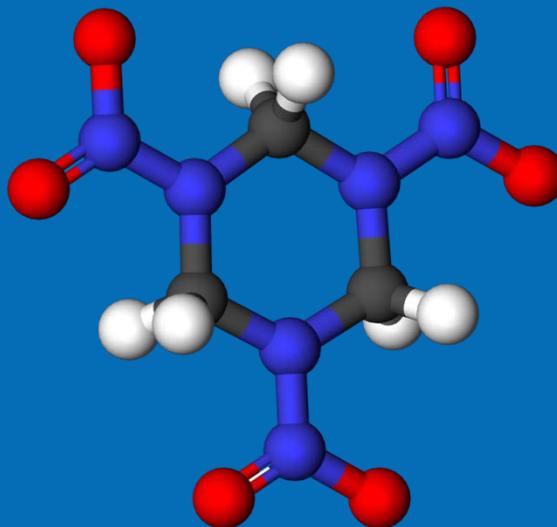


Preliminary Materials for the IRIS Assessment of Hexahydro-1,3,5-trinitro- 1,3,5-triazine (RDX)

Louis D'Amico, Assessment Manager



General Information

RDX is a white crystalline solid, produced at Army munition plants and used as a military explosive. It is not found naturally in the environment.

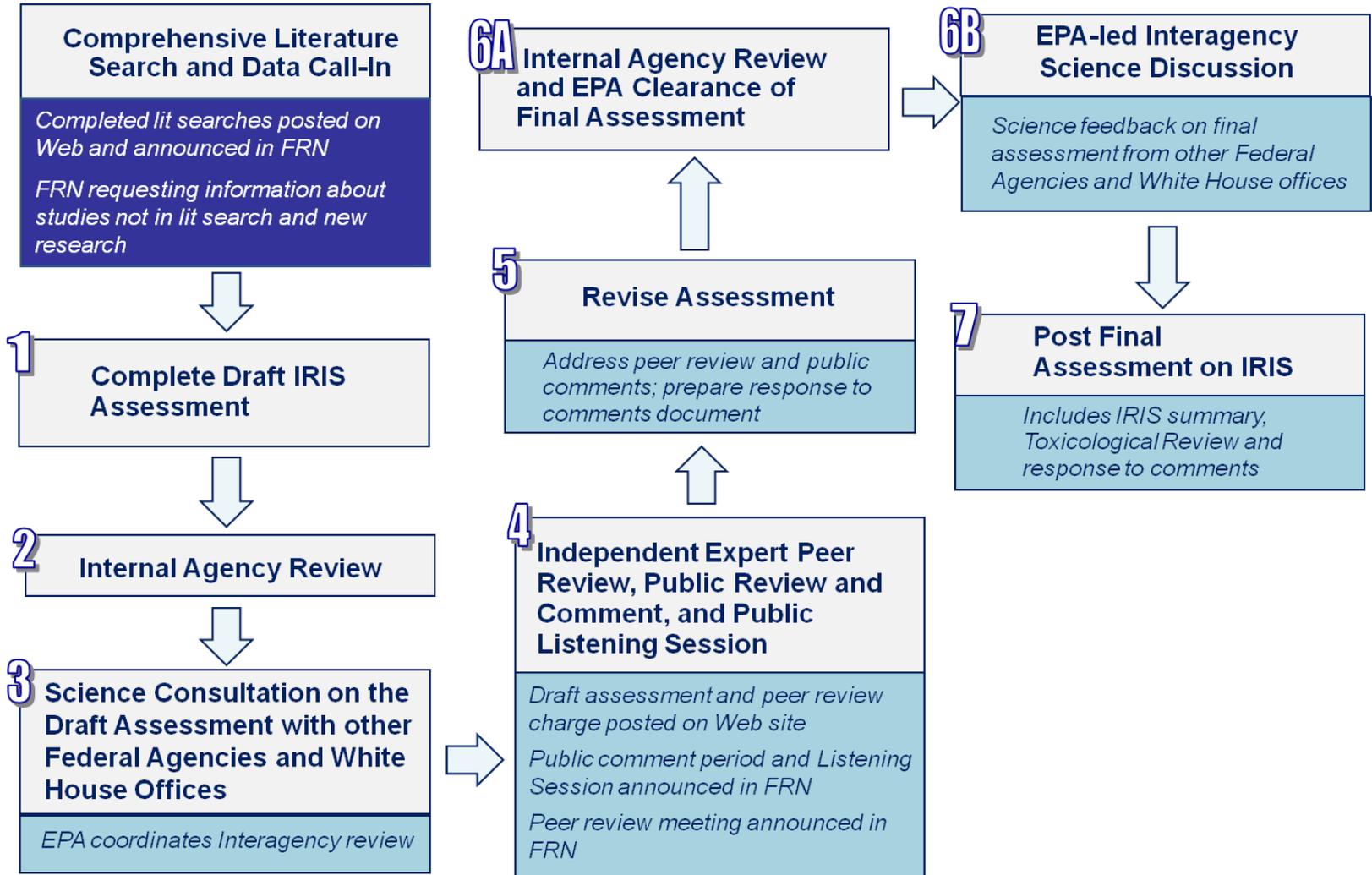
In May 2012, RDX was listed as a chemical of concern at 31 of the 33 U.S. EPA National Priorities List (NPL) sites at which the chemical has been detected in surface water, groundwater, sediment, or soil.

RDX has been included in the Office of Water's Drinking Water Contaminant Candidate Lists (CCL) since the initial listing was published in 1998. The presence of a chemical on the list suggests that it is known or anticipated to occur in public water systems.

