IPCS

INTERNATIONAL PROGRAMME ON CHEMICAL SAFETY

WHO ILO UNEP

Environmental Health Criteria 240

Principles and Methods for the Risk Assessment of Chemicals in Food

ACRONYMS AND ABBREVIATIONS

A joint publication of the Food and Agriculture Organization of the United Nations and the World Health Organization

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Food and Agriculture Organization of the United Nations

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The **International Programme on Chemical Safety (IPCS)**, established in 1980, is a joint venture of the United Nations Environment Programme (UNEP), the International Labour Organization (ILO) and the World Health Organization (WHO). The overall objectives of the IPCS are to establish the scientific basis for assessment of the risk to human health and the environment from exposure to chemicals, through international peer review processes, as a prerequisite for the promotion of chemical safety, and to provide technical assistance in strengthening national capacities for the sound management of chemicals.

The **Inter-Organization Programme for the Sound Management of Chemicals (IOMC)** was established in 1995 by UNEP, ILO, the Food and Agriculture Organization of the United Nations, WHO, the United Nations Industrial Development Organization, the United Nations Institute for Training and Research and the Organisation for Economic Co-operation and Development (Participating Organizations), following recommendations made by the 1992 UN Conference on Environment and Development to strengthen cooperation and increase coordination in the field of chemical safety. The purpose of the IOMC is to promote coordination of the policies and activities pursued by the Participating Organizations, jointly or separately, to achieve the sound management of chemicals in relation to human health and the environment.

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ACRONYMS AND ABBREVIATIONS

AChE	acetylcholinesterase
ADI	acceptable daily intake
ADME	absorption, distribution, metabolism and excretion
ALARA	as low as reasonably achievable
ALT	alanine aminotransferase
ARfD	acute reference dose
AST	aspartate aminotransferase
ATBC	Alpha-Tocopherol, Beta-Carotene
AUC	area under the concentration–time curve
BI	benchmark intake
BIL	lower confidence limit of the benchmark intake
BMD	benchmark dose
BMD_{10}	benchmark dose for a 10% response
BMDL	lower confidence limit of the benchmark dose
$BMDL_{10}$	lower confidence limit of the benchmark dose for a 10% response
BMR	benchmark response
BW	body weight
CAC	Codex Alimentarius Commission
CARET	Beta-Carotene and Retinol Efficacy Trial
CAS	Chemical Abstracts Service
CCCF	Codex Committee on Contaminants in Food
CCFA	Codex Committee on Food Additives
CCFAC	Codex Committee on Food Additives and Contaminants
CCMAS	Codex Committee on Methods of Analysis and Sampling
CCPR	Codex Committee on Pesticide Residues
CCRVDF	Codex Committee on Residues of Veterinary Drugs in Foods
CDF	cumulative distribution function

CERHR	Center for the Evaluation of Risks to Human Reproduction (USA)
CHO	Chinese hamster ovary
CIPAC	Collaborative International Pesticides Analytical Council
CL	clearance
C_{max}	peak concentration
CSAF	chemical-specific adjustment factor
CSFII	Continuing Survey of Food Intakes by Individuals (USA)
DBPCFC	double-blind placebo-controlled food challenge
DDT	dichlorodiphenyltrichloroethane
DNA	deoxyribonucleic acid
DRM	dose–response modelling
DTH	delayed-type hypersensitivity
ECETOC	European Centre for Ecotoxicology and Toxicology of Chemicals
ED_{10}	effective dose for 10% of the population
EDI	estimated daily intake
EDSTAC	Endocrine Disruptor Screening and Testing Advisory Committee (USA)
EDTA	ethylenediaminetetraacetic acid
EFCOSUM	European Food Consumption Survey Method
EFSA	European Food Safety Authority
EHC	Environmental Health Criteria (WHO)
ELISA	enzyme-linked immunosorbent assay
ELISPOT	enzyme-linked immunosorbent spot
EMDI	estimated maximum daily intake
EMEA	European Medicines Agency
EMRL	extraneous maximum residue limit
EU	European Union
EuroFIR	European Food Information Resource Network
F	bioavailability
FAO	Food and Agriculture Organization of the United Nations

