

Ohio Response System

Verification of Hazardous Materials/WMD Response Teams Resource Typing

The Ohio WMD/Hazmat and Decontamination Technical Advisory Committee (HM-TAC) has developed a plan for the deployment of Regional Hazmat/WMD Response Teams to provide assistance when the overwhelming impact of an event, natural or man made exceeds local resources. The response of regional resources would supplement a local jurisdiction or region, and operate under their command and within their established unified command structure.

The goal is to have a Type 3 Hazmat Team be available to all locations in the state within sixty (60) minutes. If a Type 2 Hazmat Team is requested, a team should be on scene within two (2) hours of the request and if a Type 1 Hazmat Team is requested, a team should be on scene within four (4) hours of the request. Each of these teams should be capable of self-sufficient operations for a twelve (12) hour work period. These goals are based upon the federal target capabilities.

In order to accomplish this, it was necessary to determine what Hazmat/WMD resources are available within the state, and within each region. Representatives from each region have attempted to identify each organized public safety Hazmat/WMD team within the state. Each team was then contacted and asked to complete an equipment inventory in order to assess their current equipment resources. The next step is to verify these resources actually exist.

The HM-TAC has developed team typing requirements based upon the NIMS Hazmat/WMD Team Typing model. The requirements establish team typing based upon equipment resources and trained personnel, in order to establish team capabilities. It is a starting point for team typing in Ohio and it is fully expected that the HM-TAC will continue to develop, modify and refine the matrix as we move forward.

Therefore, in order to verify that the established resources are available for regional, statewide and national response, the following system of verification is established:

1. When an organized public safety Hazmat/WMD Response Team wishes to be considered for inclusion in the Ohio Response System they shall request an application from the Ohio EMA Operations Division. The completed application will be sent to the Ohio EMA Operations Division on the appropriate form. When the completed application is received, the Ohio Hazmat TAC Committee Chairman shall be notified and the application shall be forwarded to the Ohio EMA Field Liaison assigned to the applicant's region.
2. When applying to be evaluated, the team shall indicate the level of typing they believe they qualify for. The application shall provide for self-evaluation and includes information from the applicant such as a description of the team's capabilities, inventory of equipment, team dispatch procedures, organizational structure and training. The Chief Executive Officer of the team shall certify that the team meets the requirements as applied for.

3. The Hazmat TAC Chairman (or his designee) will assign a site visit team who will schedule a site visit with the proposed team, usually within sixty (60) days. The purpose of the site visit will be to verify the information in the application, including the existence and response readiness of their equipment, and determine whether the team meets the criteria for the team type being considered.
4. The site visit team appointed by the Hazmat TAC Chairman shall at a minimum consist of an Ohio EMA field Liaison, the Hazmat TAC Regional Coordinator or alternate, and an additional Hazmat TAC member or a knowledgeable Hazmat Technician from the region, none of whom shall be from the team being evaluated. The Ohio EMA Field Liaison will coordinate the scheduling of the site visit with the applicant and the evaluators.
5. The site visit team will submit their findings to the HM-TAC Chairman on the approved form. The form shall indicate verification and/or any deficiencies. The applicant will have thirty days from the date of the original site visit to resolve any deficiencies and will be re-evaluated on just those items. Failure to resolve within thirty (30) days (or a reasonable extension granted by the site visit team with the approval of the Hazmat TAC Chair) will require reapplication and re-verification. If all deficiencies are resolved and verified within the thirty days, the results shall be presented at the next HM-TAC meeting for final approval by the committee. The final approval of verification shall be by a simple majority of the HM-TAC members present.
6. If a team has had a successful verification site visit within the preceding twenty-four months and now has the equipment and personnel necessary for a higher team typing, the team shall submit a formal written request to the TAC through the Ohio Emergency Management Agency requesting a review for the higher type team. Accompanying this request shall be documentation demonstrating that the additional required equipment has been acquired and that all other requirements have been met for the new team type. The TAC chairman will assign members from the original site visit team to review these documents and make a recommendation to the TAC membership, usually within sixty (60) days.
7. The following descriptions give some idea of the general capabilities which were considered when the specific team typing requirements were developed. These descriptions do not replace, limit or expand the specific team typing requirements in the Team Typing matrix which will be used to verify each team.

