

# Glossary of Selected Terms, Abbreviations and Organizations

## A

AAEE	American Academy for Environmental Engineers. <a href="http://www.aace.net">www.aace.net</a>
AAR	Association of American Railroads. <a href="http://www.aar.org">www.aar.org</a>
ABIH <sup>®</sup>	American Board of Industrial Hygiene <sup>®</sup> . <a href="http://www.abih.org">www.abih.org</a>
ACC	American Chemistry Council (Formerly the Chemical Manufacturers Association). <a href="http://www.americanchemistry.com">www.americanchemistry.com</a>
ACH	Air Changes per Hour (unit for quantifying air flow).
ACHMM	Academy of Certified Hazardous Materials Managers. <a href="http://www.achmm.org">www.achmm.org</a>
ACGIH <sup>®</sup>	American Conference of Governmental Industrial Hygienists. <a href="http://www.acgih.org">www.acgih.org</a>
ACS	American Chemical Society. <a href="http://www.chemistry.org">www.chemistry.org</a>
ADI	Acceptable Daily Intake
AEGL	Acute Exposure Guideline Levels. <a href="http://www.epa.gov/oppt/aegl">www.epa.gov/oppt/aegl</a>
AIChE <sup>®</sup>	American Institute of Chemical Engineers. <a href="http://www.aiche.org">www.aiche.org</a>
AIHA	American Industrial Hygiene Association (issues EPRGs). <a href="http://www.aiha.org">www.aiha.org</a>
ALARA	As Low As Reasonably Achievable
ALARP	As Low As Reasonably Practicable
ANSI	American National Standards Institute. <a href="http://www.ansi.org">www.ansi.org</a>
APHA	American Public Health Association. <a href="http://www.apha.org">www.apha.org</a>
API	American Petroleum Institute. <a href="http://www.api.org">www.api.org</a>
APIH	Association of Professional Industrial Hygienists. <a href="http://www.apih.us">www.apih.us</a>
AQS	Air Quality Standard
ASHI	American Safety and Health Institute. <a href="http://www.ashinstitute.org">www.ashinstitute.org</a>
ASME	American Society of Mechanical Engineers. <a href="http://www.asme.org">www.asme.org</a>
ASSE	The American Society of Safety Engineers. <a href="http://www.asse.org">www.asse.org</a>
ASTM	American Society for Testing & Materials International (a Standards Development Organization that issues, among other things, standards for test methods). <a href="http://www.astm.org">www.astm.org</a>
ATSDR	Agency for Toxic Substances and Disease Registry, part of the U.S. Department of Health and Human Services, is a public health agency.

**B**

BACT	Best Available Control Technology
BADCT	Best Available Demonstrated Control Technology
BAT	Best Available Technology
BCSP	Board of Certified Safety Professionals. <a href="http://www.bcsp.org">www.bcsp.org</a>
BCT	Best Conventional Technology
BDAT	Best Demonstrated Available Technology
BEIs <sup>®</sup>	Biological Exposure Indices (ACGIH). <a href="http://www.acgih.org/TLV">www.acgih.org/TLV</a>
BEJ	Best Engineering Judgment
BI	Business Interruption
BLEVE	Boiling Liquid Expanding Vapor Explosion
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand. A measure of the oxygen required to oxidize any organic matter present in a water during a set period of time (usually 5 days).
Bonding	The connection of two or more conductive objects by means of a conductor (most commonly a wire or metal plate)
B.P.	Boiling Point
BPCS	Basic Process Control System
BTU	British Thermal Unit

**C**

C	Consequence factor, related to magnitude of severity
C#	The number of carbon atoms present in a molecular composition.
CAA	U.S. Clean Air Act. <a href="http://www.epa.gov/oar/caa/contents.html">www.epa.gov/oar/caa/contents.html</a>
CAS <sup>®</sup>	Chemical Abstracts Service. A division of the American Chemical Society, CAS products an index of scientific literature in the chemical field (Chemical Abstracts) and maintains the CAS Registry <sup>SM</sup> , a database of chemical substances. <a href="http://www.cas.org/">www.cas.org/</a>
CASRN	CAS Registry <sup>SM</sup> Numbers are unique, numerical identifiers for chemical substances (chemical compounds, polymers, mixtures, alloys, and biological sequences). CAS numbers are assigned by the Chemical Abstracts Service of the American Chemical Society. The CAS Registry <sup>SM</sup> Number for ethylene oxide is 75-21-8. <a href="http://www.cas.org/EO/regsys.html#q2">www.cas.org/EO/regsys.html#q2</a>
CANUTEC	Canadian Transport Emergency Centre. <a href="http://www.tc.gc.ca/canutec/">www.tc.gc.ca/canutec/</a>

