Risk Assessment for Air Toxics: Tools for Balancing Science and Judgment

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Purpose

Introduction

- Purpose of Training Course
- Course Overview
- Learning Objectives
- Learning Units

Course Overview

- Target Audience: ?
- Required Background?
- Length: 3 Days
- Number of Students: 24-30
- Dates:?
- Locations:?

Learning Objectives

- ✓ **Understand Role of Risk in CAA**
  - – Describe the role of Risk Assessment within the Clean Air Act
- ✓ **Know Terms and Concepts**
  - – Understand and use key concepts and terms related to air toxics Risk Assessment
- ✓ **Identify Steps and Tools**
  - – Identify the basic steps and tools in conducting/evaluating Risk Assessments
- ✓ **Work in Teams** and collaborate with others in risk assessment activities
- ✓ **Optimize Learning**
  - – Boost learning results in the study of Risk Assessment and continue learning after instruction

Learning Objectives (Continued)

- ✓ **Interpret/Critique Results**
  - – Interpret and critique assessment results
- ✓ **Understand the Information Needs of Decision Makers**
  - – Able to describe a basic process of risk-based decision making and the information needed
- ✓ **Communicate Effectively**
  - – Communicate effectively with others about Risk Assessment
- ✓ **Understand the Purpose of Planning and Scoping a Risk Assessment**
  - – Can describe the basic parameters and importance of scoping and planning. Able to describe the how the balance of rigor and uncertainty within time and resource constraints affects a Risk Assessment

Learning Objectives (Continued)

✓ **Estimate Risk**

– Able to generate simple risk estimates

And begin to:

✓ **Access Resources**

– Recognize and access resources to aid in conducting/evaluating Risk Assessments

✓ **Select/Interpret Data**

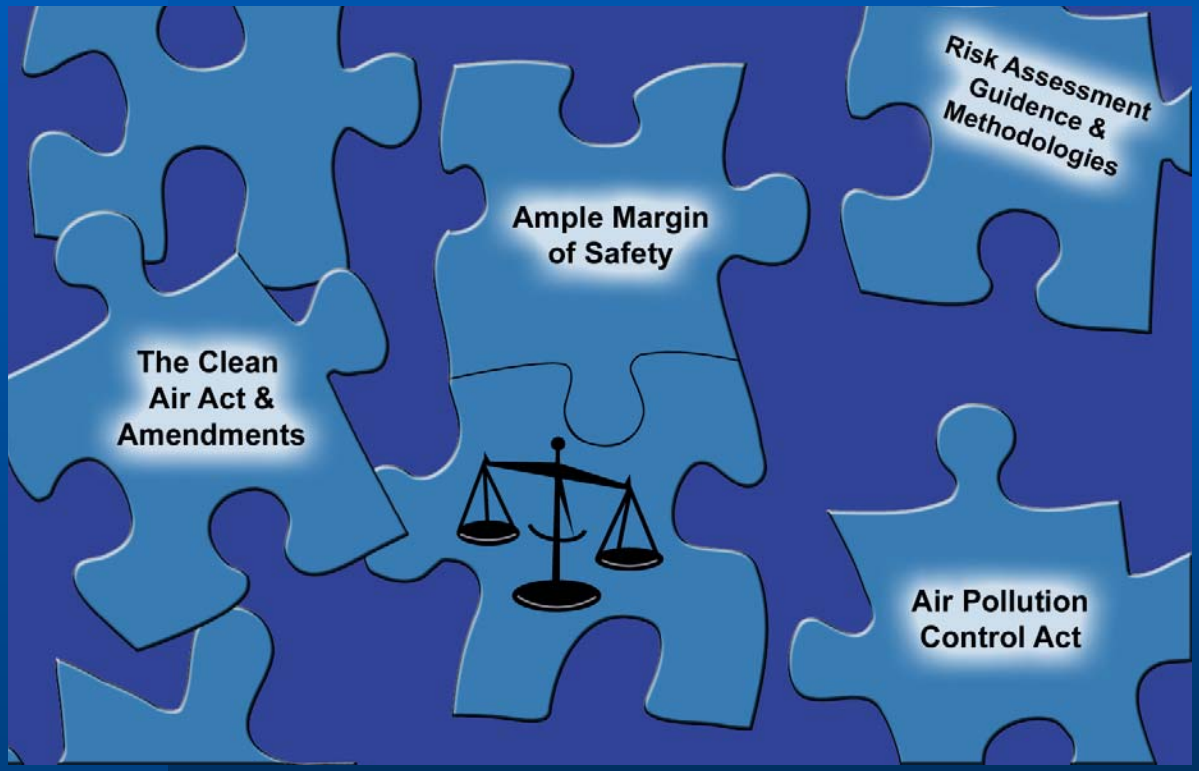
– Select data and appreciate that interpretation of data may be required to support each of the risk assessment components