- a. Type III

An organized public safety Hazmat/WMD Response Team with at least ten (10) members trained to the hazmat technician level and which meets the specific HM-TAC criteria for being certified as a Type III team. These teams would be expected to be capable of detecting and measuring known industrial chemicals, collect samples of known industrial chemicals, be able to detect and measure beta and gamma radiation sources, be able to make entries into hot zones in liquid splash protective ensembles of

CPC, use printed and electronic reference materials, complete basic intervention/control techniques such as damming, diking and absorption, and be self-sufficient to perform decontamination of their own team members of known industrial chemicals.

b. Type II

An organized public safety Hazmat/WMD Response Team with at least fifteen (15) members trained to the hazmat technician level and which meets the specific HM-TAC criteria for being certified as a Type II team. These teams would be expected to be capable of detecting and measuring known and unknown industrial chemicals, using advanced detection equipment, collect samples of known and unknown industrial chemicals, be able to detect and measure alpha, beta and gamma radiation sources, be able to make entries into hot zones in liquid splash protective or vapor protective ensembles of CPC, use printed and electronic reference materials, perform plume air modeling and map overlays, complete basic intervention/control techniques such as damming, diking and absorption, complete advanced intervention techniques of plugging/patching, neutralization, liquid leak intervention, vapor leak intervention, and be self-sufficient to perform decontamination of their own team members of known and unknown industrial chemicals..

c. Type I

An organized public safety Hazmat/WMD Response Team with at least twenty (20) members trained to the Hazmat/WMD technician level (as defined in the team typing document) and which meets the specific HM-TAC training criteria for being certified as a Type I team. These teams would be expected to be capable of detecting and measuring known and unknown industrial chemicals using advanced detection equipment, detecting and measuring chemical and biological weapons of mass destruction with advanced detection equipment, collect samples of known and unknown industrial chemicals and WMD, be able to detect and measure alpha, beta and gamma radiation sources, be able to make entries into hot zones in liquid splash protective or vapor protective ensembles of CPC, use printed and electronic reference materials, perform plume air modeling and map overlays for industrial chemicals and WMD agents, complete basic intervention/control techniques such as damming, diking and absorption, complete advanced intervention techniques of plugging/patching, neutralization, liquid leak intervention, vapor leak intervention, as well as WMD confinement, and be self-sufficient to perform decontamination of their own team members of known and unknown industrial chemicals, and WMD agents.

Application for verification may be obtained by contacting:

Operations Division Director
Ohio Emergency Management Agency
2855 West Dublin-Granville Road
Columbus, Ohio 43235-2206
(614) 889-7159

**Ohio Response System
Hazardous Materials/WMD Response Teams**

Application for Hazmat Team Verification

Instructions

Organizations wishing to become verified by the Ohio Response System as a Hazardous Materials or Hazardous Materials/WMD Response Team must complete this application and submit it to the Ohio EMA Operations Division Director for consideration by the Ohio Hazmat/WMD and Decontamination Technical Advisory Committee (HM-TAC). You will be contacted by the Verification Team to schedule the site visit within sixty (60) days. All records and equipment required for verification must be present at one location for the site visit.

Applicant Information

Date of Application:			
Organization Name:			
Mailing Address/City/State/Zip:			
Name of Primary Contact:		Phone:	
Email Address of Primary Contact:		Other Phone:	
County:		ERP Region:	

Verification Site Visit

Level of Verification Requested:	<input type="checkbox"/> Type III <input type="checkbox"/> Type II <input type="checkbox"/> Type I
Location/Address of Site Visit:	
<ul style="list-style-type: none"> • Include Street Address, City, State and Zipcode • All equipment, SOG's, inventory, maintenance and training records must be brought to this single location for the site visit and verification. 	
Inspection Day/Time:	<input type="checkbox"/> Weekday <input type="checkbox"/> Weekend Requested <input type="checkbox"/> Daytime <input type="checkbox"/> Evening Requested
Site visits are normally scheduled on weekdays during daytime hours, but please note if this will not work for your location.	