FAOSTAT	Food and Agriculture Organization of the United Nations statistical database
FEMA	Flavour and Extract Manufacturers Association
FFQ	food frequency questionnaire
GAP	Good Agricultural Practice
GCP	Good Clinical Practice
GEMS/Food	Global Environment Monitoring System – Food Contamination Monitoring and Assessment Programme
GEP	Good Epidemiological Practice
GGT	gamma-glutamyl transpeptidase
GLP	Good Laboratory Practice
GM	genetically modified
GMP	Good Manufacturing Practice
GPVD	Good Practice in the Use of Veterinary Drugs
GRAS	generally recognized as safe
HBGV	health-based guidance value
HESI	Health and Environmental Sciences Institute
HLA	human leukocyte antigen
HOI	highest observed intake
hprt	hypoxanthine-guanine phosphoribosyl transferase
HR	highest level of residue in the edible portion of a commodity found in trials to estimate a maximum residue limit in the commodity
HR-P	highest residue in a processed commodity calculated by multiplying the HR of the raw commodity by the corresponding processing factor
IARC	International Agency for Research on Cancer
ICH	International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use
IEC	International Electrochemical Commission
IEDI	international estimated daily intake
IESTI	international estimated short-term intake

Ig	immunoglobulin
ILSI	International Life Sciences Institute
INFOODS	International Network of Food Data Systems (United Nations University)
IPCS	International Programme on Chemical Safety (WHO)
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
iv	intravenous
JECFA	Joint FAO/WHO Expert Committee on Food Additives
JMPR	Joint FAO/WHO Meeting on Pesticide Residues
JMPS	Joint FAO/WHO Meeting on Pesticide Specifications
K_{ow}	*n*-octanol–water partition coefficient
LLNA	local lymph node assay
LOAEL	lowest-observed-adverse-effect level
LOD	limit of detection
LOEL	lowest-observed-effect level
LOQ	limit of quantification
LP	large portion
MEST	mouse ear swelling test
MIC	minimum inhibitory concentration
MIC_{50}	minimum inhibitory concentration for 50% of strains of the most sensitive relevant organism
ML	maximum level
MOE	margin of exposure
MRL	maximum residue limit
MRLVD	maximum residue limit for veterinary drugs
mRNA	messenger ribonucleic acid
MRP	multidrug resistance associated protein
MSDI	maximum survey-derived intake
ND	not detected
NESTI	national estimated short-term intake

NHANES	National Health and Nutrition Examination Survey (USA)
NK	natural killer
NOAEL	no-observed-adverse-effect level
NOEL	no-observed-effect level
NQ	not quantified
NTE	neuropathy target esterase
NTP	National Toxicology Program (USA)
OAT	organic anion transporter
OCT	organic cation transporter
OECD	Organisation for Economic Co-operation and Development
OPAL	Operating Program for Analytical Laboratories
OPIDN	organophosphate-induced delayed neuropathy
PADI	possible average daily intake
PAH	polycyclic aromatic hydrocarbon
PBTK	physiologically based toxicokinetic
PCB	polychlorinated biphenyl
PCDD	polychlorinated dibenzodioxin
PCDF	polychlorinated dibenzofuran
PMTDI	provisional maximum tolerable daily intake
POD	point of departure
POP	persistent organic pollutant
PPARα	peroxisome proliferator activated receptor of the class α
PTMI	provisional tolerable monthly intake
PTWI	provisional tolerable weekly intake
QSAR	quantitative structure–activity relationship
RAC	raw agricultural commodity
RIVM	National Institute for Public Health and the Environment (the Netherlands)
RNA	ribonucleic acid
SBPCFC	single-blind placebo-controlled food challenge
SCE	sister chromatid exchange

SCF	Scientific Committee on Food (European Commission)
SGOT	serum glutamate–oxaloacetate transaminase
SGPT	serum glutamate–pyruvate transaminase
SIGHT	Summary Information on Global Health Trends
SML	specific migration limit
SOP	standard operating procedure
SPET	single portion exposure technique
SPS Agreement	World Trade Organization Agreement on the Application of Sanitary and Phytosanitary Measures
STMR	supervised trials median residue
STMR-P	supervised trials median residue in a processed commodity calculated by multiplying the STMR of the raw commodity by the corresponding processing factor
$t_{½}$	half-life
TAMDI	theoretical added maximum daily intake
TCDD	2,3,7,8-tetrachlorodibenzo-*p*-dioxin
TD_{50}	tumorigenic dose for 50% of test species
TDAR	T cell–dependent antibody response
TDI	tolerable daily intake
TDS	total diet study
TEF	toxic equivalency factor
TI	tolerable intake
tk	thymidine kinase
T_{max}	time to peak concentration
TMDI	theoretical maximum daily intake
TOS	total organic solids
TTC	threshold of toxicological concern
UF	uncertainty factor
UL	upper level of intake
USA	United States of America
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency

USFDA	United States Food and Drug Administration
UUL	upper use level
v	variability factor
V	apparent volume of distribution
VICH	International Cooperation on Harmonisation of Technical Requirements for Registration of Veterinary Medicinal Products
WHO	World Health Organization