

# TALC AND ACRYLONITRILE

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Identification of Carcinogenic Hazards to Humans,  
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OF CARCINOGENIC HAZARDS  
TO HUMANS

# LIST OF ABBREVIATIONS

AACES	African-American Cancer Epidemiology Study
ACGIH	American Conference of Governmental and Industrial Hygienists
ADI	acceptable daily intake
afu	atoms per formula unit
AHERA	Asbestos Hazard Emergency Response Act
ANECs	Australian National Endometrial Cancer Study
ASTM	American Society for Testing and Materials
AUS	Australian Cancer Study
B[a]P	benzo[a]pyrene
BCG	bacille Calmette-Guérin
bFGF	basic fibroblast growth factor
BMI	body mass index
BOM	Bureau of Mines
BrdU	5-bromo-2'-deoxyuridine
bw	body weight
CANJEM	Canadian Job Exposure Matrix
CAS	Chemical Abstracts Service
CAT	catalase
CCCS	Cook County (Chicago) Case Study
CI	confidence interval
CIS	conical inhalable sampler
CN	commercial nanotalc
CON	Connecticut Ovary Study
CRP	C-reactive protein
CSF-1	colony-stimulating factor
CT	computed tomography
CTFA	Cosmetic, Toiletry and Fragrance Association
CTPA	Cosmetic, Toiletry and Perfumery Association Limited
1CyHEMA	N-acetyl-S-(1-cyano-2-hydroxyethyl)-L-cysteine
2CyEMA	N-acetyl-S-(2-cyanoethyl)-L-cysteine
DOV	Diseases of the Ovary and their Evaluation Study
DTA	differential thermal analysis
DTH	delayed-type hypersensitivity
DU	decision unit

EC	European Commission
EDS	energy-dispersive X-ray spectroscopy
EDX	energy-dispersive X-ray analysis
EDXA	X-ray diffraction microanalysis probe
EFSA	European Food Safety Agency
EELS	electron energy loss spectroscopy
ELISA	enzyme-linked immunosorbent assay
EPMA	electron probe microanalysis
ESR	estrogen receptor alpha
FDG	fluorodeoxyglucose
FTIR	Fourier transform infrared spectroscopy
GLP	Good Laboratory Practice
GM	geometric mean
GMP	Good Manufacturing Practice
$\alpha$ GPD	$\alpha$ -glycerophosphate dehydrogenase
GPx	glutathione peroxidase
GRF	glutinous rice flour
GSD	geometric standard deviation
GSR	glutathione reductase
HAW	Hawaii Ovarian Cancer Study
2HEMA	<i>N</i> -acetyl-S-(2-hydroxyethyl)-L-cysteine
HFLF	human fetal lung fibroblast
HHE	Health Hazard Evaluation
HOP	Hormones and Ovarian Cancer Prediction Study
HPV	human papillomavirus
HR	hazard ratio
HRCT	high-resolution computed tomography
HR-ICP-MS	high-resolution inductively coupled plasma mass spectrometry
HRR	hazard rate ratio
hr-SOD	human recombinant superoxide dismutase
HSE	Health and Safety Executive
HUVEC	human umbilical vein endothelial cells
HWE	healthy-worker hire effect
HWSB	healthy-worker survivor bias
IARC	International Agency for Research on Cancer
ICD	International Classification of Diseases
IFN $\gamma$	interferon gamma
Ig	immunoglobulin
IL	interleukin
IN	indigenous nanotalc
iNOS	inducible nitric oxide synthase
INPS	National Institute for Social Security (Istituto Nazionale Previdenza Sociale)
IOM	Institute of Occupational Medicine
ISO	International Organization for Standardization
IRR	incidence rate ratio
ISM	incremental sampling methodology
JEM	job-exposure matrix
LACOCS	Los Angeles County Ovarian Cancer Study
LDH	lactate dehydrogenase
LLDPE	linear low-density polyethylene

