

LIST OF ABBREVIATIONS

εA	1, <i>N</i> ⁶ -ethenoadenine adduct
A1	<i>N</i> ³ -(2-hydroxy-3-buten-1-yl)adenine adduct
A2	<i>N</i> ³ -(1-hydroxy-3-buten-2-yl)adenine adduct
ACGIH	American Conference of Government Industrial Hygienists
ADH	alcohol dehydrogenase
AGT	<i>O</i> ⁶ -alkylguanine–DNA alkyltransferase
ALARA	as low as reasonably achieved
ALDH	aldehyde dehydrogenase
AML	acute myelogenous leukaemia
ASL	angiosarcoma of the liver
ASTM	American Society for Testing and Materials
ATSDR	Agency for Toxic Substances and Disease Registry
BD	butadiene
BDT	<i>N</i> ⁶ -(2,3,4-trihydroxybutyl)-2'-deoxyadenosyl
bw	body weight
εC	3, <i>N</i> ⁴ -ethenocytosine adduct
CA	chromosomal aberrations
CD	circular dichroism
CDC	Centers for Disease Control and Prevention
CERM	cumulative exposure rank months
CI	confidence interval
CLL	chronic lymphocytic leukaemia
CMAI	Chemical Marketing Associates International
CML	chronic myelogenous leukaemia
CNS	central nervous system
CONCAWE	Conservation of Clean Air and Water in Europe
CT	computed tomography
CYP	cytochrome P450
DEB	diepoxybutane
dG	deoxyguanine
dGMP	desoxyguanosine monophosphate
DHB	4-(<i>N</i> -acetyl-L-cystein- <i>S</i> -yl)-1,2-dihydroxybutane

DHBMA	1,2-dihydroxybutyl mercapturic acid
DMDTC	dimethyldithiocarbamate
DMF	dimethylformamide
dsDNA	double-stranded DNA
DOL CL	Department of Labour – ceiling limits
dTTP	deoxythymidine triphosphate
EB	epoxybutene
EBD	epoxybutane diol
ECD	electron capture detection
ECETOC	European Centre of Ecotoxicology and Toxicology of Chemicals
EH	epoxide hydrolase
<i>Ephx</i>	epoxide hydrolase gene
exp.	expected
F	female
FAB	positive ion fast atom bombardment
FID	flame ionization detection
FISH	fluorescence in-situ hybridization
1, <i>N</i> ² -εG	1, <i>N</i> ² -ethenoguanine adduct
<i>N</i> ² ,3-εG	<i>N</i> ² ,3-ethenoguanine adduct
G	guanosine
G1	<i>N</i> 7-(2-hydroxy-3-buten-1-yl)guanine adduct
G2	<i>N</i> 7-(1-hydroxy-3-buten-2-yl)guanine adduct
G3	<i>N</i> 7-(1,3,4-trihydroxybut-2-yl)guanine adduct
G4	<i>N</i> 7-(2,3,4-trihydroxybut-1-yl)guanine adduct
GC	gas chromatography
GSH	glutathione
GST	glutathione- <i>S</i> -transferase
HB	4-(<i>N</i> -acetyl-L-cystein- <i>S</i> -yl)-1-hydroxy-2-butanone
HBsAg	hepatitis B virus surface antigen
HBV	hepatitis B virus
HCC	hepatocellular carcinoma
3-HEA	<i>N</i> 3-(2-hydroxyethyl)adenine adduct
3-HEdU	<i>N</i> 3-(2-hydroxyethyl)-2'-deoxyuridine adduct
7-HEG	<i>N</i> 7-(2-hydroxyethyl)guanine adduct
<i>O</i> ⁶ -HEG	<i>O</i> ⁶ -(2-hydroxyethyl)guanine
HEMA	<i>N</i> -acetyl- <i>S</i> -(2-hydroxyethyl)cysteine; <i>S</i> -(2-hydroxyethyl)mercapturic acid
HEP	liver hepatocytes
HMVK	hydroxymethylvinyl ketone
HO-ethanoG	5,6,7,9-tetrahydro-7-hydroxy-9-oxoimidazo[1,2- <i>a</i>]purine
HPLC	high-performance liquid chromatography

<i>HPRT</i>	human hypoxanthine-guanine phosphoribosyl transferase gene
<i>Hprt</i>	rodent hypoxanthine-guanine phosphoribosyl transferase gene
ICD	International Classification of Diseases
IDLH	immediate danger to life or health
IL	interleukin
JEM	job-exposure matrix
JSOH	Japanese Society of Occupational Health
K_m	Michaelis-Menten constant
K_{oc}	organic carbon partition coefficient
LC	liquid chromatography
LC/MS	liquid chromatography in combination with tandem mass spectrometry
LFC	lowest feasible concentration
LH	lymphohaemopoietic
LOD	limit of detection
M	male
MAC	maximum acceptable concentration; maximum allowed concentration
MAK	maximum allowed concentration
mEH	microsomal epoxide hydrolase
MHBMA	monohydroxy-3-butenyl mercapturic acid
MHbVal	<i>N</i> -(2-hydroxy-3-butenyl)valine
MI (or M-I or M1)	1,2-dihydroxybutyl mercapturic acid
MII (or M-II or M2)	monohydroxy-3-butenyl mercapturic acid
MN	micronuclei
MS	mass spectrometry
NADPH	nicotinamide adenine dinucleotide phosphate
ND	not detected
NHL	non-Hodgkin lymphoma
NI	no information
NIOSH	National Institute of Occupational Safety and Health
NMR	nuclear magnetic resonance
NOES	National Occupational Exposure Survey
NPC	non-parenchymal cells
NR	not reported
NS	not significant
7-OEG	<i>N</i> 7-(2-oxoethyl)guanine adduct
PCR	polymerase chain reaction
PEL	permissible exposure limit
P_{ow}	octanol/water partition coefficient
PVC	polyvinyl chloride

PVF	polyvinyl fluoride
PyrVal	<i>N,N</i> -(2,3-dihydroxy-1,4-butadiyl)valine
REL	recommended exposure limit
SBR	styrene–butadiene rubber
SCE	sister chromatid exchange
SD	standard deviation
SE	standard error
SEER	Surveillance, Epidemiology and End Result
SIDS	Screening Information Dataset
SIM	single-ion monitoring
SIR	standardized incidence ratio
SMR	standardized mortality ratio
SPME	solid-phase microextraction
STEL	short-term exposure limit
ssDNA	single-stranded DNA
THBG	trihydroxybutylguanine
THbVal	<i>N</i> -(2,3,4-trihydroxybutyl) valine
<i>TK</i>	human thymidine kinase gene
<i>Tk</i>	rodent thymidine kinase gene
TLV	threshold limit value
TPA	12- <i>O</i> -tetradecanoylphorbol-13-acetate
TRK	technical guidance concentration
TWA	time-weighted average
UV	ultraviolet
VC	vinyl chloride
VCM	vinyl chloride monomer
V_{\max}	maximum velocity
XPD	xeroderma pigmentosum group D
XRCC1	X-ray cross-complementing group