CCF	Common Cause Failure
CCOHS	Canadian Centre for Occupational Health and Safety. <a href="http://www.ccohs.ca">www.ccohs.ca</a>
CCPS	Center for Chemical Process Safety, a part of AIChE that addresses process safety issues across the chemical, petroleum, and pharmaceutical industries. <a href="http://www.aiche.org/CCPS/About/index.aspx">www.aiche.org/CCPS/About/index.aspx</a>
CDC	Centers for Disease Control & Prevention, part of the U.S. Department of Health and Human Services. <a href="http://www.cdc.gov">www.cdc.gov</a>
CEI	Chemical Exposure Index
CEPA	Canadian Environmental Protection Act. <a href="http://www.ec.gc.ca/CEPARRegistry/the_act">www.ec.gc.ca/CEPARRegistry/the_act</a>
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act. <a href="http://www.epa.gov/superfund/action/law/cercla.htm">www.epa.gov/superfund/action/law/cercla.htm</a>
CFR	U.S. Code of Federal Regulations. <a href="http://www.access.gpo.gov/nara/cfr/cfr-table-search.html">www.access.gpo.gov/nara/cfr/cfr-table-search.html</a>
CGA	Compressed Gas Association. <a href="http://www.cganet.com">www.cganet.com</a>
CHEMNET <sup>®</sup>	Chemical Industry Mutual Aid Network. <a href="http://www.chemtrec.org/Chemtrec/ProductsAndServices/CHEMNET">www.chemtrec.org/Chemtrec/ProductsAndServices/CHEMNET</a>
CHEMTREC <sup>®</sup>	Chemical Transportation Emergency Center (part of the American Chemistry Council). <a href="http://www.chemtrec.org">www.chemtrec.org</a>
CMA	Chemical Manufacturers Association (now the American Chemistry Council)
CNS	Central Nervous System
COD	Chemical Oxygen Demand. The amount of oxygen needed to oxidize any organic matter in water using harsh chemical conditions.
Confined Space	An area that by design has limited openings for entry and exit. A confined space has unfavorable natural ventilation and is not intended for continuous worker occupancy.
CPC	Chemical Protective Clothing
CPQRA	Chemical Process Quantitative Risk Assessment
CRBOH	Canadian Registration Board of Occupational Hygienists. <a href="http://www.crboh.ca">www.crboh.ca</a>
CSB	U.S. Chemical Safety and Hazard Investigation Board. <a href="http://www.chemsafety.gov">www.chemsafety.gov</a>
CSSB	Canadian Society of Safety Engineering. <a href="http://www.csse.org">www.csse.org</a>
CW	Cooling Water
<b>D</b>	
D	Number of times a component or system is challenged ( $\text{hr}^{-1}$ or $\text{year}^{-1}$ )

DCS	Distributed Control System
DHS	U.S. Department of Homeland Security. <a href="http://www.dhs.gov/dhspublic">www.dhs.gov/dhspublic</a>
DIERS	The Design Institute for Emergency Relief Systems, a part of AIChE, develops methods for emergency relief system design focusing on handling runaway reactions. <a href="http://www.aiche.org/TechnicalSocieties/DIERS/index.aspx">www.aiche.org/TechnicalSocieties/DIERS/index.aspx</a>
DIPPR <sup>®</sup>	The Design Institute for Physical Properties, a part of AIChE, develops thermophysical and environmental property data. <a href="http://www.aiche.org/TechnicalSocieties/DIPPR/index.aspx">www.aiche.org/TechnicalSocieties/DIPPR/index.aspx</a>
DO	Dissolved Oxygen. The amount of molecular oxygen dissolved in water.
DOE	U.S. Department of Energy. <a href="http://www.doe.gov">www.doe.gov</a>
DOT	U.S. Department of Transportation. <a href="http://www.dot.gov">www.dot.gov</a>
DSL	Domestic Substances List (Canada). <a href="http://www.ec.gc.ca/CEPARRegistry/subs_list/Domestic.cfm">www.ec.gc.ca/CEPARRegistry/subs_list/Domestic.cfm</a>

