# **APPENDIX 1**

# SUMMARY TABLES OF GENETIC AND RELATED EFFECTS

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#### Summary table of genetic and related effects of carbon black

Non-mai	Non-mammalian systems			Mammalian systems				
Proka- ryotes	Lower eukaryotes	Plants Insects		In vitro		In vivo		
	* *			Animal cells	Human cells	Animals	Humans	
DG	DRGA	DGC RG	СА	DGSMCATI	DGSMCATI	DGSMCDLA	DSMCA	
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A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +' considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- considered to be negative, but only one valid study was available to the Working Group

Non-mai	Non-mammalian systems		Mammalian systems					
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vitro In vivo		
				Animal cells	Human cells	Animals	Humans	
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	D G S M C DL A	DSMCA	
- +			_	+' +'		+		

#### Summary table of genetic and related effects of 2-chloronitrobenzene

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +' considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- considered to be negative, but only one valid study was available to the Working Group

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#### Summary table of genetic and related effects of 3-chloronitrobenzene

Non-mammalian systems		Mammalian systems					
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		tro In vivo	
				Animal cells	Human cells	Animals	Humans
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	D G S M C DL A	DSMCA
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A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +' considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- -' considered to be negative, but only one valid study was available to the Working Group
- ? considered to be equivocal or inconclusive (e.g. there were contradictory results from different laboratories; there were confounding exposures; the results were equivocal)

Non-mar	Non-mammalian systems		Mammalian systems				
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vivo	
				Animal cells	Human cells	Animals	Humans
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	D G S M C DL A	DSMCA
_' +			_	+ +' +		+1	

## Summary table of genetic and related effects of 4-chloronitrobenzene

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +' considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- -' considered to be negative, but only one valid study was available to the Working Group

Non-mammalian systems		Mammalian systems						
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vitro In vivo		
				Animal cells	Human cells	Animals	Humans	
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	DGSMCDLA	DSMCA	
+ +				-' +'		+'		

## Summary table of genetic and related effects of 3,7-dinitrofluoranthene

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

+ considered to be positive for the specific end-point and level of biological complexity

+' considered to be positive, but only one valid study was available to the Working Group

- considered to be negative
- considered to be negative, but only one valid study was available to the Working Group

Non-mammalian systems		Mammalian systems						
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vitro In vivo		
				Animal cells	Human cells	Animals	Humans	
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	DGSMCDLA	DSMCA	
+ +				~1 +1		+'		

## Summary table of genetic and related effects of 3,9-dinitrofluoranthene

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +' considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- -' considered to be negative, but only one valid study was available to the Working Group

## Summary table of genetic and related effects of 2,4-dinitrotoluene (technical grade)

Non-mammalian systems		Mammalian systems						
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vitro In vivo		
				Animal cells	Human cells	Animals	Humans	
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	D G S M C DL A	DSMCA	
+				-''+'		+ +		

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- + considered to be positive, but only one valid study was available to the Working Group
- considered to be negative

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- considered to be negative, but only one valid study was available to the Working Group

Non-mammalian systems		Mammalian systems					
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vivo	
		•		Animal cells	Human cells	Animals	Humans
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	DGSMCDLA	DSMĊA
+ +			? —'	- ? + <sup>1</sup> - <sup>1</sup> - <sup>1</sup> ?	1	+	

## Summary table of genetic and related effects of 2,4-dinitrotoluene (high purity)

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +' considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- considered to be negative, but only one valid study was available to the Working Group

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#### Summary table of genetic and related effects of 2,6-dinitrotoluene

Non-mammalian systems		Mammalian systems					
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vivo	
				Animal cells	Human cells	Animals	Humans
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	D G S M C DL A	DSMCA
+				+'' ?		+	

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +<sup>1</sup> considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- considered to be negative, but only one valid study was available to the Working Group
- ? considered to be equivocal or inconclusive (e.g. there were contradictory results from different laboratories; there were confounding exposures; the results were equivocal)

Non-mar	nmalian systems			Mammalian systems			
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vivo	
				Animal cells	Human cells	Animals	Humans
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	D G S M C DL A	DSMCA
+				_1 _1		_	

#### Summary table of genetic and related effects of 3,5-dinitrotoluene

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +' considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- considered to be negative, but only one valid study was available to the Working Group