LOD	limit of detection
LPS	lipopolysaccharide
MAL	Malignant Ovarian Tumor Study
MESA	Mining Enforcement and Safety Administration
miRNA	microRNA
MMAD	mass median aerodynamic diameter
mppcf	million particles per cubic foot
MSHA	Mine Safety and Health Administration
MTT	3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide
NCGIH	National Conference of Governmental Industrial Hygienists
NCO	North Carolina Ovarian Cancer Study
NEC	New England Case–Control Study of Ovarian Cancer
NHIRD	National Health Insurance Research Database
NHL	non-Hodgkin lymphoma
NHS-I	Nurses' Health Study
NHS-II	Nurses' Health Study II
NIOSH	National Institute for Occupational Safety and Health
NIRS	near-infrared spectroscopy
NMAM	NIOSH manual of analytical methods
NMRD	non-malignant respiratory disease
NMTC	natural mixture of talc and chlorite
NOES	National Occupational Exposure Survey
NOS	Newcastle–Ottawa scale
NR	not reported
NSAID	non-steroidal anti-inflammatory drug
OCAC	Ovarian Cancer Association Consortium
OCMAP	Occupational Cohort Mortality Analysis Program
OCWAA	Ovarian Cancer in Women of African Ancestry
OEL	occupational exposure limit
OPCMIA	Operative Plasterers' and Cement Masons' International Association
OR	odds ratio
OSHA	Occupational Safety and Health Administration
PAH	polycyclic aromatic hydrocarbon
PAPDEM	pulp and paper department-exposure matrix
PBL	peripheral blood lymphocyte
PCOM	phase contrast optical microscopy
PCPC	Personal Care Products Council
PEL	permissible exposure level
PET	positron emission tomography
PLOM	polarized light optical microscopy
PMC	pleural mesothelial cell
PMR	proportionate mortality ratio
ppm	parts per million
PROVAQ	PRevention of OVArian Cancer in Quebec
RR	rate ratio
PSD	particle size distribution
ROS	reactive oxygen species
RT-PCR	reverse transcription-polymerase chain reaction
RT-qPCR	reverse transcription-quantitative polymerase chain reaction
SAED	selected area electron diffraction

SAM	spectral angle mapper
SCE	sister-chromatid exchange
SCF	European Scientific Committee for Food
SEER	Surveillance, Epidemiology, and End Results
SEM	scanning electron microscopy
SD	standard deviation
SFA	super-fine asbestos
SIR	standardized incidence ratio
SMR	standardized mortality ratio
SOD	superoxide dismutase
SON	Southern Ontario Ovarian Cancer Study
SRR	standardized rate ratio
STEM	transmission electron microscopy fitted with a scanning attachment
SWIR	short-wavelength infrared
T3	triiodothyronine
TBARS	thiobarbituric acid-reactive substances
TEM	transmission electron microscopy
TEM-EDX	transmission electron microscopy coupled to X-ray energy dispersive spectrometry
TGA	thermogravimetric analysis
TGF $\beta$	transforming growth factor beta
TLV-TWA	threshold limit value-time weighted average
TNF $\alpha$	tumour necrosis factor alpha
TOT	two tetrahedral layers surrounding one octahedral layer (2:1)
TWA	time-weighted average
UCI	University of California, Irvine Ovarian Cancer Study
UK	United Kingdom
US	United States
USA	United States of America
USC	University of Southern California Study of Lifestyle and Women's Health
US FDA	United States Food and Drug Administration
USP	United States Pharmacopeia
VCRP	Voluntary Cosmetic Registration Program
VEGF	vascular endothelial growth factor
VNIR	visible and near-infrared
VPSEM	variable pressure scanning electron microscopy
vs	versus
WAXS	wide angle X-ray scattering
WDS	wavelength-dispersive X-ray spectrometry
WHI	Women's Health Initiative
WHI-OS	Women's Health Initiative Observational Study
w/w	weight per weight
%wt	percentage by weight
WHO	World Health Organization
XRD	X-ray diffraction
XRF	X-ray fluorescence
XRPD	X-ray powder diffraction
ZTO	zedoary turmeric oil