I verify that the above information and all attachments are correct to the best of my knowledge. I agree to notify the Ohio EMA Operations Division in writing within thirty days if a change in equipment, personnel or capability occurs which would affect the team typing level of the applicant organization. I also understand that falsification of information in this application or misrepresentation of information in the site visit may be grounds for denial or revocation of team typing verification.

Applicants Signature:		Date:	
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For Committee Use Only:

Date Application Received:			
OEMA Field Liaison Assigned:		Date Assigned:	
Site Visit Evaluators Assigned:			
Confirmation Letters/Emails Sent:		Sent To:	
Date of Site Visit:			

For Committee Use Only:

Site Visit Report By:

Date Assigned:

Deficiencies Noted:

Deadline to Correct Deficiencies:

Verified as Corrected on:

 Report Attached as to How Deficiencies were Corrected

Recommendation of Site Visit Evaluators:

 Approve as Type _____ Disapprove Application

Evaluators Signature:

Date:

Evaluators Signature:

Date:

Evaluators Signature:

Date:

Decision of Hazmat TAC:

 Approved as Type _____ Disapprove Application

Date:

**Ohio Response System
Hazardous Materials/WMD Response Team
Application for Hazmat Team Typing Verification**

Name of Team:	
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- This document must be completed and submitted **PRIOR** to scheduling the site visit.
- The hazmat team seeking verification should complete detailed answers to the following questions and submit this documentation with the application.
- Additional documentation may be attached to supplement your responses. If documents are attached, please reference the pertinent question number on the attached document and write “see attachment” at the end of the written response.

1) Organizational Structure

- 1.a.) **What is the governing body of the hazmat team?**
- 1.b.) **Describe the organizational and command structure of the team during response to incidents?**
- 1.c.) **Describe the administrative structure of the team?**
- 1.d.) **Describe the funding sources for the hazmat team, where does the revenue come from, who decides how it is spent, etc.**
- 1.e.) **How is worker’s compensation for team members provided?**
- 1.f.) **How are vehicle, equipment and general liability insurance provided?**
- 1.g.) **Does your hazmat team have MOU’s or Mutual Aid agreements with other hazmat teams? If so, with whom?**
- 1.h.) **Do you have written Standard Operating Procedures or Guidelines for response to a hazardous materials release? If so, what are the titles of the topics covered in the SOP’s or SOG’s?**
- 1.i.) **Do you have written Standard Operating Procedures or Guidelines for response to a suspected terrorist act, criminal act or weapons of mass destruction incident? If so, what are the titles of the topics covered in the SOP’s or SOG’s?**

2) Personnel Attending the Site Visit

- 2.a.) **Who will be attending the Site Visit representing the Hazmat Team? (please provide name, address, phone number and email address)**
- 2.b.) **Who will be attending the Site Visit representing the governing body? (please provide name, address, phone number and email address)**

3) Alerting and Response

- 3.a.) What is the single point of contact (Dispatch Center) for requesting and alerting the hazmat team?
- 3.b.) What specific method will be used to alert the hazmat team for a response?
- 3.c.) Can “less than 30 minutes” (scramble response per ERP) deployment be expected?
- 3.d.) Has this been demonstrated in actual responses locally? If so, provide examples with detail.
- 3.e.) Is your equipment pre-loaded on vehicles or trailers which will respond to an incident, or will it be assembled and loaded after a request for response?
- 3.f.) Explain provisions so the team can be self-sufficient (water, food, fuel, equipment, communications) for 12 hours after arriving at an incident site?
- 3.g.) Does the team have sufficient personnel, equipment and resources to make three safe entries into a hot zone within a 12 hour period?

4) Communications

- 4.a.) Does the team plan to bring communications equipment to an incident?
- 4.b.) Is the radio equipment dependant upon a single repeater which is located in your home county? If so, how will you work around this?
- 4.c.) What type of radio equipment and frequency range (420, VHF, UHF, 800, etc) is used for “in-suit” communications between entry team members in the hot zone and supervisory personnel?
- 4.d.) What type of radio equipment and frequency range (420, VHF, UHF, 800, etc) is used for communications among hazmat team members not in the hot zone (command and control)?
- 4.e.) Do you have a MARCS mobile radio (not portable radio) that can be used by the hazmat team while they are enroute to an incident?
- 4.f.) Do you have a MARCS portable radio that can be used for Command and Control (inter-agency) communications while at an incident scene?