## E

EBV	Emergency Block Valve
EC	European Community
EG	Ethylene Glycol
EO	Ethylene Oxide
EO/EGs Panel	Ethylene Oxide/Ethylene Glycols Panel of the American Chemistry Council.
EOSTG	Ethylene Oxide Safety Task Group of the American Chemistry Council
EPA	U.S. Environmental Protection Agency. <a href="http://www.epa.gov">www.epa.gov</a>
EPCRA	Emergency Planning and Community Right-to-Know Act. <a href="http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/epcraOverview.htm">http://yosemite.epa.gov/oswer/ceppoweb.nsf/content/epcraOverview.htm</a>
ERPG	Emergency Response Planning Guidelines (issued by the AIHA). <a href="http://www.aiha.org/1documents/Committees/ERP-erpglevels.pdf">www.aiha.org/1documents/Committees/ERP-erpglevels.pdf</a>
ERG	Emergency Response Guidebook. This book was developed jointly by the U.S., Canada, and Mexico to assist first responders to hazmat transportation incidents. <a href="http://www.chemtrec.org/Chemtrec/Resources/ERG.htm">www.chemtrec.org/Chemtrec/Resources/ERG.htm</a>
ESD	Electrostatic Discharge
ES&H	Environment, Safety & Health
EtO	Ethylene Oxide
EU	European Union. <a href="http://www.eurunion.org">www.eurunion.org</a>

EuReData	European Reliability Data (a series of conferences)
EVC	Equilibrium Vapor Concentration
<b>F</b>	
F	Failure rate (hr <sup>-1</sup> or year <sup>-1</sup> )
<i>f</i>	Frequency (hr <sup>-1</sup> or year <sup>-1</sup> )
FCE	Final Control Element
F&EI	Fire and Explosion Index
Flashpoint	The minimum temperature at which a liquid gives off vapor in sufficient concentrations to form an ignitable mixture with air near the surface of a liquid.
FMEA	Failure Mode and Effects Analysis
F/N	Fatality Frequency versus Cumulative Number
FR	U.S. Federal Register. <a href="http://www.gpoaccess.gov/fr/index.html">www.gpoaccess.gov/fr/index.html</a>
FTA	Fault Tree Analysis
<b>G</b>	
GC	Gas Chromatography
GDP	Gross Domestic Product. In the U.S., this is calculated by the Bureau of Economic Analysis by the U.S. Department of Commerce. <a href="http://www.bea.gov">www.bea.gov</a>
GHS	Globally Harmonized System
GLP	Good Laboratory Practices. GLPs are set out by applicable regulation.
Grounding	The connection of one or more conductive objects to the ground: a specific form of bonding. Grounding is also referred to as “earthing.”
<b>H</b>	
HAP	Hazardous Air Pollutant. <a href="http://www.epa.gov/ttn/atw/pollsour.html">www.epa.gov/ttn/atw/pollsour.html</a>
HAZCOM	Hazard Communication (Standard)
HAZMAT	Hazardous Materials
HAZOP	Hazard and Operability Analysis
HAZWOPER	Hazardous Waste Operations and Emergency Response Standard. Hazwoper is a set of OSHA requirements. <a href="http://www.osha.gov/html/faq-hazwoper.html">www.osha.gov/html/faq-hazwoper.html</a>
HCS	Hazard Communication Standard, an OSHA requirement. <a href="http://www.osha.gov/SLTC/hazardcommunications/standards.html">www.osha.gov/SLTC/hazardcommunications/standards.html</a>
HE	Hazard Evaluation
HHC	Highly Hazardous Chemical

HMIRS	Hazardous Materials Information Resource System, a U.S. DOD automated system functioning as the repository for MSDS for U.S. agencies and the military. <a href="http://www.dlis.dla.mil/hmirs/default.asp">www.dlis.dla.mil/hmirs/default.asp</a>
HMIS®	The Hazardous Materials Identification System was developed by the National Paint & Coatings Association to help employers comply with OSHA's Hazard Communication Standard. <a href="http://www.paint.org/hmis/index.cfm">www.paint.org/hmis/index.cfm</a>
HON	Hazardous Organic NESHAP. <a href="http://www.epa.gov/ttn/atw/hon/honpg.html">www.epa.gov/ttn/atw/hon/honpg.html</a>
HRA	Human Reliability Analysis
HSDB	Hazardous Substances Data Bank, a database of toxicology data managed by the National Library of Medicine. <a href="http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB">http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB</a>

