



Acquisition, Technology and Logistics

Contaminants of Emerging Concern

**DoD Industrial Hygiene Forum
June 5, 2007**

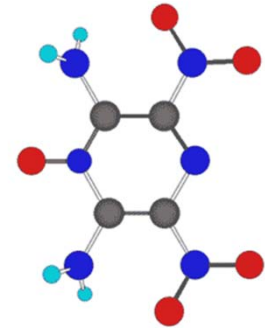
**John Seibert, CIH, CSP
Asst for Safety, Health & Fire
Office of the Deputy Under Secretary of Defense
(Installations & Environment)**



What is an Emerging Contaminant?

Acquisition, Technology and Logistics

- **Chemicals & materials with:**
 - Perceived or real threat to human health or environment
 - No peer reviewed health standard or an evolving standard
- **May have:**
 - Evolving human health data/science
 - New detection limits
 - New exposure pathways





Purpose

Emerging Contaminants (EC) Program

Acquisition, Technology and Logistics

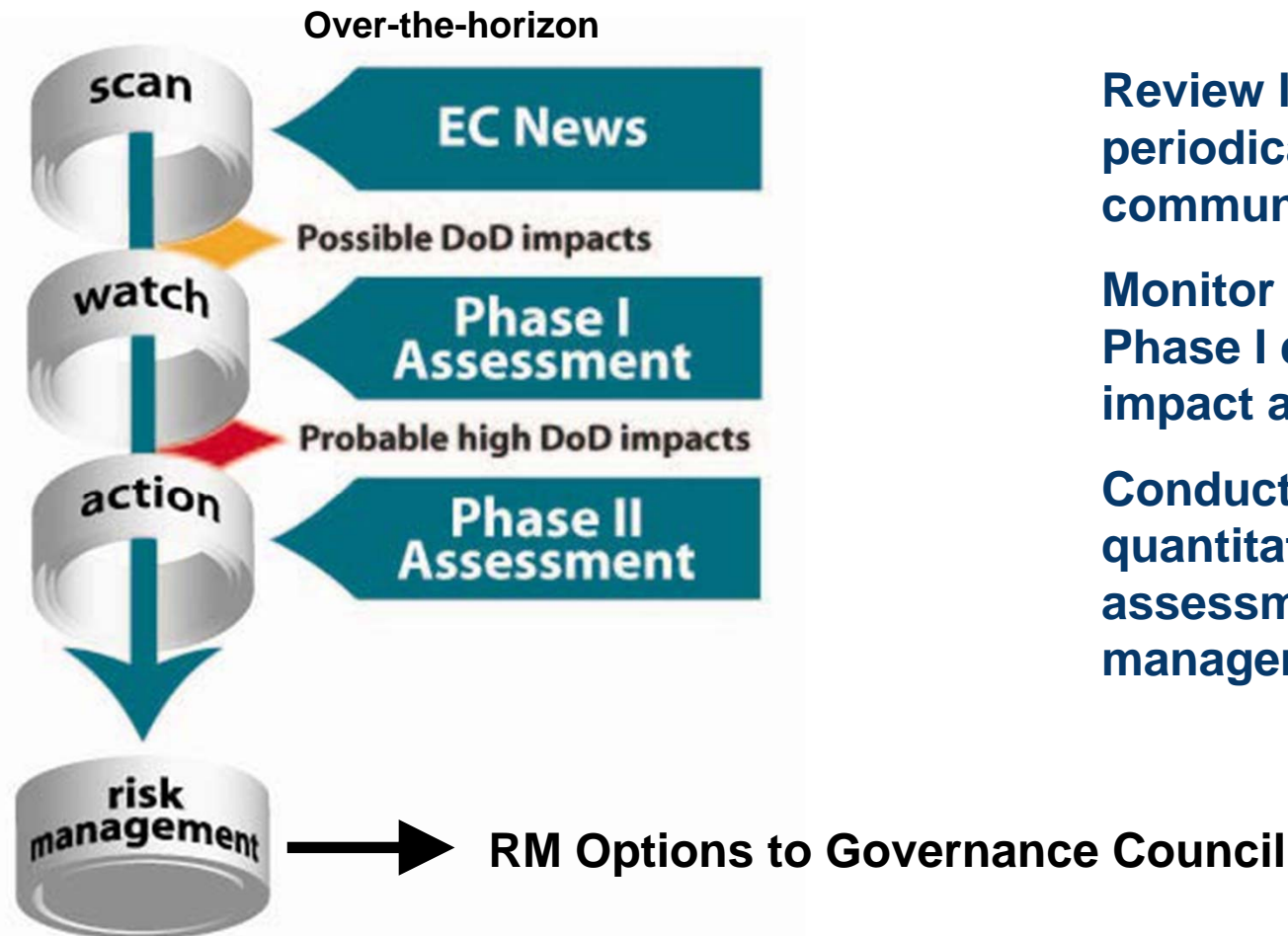
Proactively approach emerging contaminants to enable a fully informed, risk-based investment decision process that protects human health and DoD operational capabilities

Don't wait for regulations to take action



EC “Scan-Watch-Action” Process

Acquisition, Technology and Logistics



Review literature, periodicals, regulatory communications, etc.