Exposure

Individuals working at military facilities where RDX is produced or used may be exposed.

General population exposures may occur if individuals are in or around military facilities where RDX is produced or used, or in drinking water that is contaminated with RDX.



Preliminary Materials for the IRIS Assessment of RDX:

- Draft literature search strategy
- Draft literature search results
- Preliminary evidence tables
- Preliminary exposure-response arrays

*These materials are available online at:

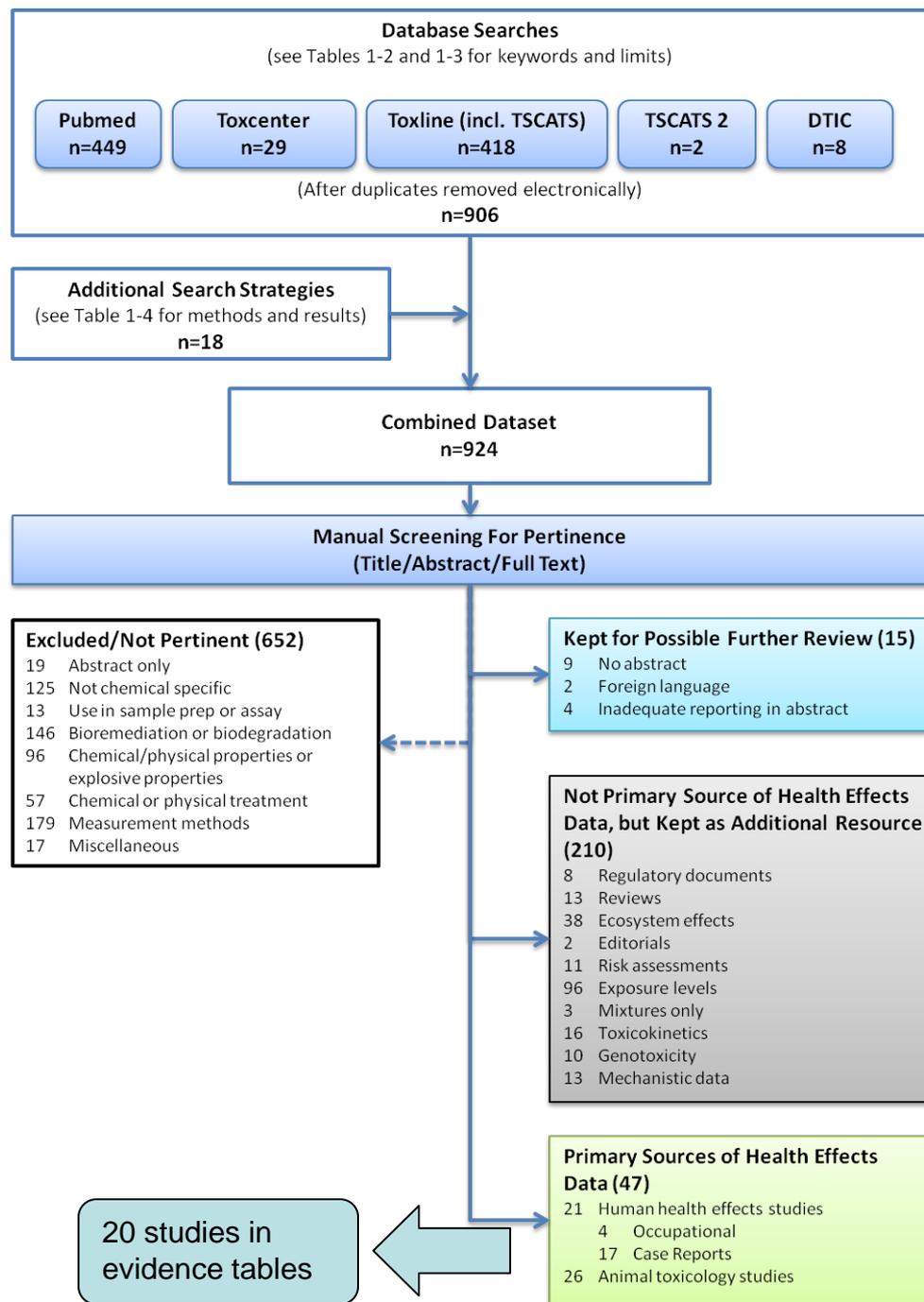
http://www.epa.gov/iris/publicmeeting/iris_bimonthly-dec2013/mtg_docs.htm

Literature Search Strategy

- The literature search identified more than 900 studies for RDX.
- 272 references are being considered for the assessment after an initial screen for relevance.

Data Extraction to Evidence Tables

- 20 references directly informing hazard identification are described in evidence tables.



Features of the RDX Database

	Chronic	Subchronic	Two-Gen Repro/Dev	MOA Information	PBPK
Oral	✓	✓	✓	✓	✓
Inhalation					

- Human data on exposures to RDX consist of case reports and 4 occupational studies.

Endpoints with Data for Evaluating Hazard

- *Neurological Effects*
- *Mortality*
- *Reproductive and
Developmental Effects*
- *Liver Effects*
- *Kidney Effects*
- *Cancer*
- *Other Systemic Effects*

Scientific Considerations

- *Male reproductive toxicity*
 - Suppurative prostatitis in male rats
- *Carcinogenicity*
 - Evidence for RDX-related tumors in the liver and lungs of female mice
- *PBPK modeling*
 - Evaluation of PBPK models for RDX in rats and mice

EPA welcomes all comments, such as:

- Clarity and transparency of materials
- Additional approaches for identifying studies
- Selection of studies for data extraction
- Study quality considerations
- Additional studies that may inform the assessment