## I

IARC	International Agency for Research on Cancer, a part of the World Health Organization. <a href="http://www.iarc.fr">www.iarc.fr</a>
ICSC	International Chemical Safety Cards, issued through the International Programme on Chemical Safety. <a href="http://www.cdc.gov/niosh/ipcs/ipscard.html">www.cdc.gov/niosh/ipcs/ipscard.html</a>
IDLH	Immediately Dangerous to Life or Health as defined by NIOSH. <a href="http://www.cdc.gov/niosh/idlh/intridl4.html">www.cdc.gov/niosh/idlh/intridl4.html</a>
IEC	International Electrotechnical Commission
IEEE	Institute of Electrical and Electronic Engineers. <a href="http://www.ieee.org">www.ieee.org</a>
IMDG	International Maritime Dangerous Goods (IMDG) Code, an international code addressing the transport of dangerous goods by sea. <a href="http://www.imo.org/Safety/mainframe.asp?topic_id=158">www.imo.org/Safety/mainframe.asp?topic_id=158</a>
IMO	International Maritime Organization. <a href="http://www.imo.org">www.imo.org</a>
IOMC	Inter-Organization Programme for the Sound Management of Chemicals, a group that focuses on international coordination on chemical safety matters. <a href="http://www.who.int/iomc/en">www.who.int/iomc/en</a>
IPCS	International Programme on Chemical Safety. Develops International Chemical Safety Cards. <a href="http://www.who.int/ipcs/publications/icsc/en/">www.who.int/ipcs/publications/icsc/en/</a>
IPCT	Industrial Process Cooling Towers.
IPL	Independent Protection Layer
IRIS	Integrated Risk Information System, EPA's database for human health effects from environmental exposures. <a href="http://www.epa.gov/iris">www.epa.gov/iris</a>
ISA	The Instrumentation, Systems and Automation Society (formerly, Instrument Society of America)
ISHM	Institute for Safety and Health Management. <a href="http://www.ishm.org">www.ishm.org</a>

ISO International Organization for Standardization. [www.iso.org/iso/en](http://www.iso.org/iso/en)

## J

JHA Job Hazard Analysis

JSA Job Safety Analysis

## K

## L

LAH Level Alarm – High

LDAR Leak Detection and Repair

LEL Lower Explosive Limit

LFL Lower Flammability Limit

LI Level Indicator

LIC Level Indicator – Control

LLDPE Linear Low Density Polyethylene

LNG Liquefied Natural Gas

LOPA Layer of Protection Analysis

LOTO Lock-Out Tag-Out

LPGs Liquefied Petroleum Gases

LT Level Transmitter

## M

MACT Maximum Achievable Control Technology

MAWP Maximum Allowable Working Pressure

MedlinePlus<sup>®</sup> A service of the U.S. National Library of Medicine and NIH, MedlinePlus contains health information and articles from medical journals. <http://medlineplus.gov>

MeSH Medical Subject Headings (browser service of the National Library of Medicine).

M&O Management & Operating

MOC Management of Change

MSDS Material Safety Data Sheet, a requirement of the OSHA Hazard Communication Standard.  
[www.osha.gov/SLTC/hazardcommunications/index.html](http://www.osha.gov/SLTC/hazardcommunications/index.html)

## N

N<sub>2</sub> Nitrogen

NCEA National Center for Environmental Assessment of the U.S.