## Summary table of genetic and related effects of 2-nitroanisole

Non-mai	nmalian systems	ş		Mammalian systems			
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vivo	
				Animal cells	Human cells	Animals	Humans
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	D G S M C DL A	DSMCA
+' +				+' +' +'			

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +' considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- considered to be negative, but only one valid study was available to the Working Group

Non-mar	nmalian systems			Mammalian systems			
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vivo	
				Animal cells	Human cells	Animals	Humans
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	DGSMCDLA	DSMCA
_					_1	_''	

## Summary table of genetic and related effects of nitrobenzene

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- + considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- -<sup>1</sup> considered to be negative, but only one valid study was available to the Working Group

Non-mai	nmalian systems	an Marana an Alin da an Ang Ang Ang Ang Ang Ang Ang Ang Ang An		Mammalian systems			a ha a sa an ann an a
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro In		In vivo	
				Animal cells	Human cells	Animals	Humans
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	D G S M C DL A	DSMCA
_1				- +' -	_1	+	

#### Summary table of genetic and related effects of 2-nitrotoluene

A. aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +<sup>t</sup> considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- -<sup>1</sup> considered to be negative, but only one valid study was available to the Working Group

Non-mar	ammalian systems Mam		Mammalian systems				
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vivo	
				Animal cells	Human cells	Animals	Humans
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	D G S M C DL A	DSMEA
				- +' -		_	

## Summary table of genetic and related effects of 3-nitrotoluene

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- + considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- $-^1$  considered to be negative, but only one valid study was available to the Working Group

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#### Summary table of genetic and related effects of 4-nitrotoluene

Non-mai	mmalian systems			Mammalian systems				
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vivo		
				Animal cells	Human cells	Animals	Humans	
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	DGSMCDLA	DSMCA	
+' +				- +' +' +'		1		

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

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- +' considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- -' considered to be negative, but only one valid study was available to the Working Group

Non-mai	mmalian systems			Mammalian systems			
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vivo	
				Animal cells	Human cells	Animals	Humans
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	D G S M C DL A	DSMCA
+				+' +'			

#### Summary table of genetic and related effects of tetranitromethane

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +<sup>1</sup> considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- $-^{1}$  considered to be negative, but only one valid study was available to the Working Group

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## Summary table of genetic and related effects of 2,4,6-trinitrotoluene

Non-mar	nmalian systems		<del>,</del>	Mammalian systems			
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vivo	
				Animal cells	Human cells	Animals	Humans
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	DGSMCDLA	DSMCA
+				+'		1 1	

A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +' considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- considered to be negative, but only one valid study was available to the Working Group

## Summary table of genetic and related effects of musk ambrette

Non-mai	Non-mammalian systems Ma			Mammalian systems				
Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro I		In vivo		
				Animal cells	Human cells	Animals	Humans	
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	D G S M C DL A	DSMCA	
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A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

- + considered to be positive for the specific end-point and level of biological complexity
- +' considered to be positive, but only one valid study was available to the Working Group
- considered to be negative
- considered to be negative, but only one valid study was available to the Working Group

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#### Summary table of genetic and related effects of musk xylene

Proka- ryotes	Lower eukaryotes	Plants	Insects	In vitro		In vivo	
				Animal cells	Human cells	Animals	Humans
DG	DRGA	DGC	RGCA	DGSMCATI	DGSMCATI	D G S M C DL A	DSMCA
-							
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A, aneuploidy; C, chromosomal aberrations; D, DNA damage; DL, dominant lethal mutation; G, gene mutation; I, inhibition of intercellular communication; M, micronuclei; R, mitotic recombination and gene conversion; S, sister chromatid exchange; T, cell transformation

In completing the table, the following symbols indicate the consensus of the Working Group with regard to the results for each end-point:

Mammalian systems

- considered to be positive for the specific end-point and level of biological complexity +
- considered to be positive, but only one valid study was available to the Working Group +
- considered to be negative -----

Non-mammalian systems

considered to be negative, but only one valid study was available to the Working Group \_\_'

considered to be equivocal or inconclusive (e.g. there were contradictory results from different laboratories; there were confounding exposures; the results were equivocal) ?

APPENDIX I