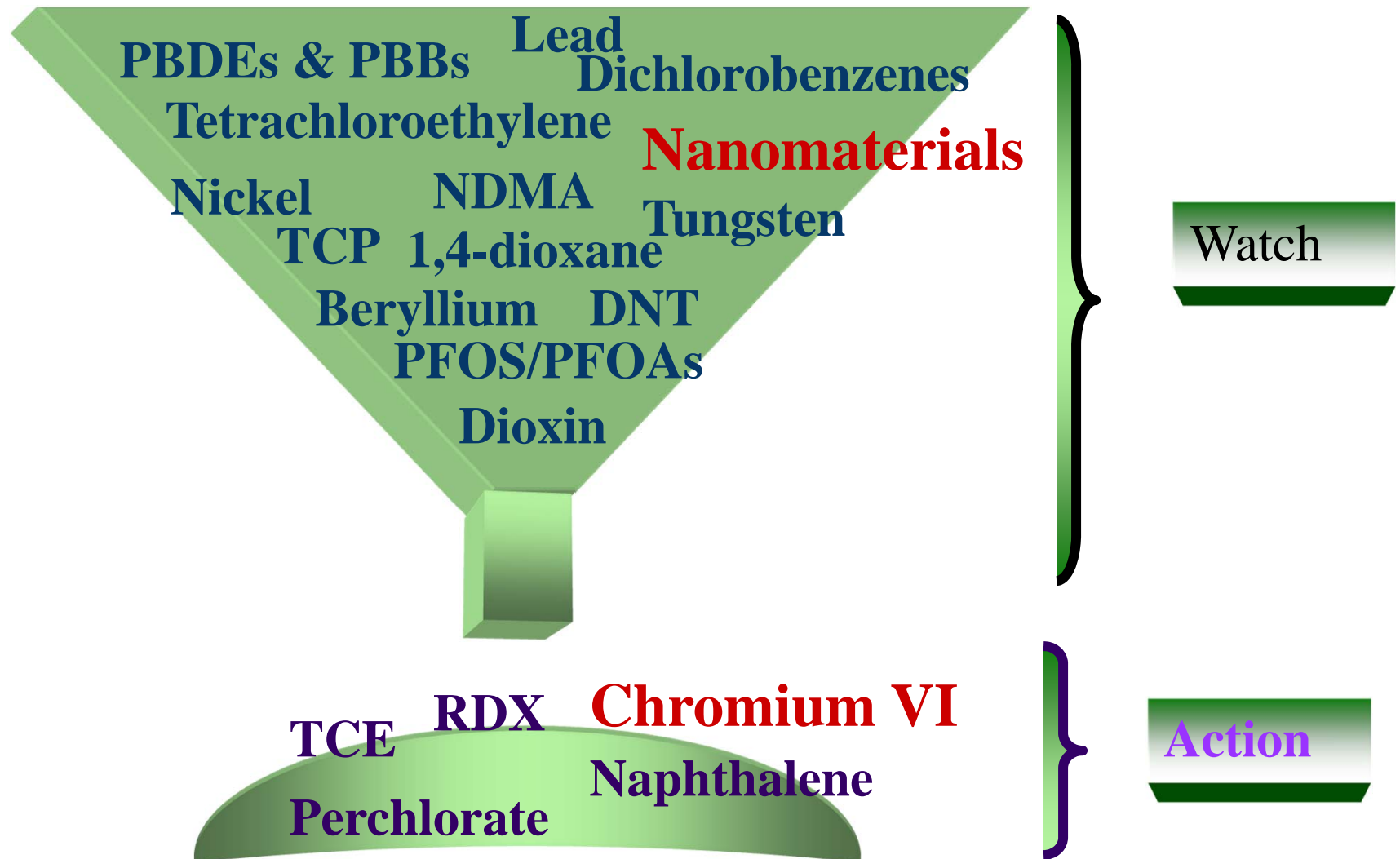
Monitor events; Conduct Phase I qualitative impact assessment