	Environmental Protection Agency. <a href="http://cfpub.epa.gov/ncea">http://cfpub.epa.gov/ncea</a>
NDE	Nondestructive Evaluation
NDT	Nondestructive Testing
NEC®	National Electrical Code®, a publication of the National Fire Protection Association. <a href="http://www.nfpa.org">www.nfpa.org</a>
newton	Unit of force in the meter-kilogram-second system equal to the force required to impart an acceleration of one meter per second to a mass of one kilogram.
NFPA	National Fire Protection Association. <a href="http://www.nfpa.org">www.nfpa.org</a>
NGLs	Natural Gas Liquids
NIH	National Institutes of Health, part of the U.S. Department of Health and Human Services. <a href="http://www.nih.gov">www.nih.gov</a>
NIOSH	National Institute for Occupational Safety and Health, part of the Centers for Disease Control & Prevention of the U.S. Department of Health and Human Services. <a href="http://www.cdc.gov/niosh/homepage.html">www.cdc.gov/niosh/homepage.html</a>
NLM	The U.S. National Library of Medicine of the National Institutes of Health. <a href="http://www.nlm.nih.gov">www.nlm.nih.gov</a>
NMAM	NIOSH Manual of Analytical Methods. <a href="http://www.cdc.gov/niosh/nmam">www.cdc.gov/niosh/nmam</a>
NOEL	No Observed Effect Level
NOAEL	No Observed Adverse Effect Level
NPRI	National Pollutant Release Inventory
NSMS	National Safety Management Society. <a href="http://www.nsms.us">www.nsms.us</a>
NSPE	National Society of Professional Engineers. <a href="http://www.nspe.org">www.nspe.org</a>
NTP	National Toxicology Program

## O

OECD	Organisation for Economic Cooperation and Development. <a href="http://www.who.int/iomc/participants/po/en/index2.html">www.who.int/iomc/participants/po/en/index2.html</a>
OEL	Occupational Exposure Limit
OES	Occupational Exposure Standard
OPPT	U.S. EPA's Office of Pollution Prevention and Toxics. <a href="http://www.epa.gov/opptintr">www.epa.gov/opptintr</a>
OREDA	The Offshore Reliability Date Project
ORD	Office of Research and Development, U.S. Environmental Protection Agency. <a href="http://www.epa.gov/ord">www.epa.gov/ord</a>
OSBL	Outside Battery Limits
OSHA	U.S. Occupational Safety and Health Administration. <a href="http://www.osha.gov">www.osha.gov</a>

## P

$P$	Probability
$P^{\text{fatality}}$	Probability of Fatality
$P^{\text{ignition}}$	Probability of Ignition
$P^{\text{person present}}$	Probability of Person Present
PEL	Permissible Exposure Limit, set by OSHA. <a href="http://www.osha.gov/SLTC/pel">www.osha.gov/SLTC/pel</a>
P&ID	Piping and Instrumentation Diagram
PFA	Perfluoroalkoxy Polymer Resin is a polymer resin with properties similar to PTFE.
PFD	Probability of Failure on Demand
PIH	Poison Inhalation Hazard
PHA	Process Hazard Analysis
PHMSA	The Pipeline and Hazardous Materials Safety Administration, part of the U.S. DOT, is responsible for safe and secure movement of hazardous materials to industry and consumers by all transportation modes, including the nation's pipelines. <a href="http://www.phmsa.dot.gov">www.phmsa.dot.gov</a>
PI	Pressure Indicator
PL	Protection Layer
PM	Preventative Maintenance
PPE	Personal Protective Equipment
ppm	Parts Per Million
ppmv	Parts Per Million by Volume
ppmw	Parts Per Million by Weight
PrHA	Process Hazard Analysis
PSI	Process Safety Information
psia	Absolute pressure in Pounds per Square Inch
psig	Pounds per Square Inch Gauge
PSM	Process Safety Management
PSR	Pre-Startup Safety Review
PSV	Pressure Safety Valve (Relief Valve)
PTFE	Polytetrafluoroethylene, a thermoplastic fluropolymer, is a polymer of fluorinated ethylene. PTFE has the lowest coefficient of friction of any known solid material. Very non-reactive, this material is often used in containers and piping for reactive chemicals.

PubMed PubMed, run by the National Library of Medicine, includes citations from MEDLINE and other life science journals for biomedical articles. [www.ncbi.nlm.nih.gov/entrez/query.fcgi?DB=pubmed](http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?DB=pubmed)

## Q

QA Quality Assurance

## R

R Risk

RACT Reasonably Available Control Technology

RCRA Resource Conservation and Recovery Act

REL Recommended Exposure Limit, set by NIOSH. [www.cdc.gov/niosh](http://www.cdc.gov/niosh)

RMP Risk Management Plan

RQs Reportable Quantities

RREL Risk Reduction Engineering Laboratory

RV Relief Valve

## S

SAR Safety Analysis Report

SASS Safety Assurance System Summary

SCBA Self-Contained Breathing Apparatus

SCC Standards Council of Canada. [www.ssc.ca](http://www.ssc.ca)