✓ **Judge Data Quality**

– Judge the quality of data obtained and be able to decide on adequacy of data for intended purposes. Describe limitations of the selected data

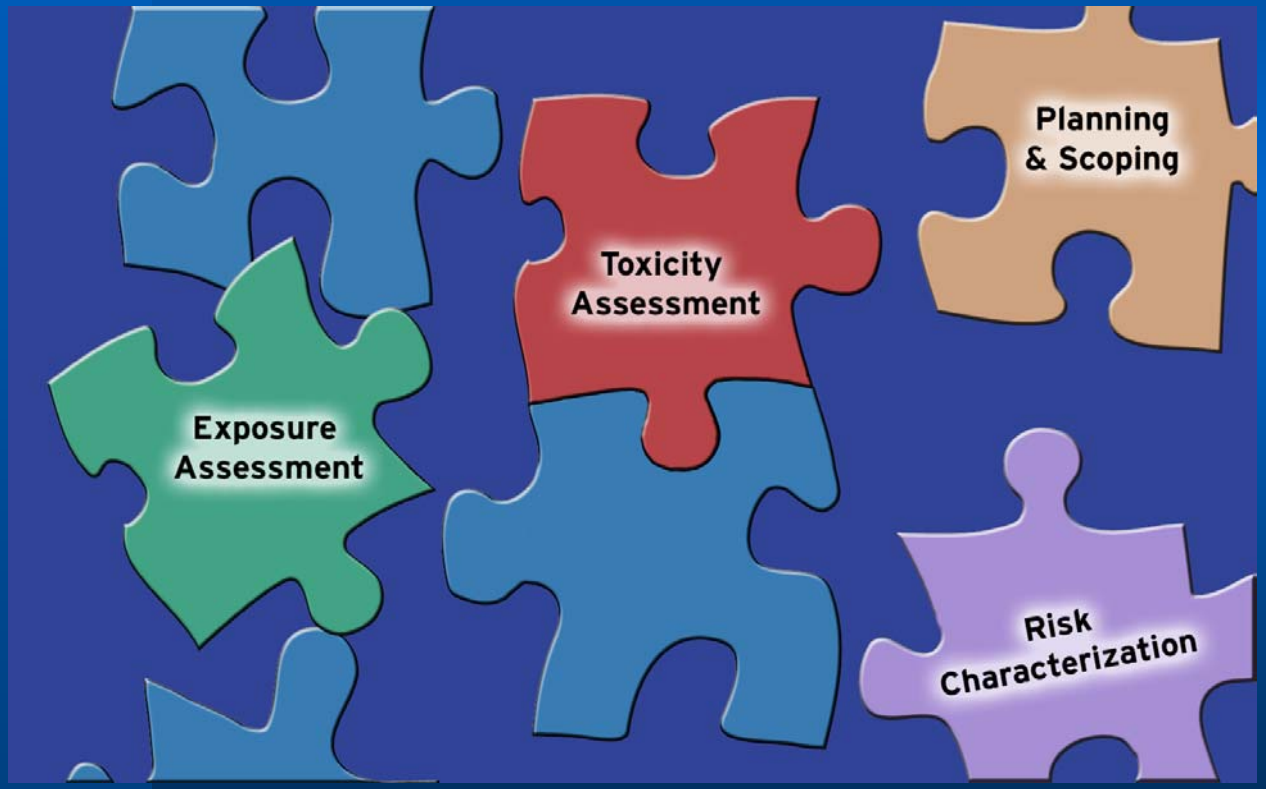
Learning Units (Selected Examples)

