</i>	n.d.			negative		negative							negative ⁵	negative	negative ⁵
Genotoxicity, <i>in vivo</i>	n.d.			negative		negative							negative	negative	negative
Reproductive toxicity (mg/m ³)	NOAEL > 13,773			NOAEL >27,000	NOAEL >27,750	NOAEL > 25,000							NOAEL > 27750	NOAEL > 20,004	NOAEL: 13,650 - 27,750
Developmental toxicity (mg/m ³)	NOAEL > 13,773			NOAEL >27,000	NOAEL >27,750	NOAEL > 25,000							NOAEL > 5,970	NOAEL > 5,970	NOAEL: 5,970 - 27,750
Carcinogenicity (mg/m ³) Inhalation														rats - negative mice - positive	no read across
Dermal (mouse skin painting)			positive	positive		negative	negative		positive	negative				negative	no read across

js/lt 18-July-08

blank cells = no data; value will be read across range

¹ Level 1 fugacity model output. Range of values based upon characteristics of individual hydrocarbon constituents.

² all studies via inhalation in rats unless otherwise noted

³ male rat light hydrocarbon nephropathy excluded for NOAEL and LOAEL determinations: Halder *et al.*, 1984 studies excluded for this reason

⁴ NOTE - when multiple studies for one CASRN, used key study

⁵ Untested streams with an aromatic content greater than 60% can be classified as negative without metabolic activation and equivocal/positive with metabolic activation.