

**Acronyms and Abbreviations**

A	adenine	G	guanine
AA	aristolochic acid	GST	glutathione S-transferase
AAN	aristolochic acid nephropathy	GST-P+	glutathione S-transferase placental form positive
ACGIH	American Conference of Governmental Industrial Hygienists	GSTT1	glutathione S-transferase theta 1
ADH	alcohol dehydrogenase	h	hour(s)
AIDS	acquired immunodeficiency syndrome	HAART	highly active antiretroviral therapy
ALT	alanine transaminase	HAM/TSP	HTLV-1-associated myelopathy/tropical spastic paraparesis
ANSI	American National Standards Institute	HBeAg	hepatitis B e antigen
AP1	activator protein 1	HBsAg	hepatitis B surface antigen
AST	American Society of Transplantation	HBV	hepatitis B virus
ATLL	adult T-cell leukemia/lymphoma	HBZ	HTLV-1 basic leucine zipper factor
ATSDR	Agency for Toxic Substances and Disease Registry	HCA	heterocyclic amine
BEI	biological exposure index	HCT/Ps	human cells, tissues, and cellular and tissue-based products
BEN	Balkan endemic nephropathy	HCV	hepatitis C virus
BOP	Bureau of Prisons	HHE	Health Hazard Evaluation
BRCA	breast cancer susceptibility proteins	HHV	human herpesvirus
b.w.	body weight	HHS	Health and Human Services
C	cytosine	HIF-1 $\alpha$	hypoxia-inducible factor 1 alpha
cART	combined antiretroviral therapy	HIV	human immunodeficiency virus
CAS	Chemical Abstracts Service	HIVMA	HIV Medicine Association
CAS No.	Chemical Abstracts Service Registry number	HpCDD	heptachlorodibenzo- <i>p</i> -dioxin
CDC	Centers for Disease Control and Prevention	HPLC	high performance liquid chromatography
CFR	Code of Federal Regulations	HPV	human papillomavirus
CHO	Chinese hamster ovary	HRSA	Health Resources and Services Administration
CI	confidence interval	HTLV-1	human T-cell lymphotropic virus type 1
CIN	cervical intraepithelial neoplasia	HUD	Housing and Urban Development
C.I.	Colour Index	HxCDD	hexachlorodibenzo- <i>p</i> -dioxin
CoCrMo	cobalt-chromium-molybdenum	IARC	International Agency for Research on Cancer
COX	cyclooxygenase	IDLH	immediately dangerous to life and health
CPSC	Consumer Product Safety Commission	IDSA	Infectious Diseases Society of America
CYP	cytochrome P450	IgG	immunoglobulin G
2,4-D	2,4-dichlorophenoxyacetic acid	IL	interleukin
dA-AAI	7-(deoxyadenosin- <i>N</i> 6-yl)-aristolactam I	IRIS	Integrated Risk Information System
dA-AAII	7-(deoxyadenosin- <i>N</i> 6-yl)-aristolactam II	ISO	International Organization for Standardization
DDD	1,1-dichloro-2,2-bis( <i>p</i> -chlorophenyl)ethane	JAK/STAT	Janus kinase/signal transducers and activators of transcription
DDE	1,1-dichloro-2,2-bis( <i>p</i> -chlorophenyl)ethylene	JM	Johns Manville
DDT	dichlorodiphenyltrichloroethane	$K_{dis}$	dissolution rate
dec	decomposes	$K_{ow}$	octanol-water partition coefficient
dG	deoxyguanosine	KSHV	Kaposi sarcoma-associated herpesvirus
dG-AAI	7-(deoxyguanosin- <i>N</i> 2-yl)-aristolactam I	LET	linear energy transfer
dG-AAII	7-(deoxyguanosin- <i>N</i> 2-yl)-aristolactam II	LMP	latent membrane protein
DHHS	Department of Health and Human Services	LT	large T antigen
DHP	dihydropyrrrolizine	MAP	mitogen-activated protein
DHS	Department of Homeland Security	MCA 38	murine colon adenocarcinoma cell line
DMDTC	dimethyldithiocarbamate	MCL	maximum contaminant level
DNA	deoxyribonucleic acid	MCPyV	Merkel cell polyomavirus
DNase	deoxyribonuclease	MCV	Merkel cell polyomavirus
DNT	dinitrotoluene	min	minute(s)
DOE	Department of Energy	MMVF	man-made (or machine-made) vitreous fibers
DoD	Department of Defense	mol wt	molecular weight
DOT	Department of Transportation	mRR	meta-relative risk
DVA	Department of Veterans Affairs	N/A	not applicable
EBNA	Epstein-Barr nuclear antigen	NAC/AEGL	National Advisory Committee for Acute Exposure Guideline Levels for Hazardous Substances
EBV	Epstein-Barr virus	NADPH	nicotinamide adenine dinucleotide phosphate, reduced form
ed.	edition, editor(s)	NAICS	North American Industrial Classification System
EPA	Environmental Protection Agency, United States	NCI	National Cancer Institute
F344	Fischer 344 (rats)	ND	not detected
FANC	Fanconi anemia complementation group proteins		
FDA	Food and Drug Administration, United States		