- History of Air Toxics



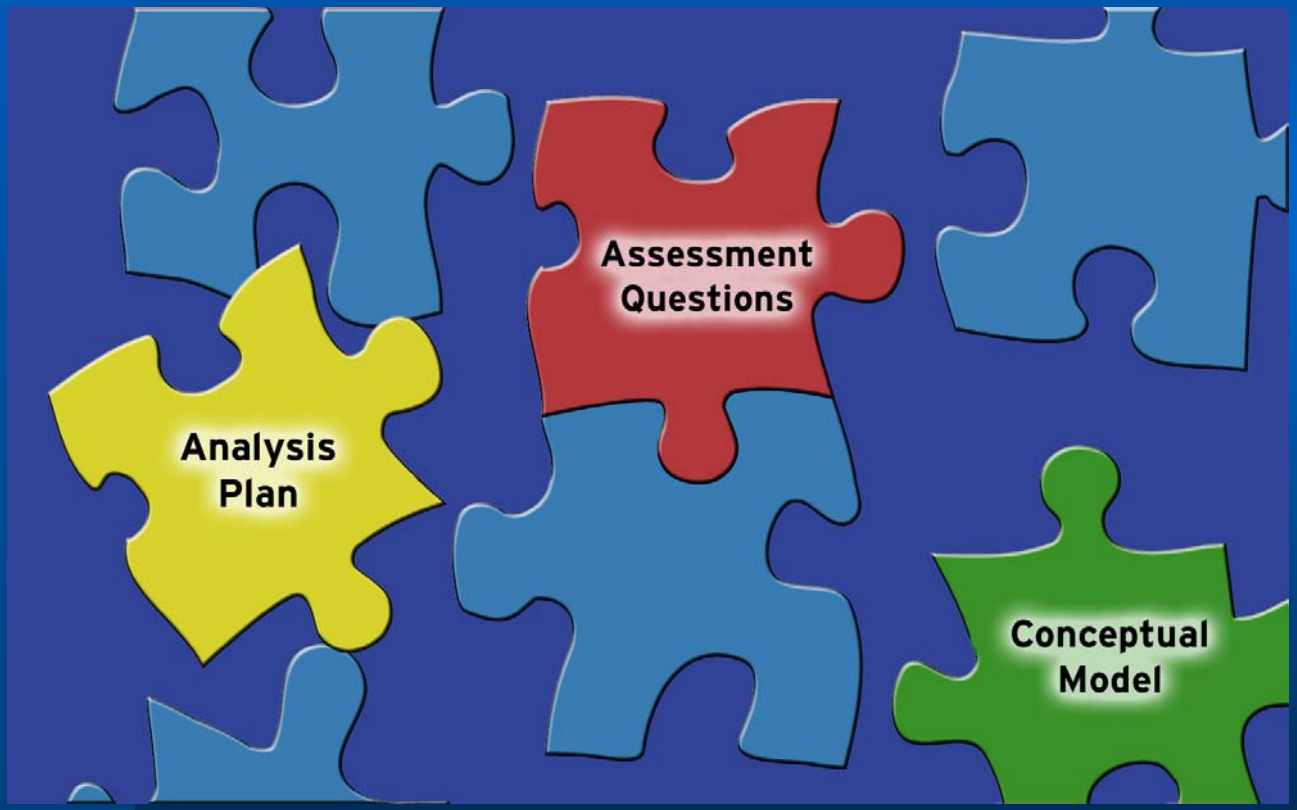
Learning Units (Selected Examples)

- Air Toxics Risk Assessment Process



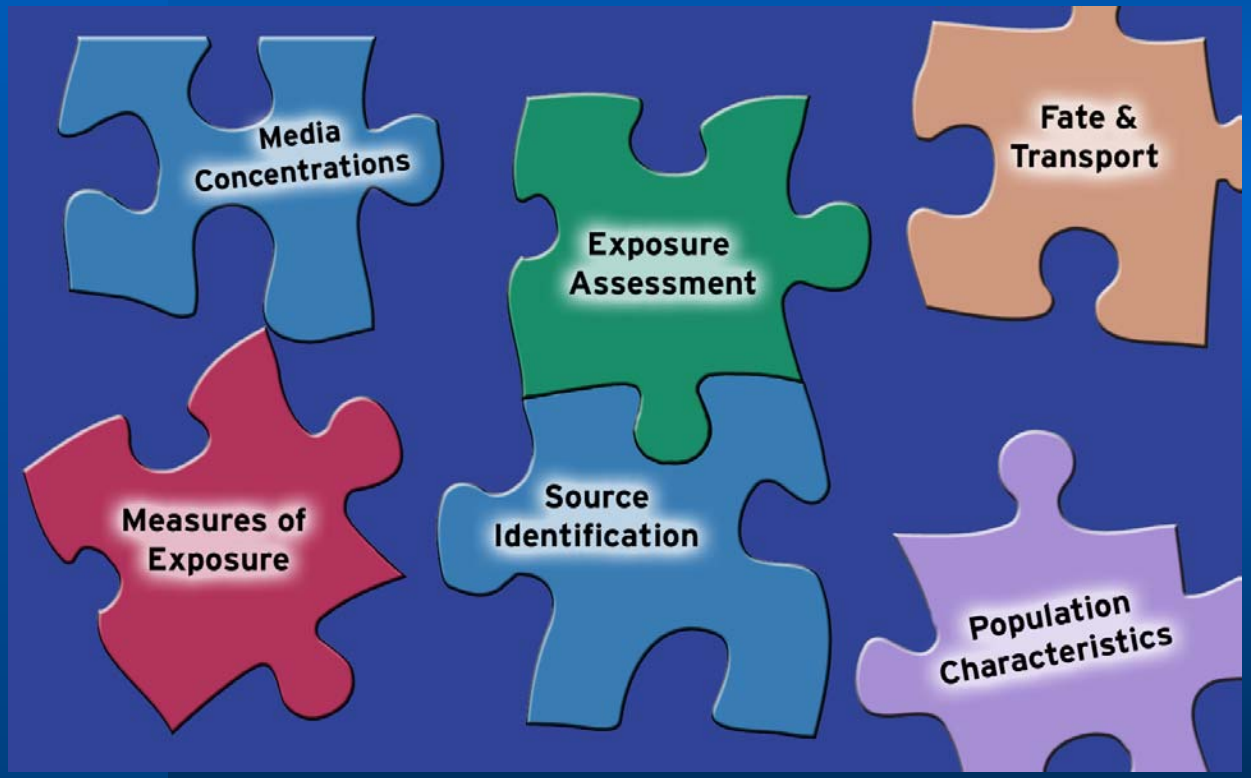
Learning Units (Selected Examples)

