

COURSE TITLE:	Field Chemical Analysis – One Day	Course No. & Version:	HAZ024 2012
TOPIC AREA:	Hazardous Materials	LEVEL:	Technician
SOURCE:	In House	Course No.	
PRIMARY DOMAIN:	<input type="checkbox"/> Didactic <input type="checkbox"/> Psychomotor <input checked="" type="checkbox"/> Combination		
DELIVERY METHOD:	15 % Lecture % Hands-on % Distanced % Distance 85% Other: Chemistry lab using FCA		
DURATION:	7 Hrs	SCHEDULING:	One day 0830 to 1730
PROGRAM GOAL:	Provide the hazardous materials technician with the ability to properly utilize various wet chemistry procedures to perform qualitative analysis of unidentified solids and liquids.		
TARGET AUDIENCE:	The target audience for this program includes emergency response personnel responsible for the implementation of the analysis of unidentified hazardous materials through air monitoring or qualitative analysis procedures. Both active hazardous materials technicians or those persons studying for such a position will benefit from this program.		
COURSE DESCRIPTION:	“Field Chemical Analysis” program is designed to provide the participant with an operating understanding of the basic principles of field qualitative analysis procedures using wet chemistry methods. The program emphasizes procedural safety, materials and analysis processes necessary to achieve a high degree of confidence in the application of the basic analysis procedures. This one day program is approximately 15% process overview and 85% hands on application using lab procedures.		
MAX STUDENTS:	20	MAX INST. RATIO:	1:7
STANDARDS MET:	29 CFR 191.120 Hazardous Waste Operations and Emergency Response 29 CFR 1910.1200 Hazard Communication Standard NFPA 472 Professional Competency for Responders to Hazardous Materials Incidents Florida SERC Public Sector Hazardous Materials Training Guidelines		
APPROVALS			
Organization	No. / Date	Conditions	
FSFC			
NOTES			

Field Chemical Analysis Procedures (One Day)

Program Description

The one day “Field Chemical Analysis for HazMat Technician” program is designed to provide the participant with an operating understanding of the basic principles of field qualitative analysis procedures using wet chemistry methods. The program emphasizes procedural safety, materials and analysis processes necessary to achieve a high degree of confidence in the application of the basic analysis procedures. This one day program is approximately 15% process overview and 85% hands on application using lab procedures.

Pre-Requisite

The one day Field Chemical Analysis Program (HAZ 024) requires a basic understanding of chemical families and hazards. Therefore, a Hazardous Materials Chemistry (HAZ006), Chemistry of Emergency Response (HAZ007), Fire Chemistry (FIR024) or Rapid Identification and Risk Assessment of Hazardous Materials (HAZ026) or equivalent courses are considered helpful pre-requisites but are not mandatory. The two day Field Chemical Analysis (HAZ015) includes “Rapid Identification and Risk Assessment of Hazardous Materials” in order to meet this requirement.

Target Audience

The target audience for this program includes emergency response personnel responsible for the implementation of the analysis of unidentified hazardous materials through air monitoring or qualitative analysis procedures. Both active hazardous materials technicians or those persons studying for such a position will benefit from this program. Although a attendance in basic field hazardous materials chemistry program is helpful, it is not a required prerequisite of this class.

Educational Objectives (One Day Field Chemical Analysis)

TECH – 2.3.2	Identify the steps in the analysis process for identifying unknown solid and liquid materials.
TECH – 2.3.2	Identify the steps in the analysis process for identifying unknown atmosphere.
FCA Specific	Identify the safety precautions necessary for field chemical analysis procedures
FCA Specific	Demonstrate the ability to complete a field chemical analysis on an unidentified solid and liquid hazardous material for the purpose of determine hazards present..
FCA Specific	Demonstrate the ability to conduct the following field chemical analysis procedures. <ol style="list-style-type: none">1) Cobalt chloride test2) Water reactivity test3) Water solubility test4) Peroxide test5) Oxidizer test6) Alcohol (polar) and hexane (non-polar) solubility test7) pH test8) Chlorine hot wire test9) Char test10) Acid test11) Evaporation test12) Combustibility test13) Ignition test14) Iodine crystal test
FCA Specific	Identify colorimetric sampling tubes or strips that may be helpful in identifying volatile un-identified liquids or gases.

Field Chemical Analysis (One Day)

Program Schedule

Morning Session 0830 - 1200

- Process overview
- Prescreening activities
- Safety procedures
- Materials and supplies

Break 15 minutes

- Basic Test Overview
- Analysis of unknown solid – instructor led
- Analysis of unknown solid – small team
- Analysis of unknown solid – small team

Lunch 1200 –1300

Afternoon Session

- Analysis of unknown liquid – instructor led
- Analysis of low volatility liquid – small team
- Analysis of high volatility liquid – small team

Break 15 minutes

- Layered materials
- Analysis of multiple layers
- Situation 1 – Independent work
- Situation 2 – Independent work
- Program clean-up
- Program completion