Conduct Phase II quantitative impact assessment with risk management options



DoD Assessments of Enterprise Risk as of May 2007

Acquisition, Technology and Logistics





Hexavalent Chromium

Acquisition, Technology and Logistics

- **Hex Chrome added to EC Action List in September 2006**
 - Phase II Assessment to identify risk management options initiated
- **Logic**
 - Critical uses on many Service platforms/systems (e.g., for wear resistance)
 - Risk of new OSHA rulemaking
 - European regulations restricting/banning use of Cr⁺⁶



Nanomaterials

Acquisition, Technology and Logistics

- **Research Community and ESOH co-chair work group on Nanomaterial ESOH issues**
 - Developing guidance on best management practices in a rapidly evolving environment
- **Logic**
 - Nanomaterials have enormous potential and significant risks
 - Standard materials can have unusual properties at nano-scale
 - OSD must understand the potential uses, monitor health & environmental effects, and keep users aware of issues
 - Desire is to avoid incidents that can slow technology implementation



More Information Available

Acquisition, Technology and Logistics

<https://www.denix.osd.mil/denix/Public/Library/MERIT/merit.html>



Get Involved!

Sign Up Today for Information

Acquisition, Technology and Logistics

DEPARTMENT OF DEFENSE
MERIT
*Materials of Evolving
Regulatory Interest Team*

*The Official DoD Source
for Emerging Contaminant Information*

Emerging Contaminants Directorate

Home Emerging Contaminants Resources Calendar

www.dodmeritinfo.net

Quick Links

- Policy & Guidance
- Glossary

Contact Us

Feedback
We value your input. Please let us know how we can serve you better...

DoD Account Login:

DoD is committed to protecting the public, our work force, the environment, and our national security.

About MERIT
The Materials of Emerging Regulatory Interest Team (MERIT) consists of individuals

What is an Emerging Contaminant?

Emerging Contaminants are chemicals or materials of interest that are characterized by:

- A perceived or real threat to human health or environment

What's New

Announcements

July 27, 2006
NAS releases its report "Assessing Human Health Risks of TCE: Key Scientific Issues"

January 26, 2006
EPA Issues Guidance for Protective



Backups



How Can ECs Affect DoD?

Acquisition, Technology and Logistics

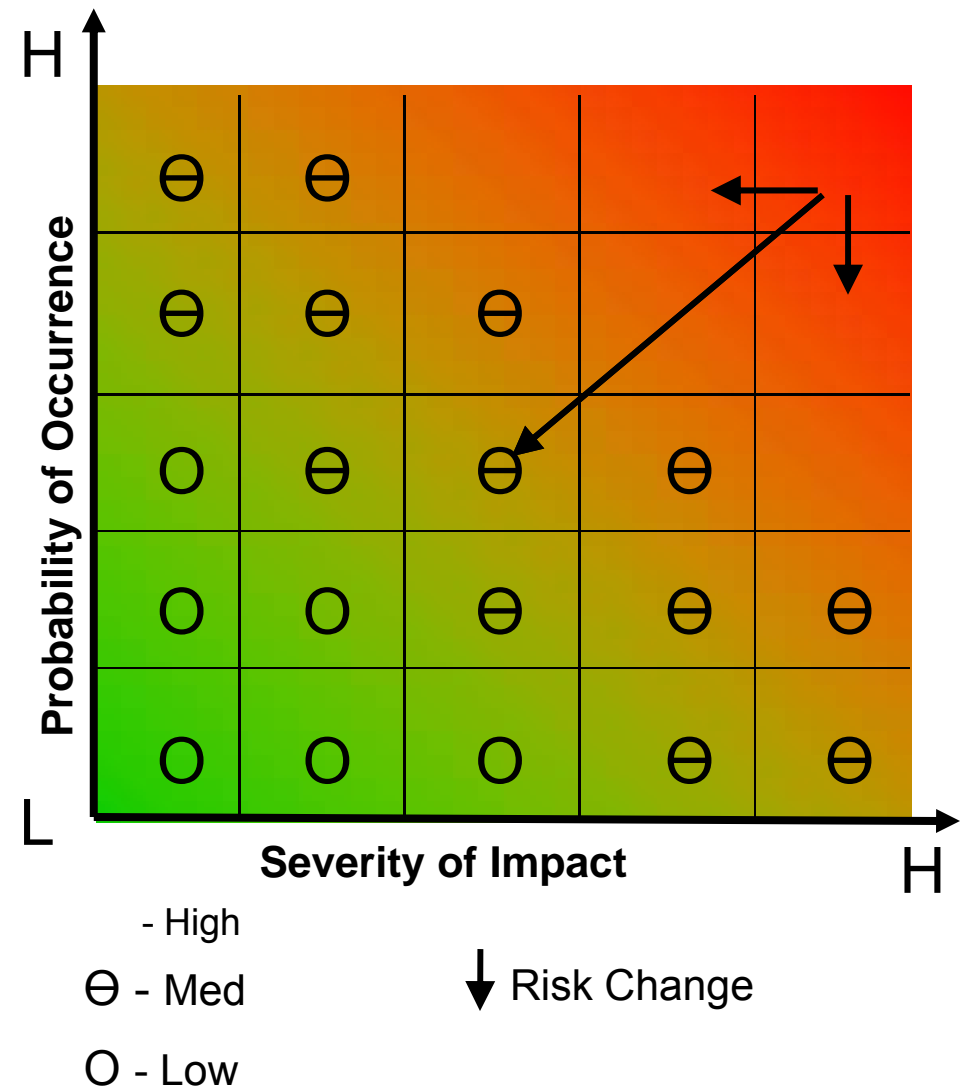
- **Adverse health effects on operating forces, DoD employees, and/or public**
 - Human health protection paramount
- **Reduced training/readiness**
 - Restrictions on use of ranges
- **Restricted or non-availability of material**
 - Adverse impact on mission-critical applications & industrial base
- **Increased O&M and/or cleanup costs**
 - Resource drain from mission needs



