

ACROLEIN, CROTONALDEHYDE, AND ARECOLINE

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TO HUMANS

LIST OF ABBREVIATIONS

ACGIH	American Conference of Governmental Industrial Hygienists
AEGL	acute exposure guideline levels
AKR	aldo-keto reductases
ALDH	aldehyde dehydrogenase
ARE	antioxidant-responsive element
AREMA	<i>N</i> -acetyl- <i>S</i> -(3-methoxycarbonyl-1-methylpiperid-4-yl)- <i>L</i> -cysteine (arecoline mercapturic acid)
AREO	arecoline <i>N</i> -oxide
ATSDR	Agency for Toxic Substances and Disease Registry
B[a]P	benzo[<i>a</i>]pyrene
BAR	biological reference value for workplace substances
BCNU	1,3-bis-(2-chloroethyl)-1-nitrosourea
BrdU	5-bromo-2'-deoxyuridine
CEMA	<i>N</i> -acetyl- <i>S</i> -(carboxyethyl)- <i>L</i> -cysteine (2-carboxyethylmercapturic acid)
CESG	<i>S</i> -(2-carboxyethyl)glutathione
CHEMA	<i>N</i> -acetyl- <i>S</i> -(2-carboxy-2-hydroxyethyl)- <i>L</i> -cysteine (2-carboxy-2-hydroxyethylmercapturic acid)
Cin1	chemokine-induced neutrophil chemoattractant-1
C_{max}	maximum plasma concentration
CMEMA	<i>N</i> -acetyl- <i>S</i> -(3-carboxy-1-methylpropyl)- <i>L</i> -cysteine
CYP	cytochrome P450
dATP	deoxyadenosine triphosphate
dCTP	deoxycytidine triphosphate
dGTP	deoxyguanosine triphosphate
DLM	dominant lethal mutation
DMBA	7,12-dimethylbenz[<i>a</i>]anthracene
DNEL	derived no-effect level
DNPH	2,4-dinitrophenylhydrazine
dNTP	deoxynucleoside triphosphate
DSSTox	Distributed Structure-Searchable Toxicity
dTTP	deoxythymidine triphosphate
EC	European Community
ELISA	enzyme-linked immunosorbent assay
EMT	epithelial-mesenchymal transition
EPIC	European Prospective Investigation into Cancer and Nutrition
E-PRTR	European Pollutant Release and Transfer Register

EU	European Union
FANFT	<i>N</i> -[4-(5-nitro-2-furyl)-2-thiazolyl]formamide
FDP	3-formyl-3,4-dehydropiperidine
Gclc	glutamyl-cysteine ligase catalytic subunit
GC-MS	gas chromatography-mass spectrometry
GLA	glycidaldehyde
GM	geometric mean
GSH	glutathione
GST	glutathione <i>S</i> -transferase
GSTM1	glutathione <i>S</i> -transferase mu 1
GSTT1	glutathione <i>S</i> -transferase theta 1
Hmox1	haem oxygenase 1
HMPMA	<i>N</i> -acetyl- <i>S</i> -(3-hydroxy-1-methylpropyl)- <i>L</i> -cysteine
hOGG1	human 8-oxoguanine DNA glycosylase
HPLC	high-performance liquid chromatography
HPMA	<i>N</i> -acetyl- <i>S</i> -(3-hydroxypropyl)- <i>L</i> -cysteine (3-hydroxypropylmercapturic acid)
HPSG	<i>S</i> -(3-hydroxypropyl)glutathione
IC ₅₀	half maximal inhibitory concentration
IL	interleukin
ICSC	International Chemical Safety Card
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC-MS/MS	liquid chromatography-tandem mass spectrometry
MGMT	<i>O</i> ⁶ -methylguanine-DNA methyltransferase
miR	microRNA
MLH1	mutL homolog 1
MNPA	<i>N</i> -methylnipecotic acid
MS	mass spectrometry
NAC	<i>N</i> -acetyl- <i>L</i> -cysteine
NDEA	<i>N</i> -nitrosodiethylamine
NHANES	National Health and Nutrition Examination Survey
NHBEs	primary normal human bronchial epithelial cells
NHL	non-Hodgkin lymphoma
NHLF	normal human lung fibroblast
NIOSH	National Institute for Occupational Safety and Health
NMBA	<i>N</i> -benzyl- <i>N</i> -methylnitrosamine
1, <i>N</i> ⁶ -PdA	1, <i>N</i> ⁶ -propano-deoxyadenosine derivative
NPRI	National Pollutant Release Inventory
NPYR	<i>N</i> -nitrosopyrrolidine
4-NQO	4-nitroquinoline 1-oxide
Nqo1	NADPH quinone oxidoreductase 1
NRF2	nuclear factor erythroid 2-related factor 2 [NFE2L2, nuclear factor, erythroid 2-like 2]
OEL	occupational exposure limit
8-OHdG	8-hydroxy-2'-deoxyguanosine
α-OH-PdG	α-1, <i>N</i> ² -propano-deoxyguanosine
γ-OH-PdG	γ-1, <i>N</i> ² -propano-deoxyguanosine
OPSG	<i>S</i> -(3-oxopropyl)glutathione
OSHA	Occupational Safety and Health Administration
PCNA	proliferating cell nuclear antigen
PI3K	phosphatidylinositol 3-kinase

PKC	protein kinase C
PMS2	PMS1 homolog 2, mismatch repair system component
PPAR	peroxisome proliferator-activated receptor
PRTR	Pollutant Release and Transfer Register
PTEN	phosphatase and tensin homologue
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RIOPA	Relationship of Indoor, Outdoor and Personal Air
ROS	reactive oxygen species
RTECS	Registry of Toxic Effects of Chemical Substances
SAR	Special Administrative Region
SOD	superoxide dismutase
STEL	short-term exposure limit
TLC	thin-layer chromatography
TRHR	thyrotropin-releasing hormone receptor
TSCA	Toxic Substances Control Act
TWA	time-weighted average
ULSD	ultra-low sulfur diesel fuel
US EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UV	ultraviolet
V_d	steady-state apparent volume of distribution
v/v	volume per volume
w/w	weight per weight
XPA	xeroderma pigmentosum group A
XPV	xeroderma pigmentosum group V