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NextGen	Advancing the Next Generation of Risk Assessment	TPQ	threshold planning quantity
NF	nuclear factor	TRI	Toxics Release Inventory
NF- $\kappa$ B	nuclear factor kappa-light-chain-enhancer of activated B cells	TSCA	Toxic Substances Control Act
NHANES	National Health and Nutrition Examination Survey	TSNA	tobacco-specific nitrosamine(s)
NHL	non-Hodgkin lymphoma	TURA	Toxics Use Reduction Act
NIEHS	National Institute of Environmental Health Sciences	TWA	time-weighted average
NIH	National Institutes of Health	USAI	United States of America Standards Institute
NIOSH	National Institute for Occupational Safety and Health	USDA	United States Department of Agriculture
NK	natural killer	UV	ultraviolet
NNK	4-( <i>N</i> -nitrosomethylamino)-1-(3-pyridyl)-1-butanone	UVR	ultraviolet radiation
NNN	<i>N</i> -nitrosornicotine	VCA	viral capsid antigen
No.	number	VOC	volatile organic chemical
NOHS	National Occupational Hazard Survey	vol.	volume
NR	not reported	v/v	volume-volume ratio
NRC	Nuclear Regulatory Commission	WC	tungsten carbide
Nrf2	nuclear respiratory factor 2	WHO	World Health Organization
NTP	National Toxicology Program	wt.	weight
OCDD	octachlorodibenzo- <i>p</i> -dioxin	yr	year
OPTN	Organ Procurement and Transplantation Network		
OR	odds ratio		
OSHA	Occupational Safety and Health Administration		
PAH	polycyclic aromatic hydrocarbon		
PCDD	polychlorinated dibenzodioxin		
PCDF	polychlorinated dibenzofuran		
PCP	pentachlorophenol		
PCR	polymerase chain reaction		
PEL	permissible exposure limit		
PHS	Public Health Service		
PI3	phosphoinositide 3		
$pK_b$	dissociation constant		
PVC	polyvinyl chloride		
<i>r</i>	correlation coefficient		
$r^2$	coefficient of determination		
<i>R</i> -DHP	<i>R</i> -dihydropyrrolizine		
REL	recommended exposure limit		
RfC	inhalation reference concentration		
RfD	oral reference dose		
RNA	ribonucleic acid		
RoC	Report on Carcinogens		
ROS	reactive oxygen species		
RQ	reportable quantity		
RR	relative risk (risk ratio or rate ratio)		
s	second		
S&S	Schleicher & Schuell		
<i>S</i> -DHP	<i>S</i> -dihydropyrrolizine		
SIR	standardized incidence ratio		
SMR	standardized mortality ratio		
spp.	species (plural)		
ssRNA	single-stranded RNA		
sT	small T antigen		
STEL	short-term exposure limit		
suppl.	supplement		
T	thymine		
TCBQ	tetrachlorobenzoquinone		
TCDD	tetrachlorodibenzo- <i>p</i> -dioxin		
TCE	trichloroethylene		
TCHQ	tetrachlorohydroquinone		
TCLP	toxicity characteristic leaching procedure		
TLV	threshold-limit value		
TNT	trinitrotoluene		
Tox21	Toxicology in the 21st Century		