SCE Safety Critical Equipment

SCHC Society for Chemical Hazard Communication. This organization promotes effective international hazard communication for chemicals. [www.schc.org/schcnewsite/home.php](http://www.schc.org/schcnewsite/home.php)

SHI Substance Hazard Index

SIF Safety Instrumented Function

SIL Safety Integrity Level

SIS Safety Instrumented System

SOCMA Synthetic Organic Chemicals Manufacturing Association

SOP Safe Operating Practice / Standard Operating Procedure

SOT Society of Toxicology. [www.toxicology.org](http://www.toxicology.org)

STEL Short Term Exposure Limit (ACGIH)

## T

T Test Interval for the Component or System (hours or years)

TDI Tolerable Daily Intake

TIH	Toxic Inhalation Hazard
TLV <sup>®</sup>	Threshold Limit Value (ACGIH). <a href="http://www.acgih.org/TLV">www.acgih.org/TLV</a>
TLV-TWA	Threshold Limit Value, Time Weighted Average (ACGIH)
TOC	Total Organic Carbon
ToxFAQs <sup>™</sup>	ToxFAQs <sup>™</sup> are summaries about hazardous substances developed by ATSDR's Division of Toxicology. <a href="http://www.atsdr.cdc.gov/toxfaq.html">www.atsdr.cdc.gov/toxfaq.html</a>
TOXNET <sup>®</sup>	The Toxicology Data Network is a group of databases covering toxicology, hazardous chemicals, environmental health, and related topics. It is managed by the <a href="http://toxnet.nlm.nih.gov">Toxicology and Environmental Health Information Program</a> in the <a href="http://toxnet.nlm.nih.gov">Division of Specialized Information Services</a> of the <a href="http://toxnet.nlm.nih.gov">National Library of Medicine</a> . <a href="http://toxnet.nlm.nih.gov">http://toxnet.nlm.nih.gov</a>
TPQ	Threshold Planning Quantity
TQ	Threshold Quantity
TRI	Toxics Release Inventory. <a href="http://www.epa.gov/tri">www.epa.gov/tri</a>
TRS	Terminology Reference System. The US EPA's glossary of commonly used terms. <a href="http://www.epa.gov/trs">www.epa.gov/trs</a>
TSCA	Toxic Substances Control Act. <a href="http://www.access.gpo.gov/uscode/title15/chapter53.html">www.access.gpo.gov/uscode/title15/chapter53.html</a>
TSD	Treatment, Storage, and Disposal
TWA	Time-Weighted Average
<b>U</b>	
UEL	Upper Explosive Limit
UF	Uncertainty Factor
UES	Uniform Emission Standard
UL	Underwriters Laboratory
Ullage	Amount by which a packaging falls short of being liquid full
UN	United Nations. <a href="http://www.un.org">www.un.org</a>
USCG	United States Coast Guard. <a href="http://www.uscg.mil">www.uscg.mil</a>
<b>V</b>	
Vapor Pressure	The pressure exerted by a volatile liquid while under defined equilibrium conditions. Vapor pressure is usually measured in millimeters of mercury (mm Hg).
VCE	Vapor Cloud Explosion
VLE	Vapor Liquid Equilibrium

VOC Volatile Organic Chemical

**W**

WAO Wet Air Oxidation

WEBWISER Internet information system for first responders in hazmat incidents.  
<http://webwiser.nlm.nih.gov>

WEEL Workplace Environmental Exposure Levels (AIHA).  
[www.aiha.org/Content/InsideAIHA/Committees/WEELcomm.htm](http://www.aiha.org/Content/InsideAIHA/Committees/WEELcomm.htm)

WHMIS Workplace Hazardous Materials Information System (Canada).  
[www.hc-sc.gc.ca/ewh-semt/occup-travail/whmis-simdut/index\\_e.html](http://www.hc-sc.gc.ca/ewh-semt/occup-travail/whmis-simdut/index_e.html)

WHO World Health Organization, the United Nations' specialized agency addressing public health. [www.who.int/en/](http://www.who.int/en/)

WISER Wireless Information System for emergency responders. A service of the U.S. National Library of Medicine, the system assists first responders in hazmat incidents. <http://wiser.nlm.nih.gov>

**XYZ**

XV Remote Activated/Controlled Valve