- Planning and Scoping



Learning Units (Selected Examples)

- Exposure Assessment



Learning Units (Selected Examples)

- Toxicity Assessment

Risk = f[(Measure of Exposure), (Measure of Toxicity)]

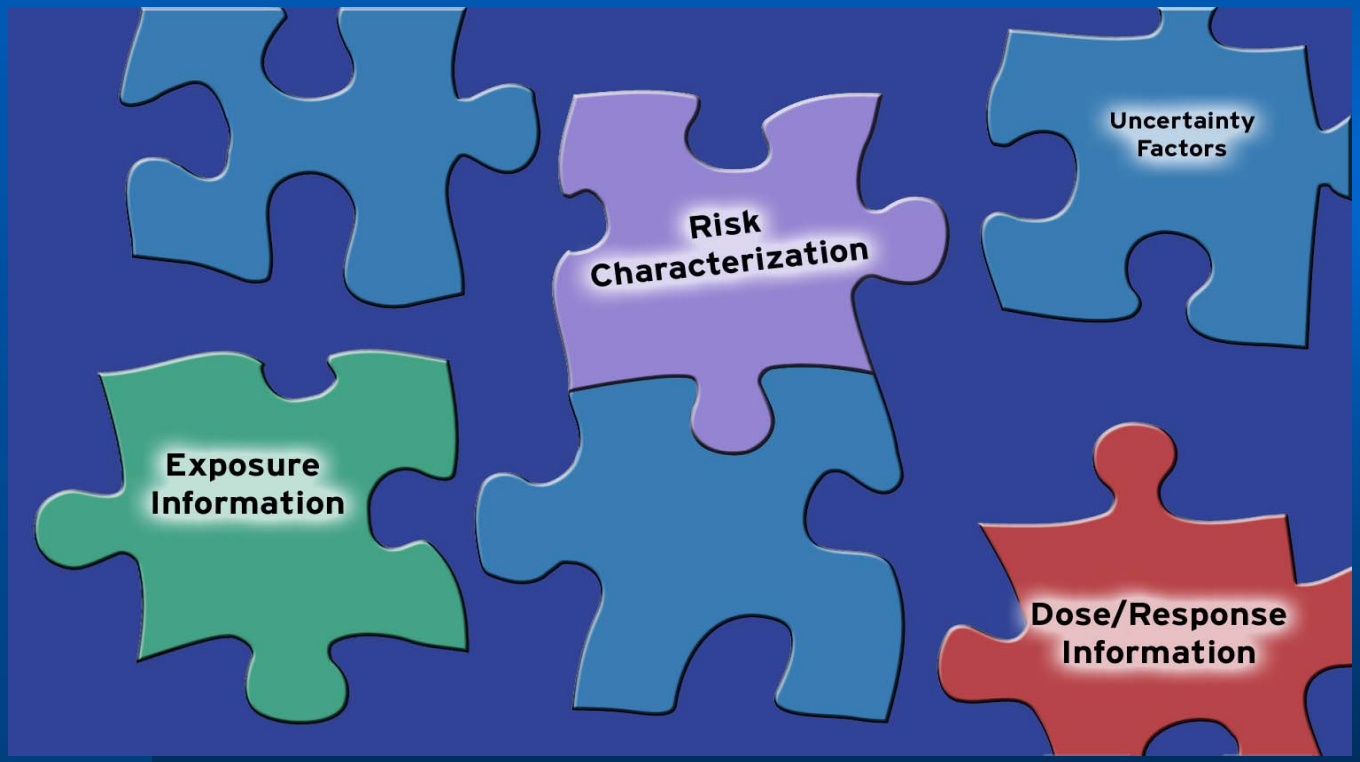
A 2-Step Process

1. *Hazard Identification*
   Is the chemical dangerous?

2. *Dose-Response Assessment*
   How potent is the chemical?
   …as a carcinogen?
   …for noncancer effects?

Learning Units (Selected Examples)

- Risk Characterization



Learning Units (Selected Examples)

- Risk Communication