Phase I Assessment Risk Cube

Acquisition, Technology and Logistics

- Define the negative influences on the enterprise in question
- Risk management actions move ECs to lower left...lower risk
- Measure progress by quantifying risk reduction

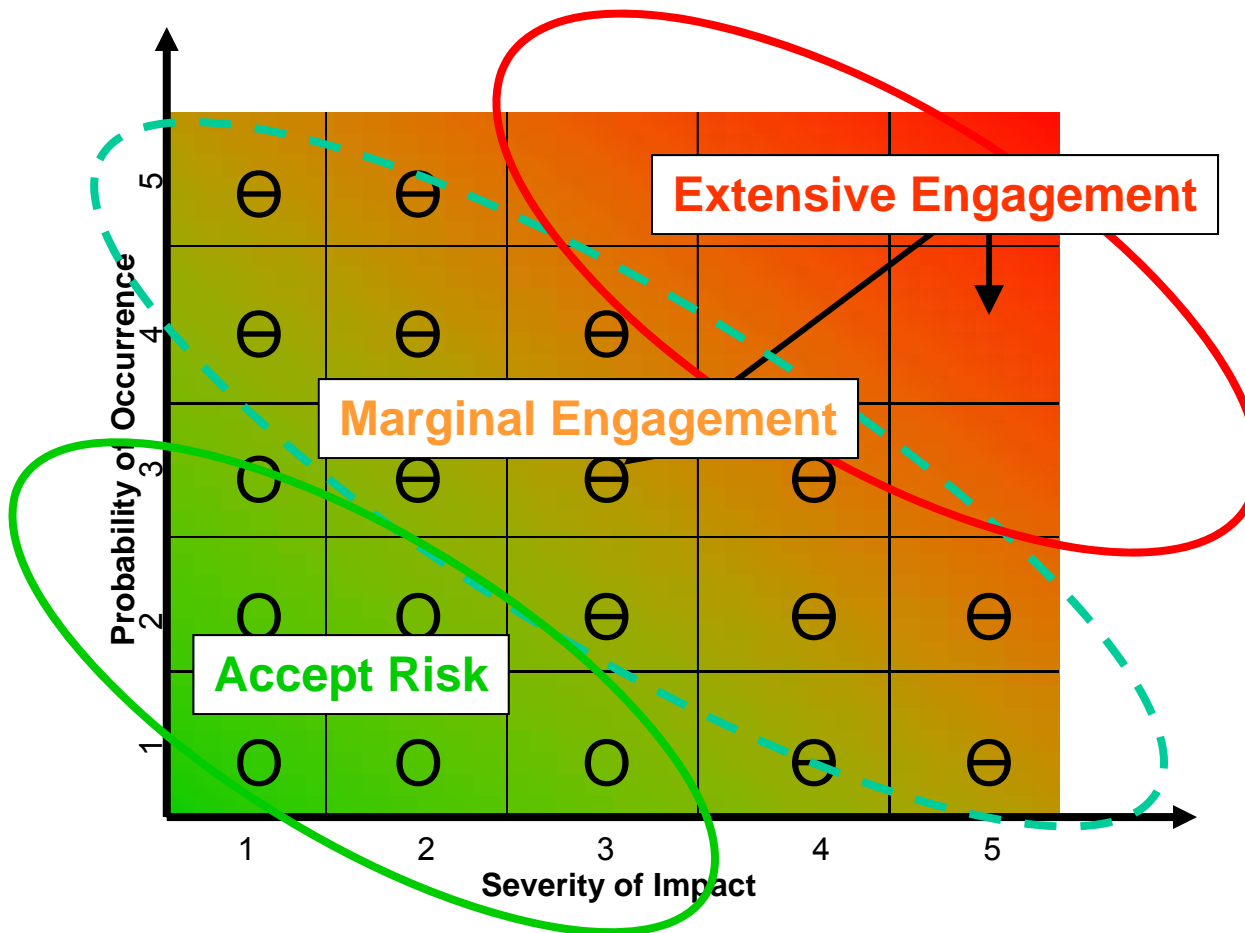




Integrated Risk Management

Acquisition, Technology and Logistics

RM Options



- Fill science gaps
- Risk communication
- Material substitution
- Process changes
- Regulatory engagement
- Stockpile material
- Exposure assessment
- Increase compliance monitoring
- Personal Protective Equipment upgrades
- Research, Development, Testing & Evaluation
- Acquisition changes
- Benchmark with industry
- Additional training



Phase I EC Impact Assessment

Acquisition, Technology and Logistics

1.

Probability of Regulation/Re-regulation

2.

Impact on DoD Functional Categories

Environment Safety & Health	Readiness & Training	Acquisition	O&M of DoD Assets	Cleanup
H	H	H	H	H
M	M	M	M	M
L	L	L	L	L

3.

Results



- **Decision – Move to Action List?**
- **Initial Risk Management Options**



EC Governance

Acquisition, Technology and Logistics

Players
ES&OH
Readiness & Training
Acquisitions
RDTE
O & M
HA

Range OIPT & Installations Capability Council

As Needed

EC Governance Council

Semi-annual

Deputy Assistant Secretaries (ESOH)

EC Steering Group

Monthly

As Needed

Material Champions & Working Groups





Examples – Past & Present

Acquisition, Technology and Logistics

- **Ozone Depleting Substances** - Refrigerants/fire suppressants...phased out of production!
- **Perchlorate** - Munitions/propellant oxidizer...very low toxicity levels being set by states (2 ppb in MA)
- **Hexavalent Chromium** - Heavy metal used in DoD systems/platforms...recent, revised 10-fold reduction in acceptable exposure level
- **PBDEs** - Fire retardants...EU banned in July 06....states following with legislation
- **Naphthalene** - Component of JP-8/fuels used throughout DoD...proposed as a carcinogen by EPA...low toxicity levels could have major impacts



Chemical-Specific Actions

Acquisition, Technology and Logistics

– Perchlorate

- DoD perchlorate policy issued...synchronized with EPA policy
- Sponsored health science peer review by National Academy of Sciences
- Coordinated input to MA & NJ MCL proposals
- SASC briefed
- Services reporting on sampling and remedial progress

– TCE

- Briefed NAS on science issues
- Sponsored health science peer review by National Academy of Sciences

– Naphthalene

- Meetings with OMB, federal agencies on issues and science gaps
- Developed recommended studies to fill science gaps & paper for Naphthalene State-of-Science Symposium

– RDX

- Secured EPA agreement on use of Army toxicity studies to eliminate cancer slope factor



IPT Decisions - Naphthalene

Acquisition, Technology and Logistics

- **Decision**
 - Move naphthalene to EC action list & identify risk management options
- **Logic**
 - Naphthalene is a component of fuels widely used by DoD
 - Carcinogen designation has potential impacts in a number of functional areas (health/safety, operations, O&M of assets, cleanup,)



EC Directorate Products & Services

Acquisition, Technology and Logistics

- **EC in the News...**provides brief news events & links
- **Scan-Watch-Action List & Impact Assessments**
 - Phase I impact assessments completed for 10 ECs
- **EC Web Site...**EC database and information
 - Perchlorate web site with sampling summaries
- **DoD Perchlorate Policy**
 - Synchronized with EPA Policy
- **Public Affairs Guidance & Q&As**
- **EC Executive Info Sheets** (planned)
- **EC Risk to Ranges Project** (underway)
 - Jointly funded by Range Commanders Council