5) Staffing / Training

- 5.a.) How many total hazmat team personnel do you currently have? (Please have a roster available for review for the site visit. It must show name of team member and level of hazmat training.

- 5.b.) Did all hazmat team personnel shown on the roster complete training in accordance with OSHA 29 CFR 1910.120?
- 5.c.) Have all personnel shown on the roster maintained annual refresher training in accordance with OSHA 29 CFR 1910.120?
- 5.d.) Does your hazmat team have regularly scheduled drills or exercises?
- 5.e.) Has your hazmat team successfully completed its last SERC evaluated Hazmat Exercise? When was it?
- 5.f.) Where are the training records for the team kept? (please insure the availability of training records at the site visit location)
- 5.g.) Do your personnel participate in a medical surveillance program? If so, what is the frequency of exams? Who maintains the medical surveillance records?

6) Equipment

- 6.a.) Do you currently have all of the equipment required for the Team Typing Level you are seeking (as identified on Hazmat/WMD Team Typing Matrix v1.2) ?
- 6.b.) How frequently are meters and other instrumentation calibrated? (Please be specific for each type of meter or instrument)
- 6.c.) How frequently are Level A PPE garments tested?
- 6.d.) Will all of the team’s equipment be available in one location during the site visit so that it can be easily verified?

7) Additional Information

I verify that the above information and all attachments are correct to the best of my knowledge. I understand that falsification of information may be grounds for denial or revocation of verification.

Applicants Signature:

Date:

**Ohio Hazardous Materials and WMD - Technical Advisory Committee
Hazmat Team Typing - Required Equipment List (v1.3)**

1. FIELD TESTING AND DETECTION									
1.1 Color Change Analysis - Non-Electronic									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
1.1.1	TEST STRIPS, pH PAPER, Packets , To test acidity or alkalinity of aqueous solutions; Presence is based upon a color change. (i.e. ColorpHast, pHydriion, Whatman)	1 PKT		R	R	R			
1.1.2	TEST STRIPS, OXIDIZER, Packets : Physical or chemical property sensitive; Presence is based upon a color change. (i.e. Emquant, Sensafe)	1 PKT		R	R	NA			
1.1.3	TEST STRIPS, PEROXIDE, Packets : Physical or chemical property sensitive; Presence is based upon a color change. (i.e. Emquant, Sensafe)	1 PKT		R	R	NA			
1.1.4	TEST STRIPS, WMD CHEMICAL, Kit : Military grade detection papers for field testing of liquids only: (i.e. "M-8" paper booklet of 25 sheets, which are also part of the M256A1 Kit, for nerve agents GA, GB, GD, GF VX and blister agents L, H, HD). Strip turns to one of four colors.	1 PKT		R	NA	NA			
1.1.5	TEST PAPER, WMD CHEMICAL, Roll : Military grade (i.e. "M-9" paper rolls, for nerve or blister agents). Presence is based upon a single color change, and does not distinguish between nerve agents and blister agents.	1 PKT		R	NA	NA			
1.1.6	TEST PAPER, WMD CHEMICAL, Card : Military M256A1 plastic card test kit (Twelve disposable plastic test cards are part of the M256A1 kit; for nerve [GA, GB, GD, VX], blister [H, HD, CX, L], blood [AC, CK] Presence is based upon color changes)	1 KIT		R	NA	NA			
1.1.7	TEST CARD, TRAINING ONLY, WMD CHEMICAL : Military M256A1 Training Kit.	1 KIT		R	NA	NA			
1.2 Qualitative Analysis - Non-Electronic									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
1.2.1	INDUSTRIALCHEMICALS, UNKNOWN, Qualitative : Test Kit, Qualitative analysis, For testing and detection of unknown industrial chemicals, not for biological substances.(i.e. HazCat® Kit, 5-Step® Kit) If included in inventory, satisfies requirement for 1.2.1.	1 KIT		R	NA	NA			

**Ohio Hazardous Materials and WMD - Technical Advisory Committee
Hazmat Team Typing - Required Equipment List (v1.3)**

1.3 Qualitative Analysis Kits - Electronic									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
1.3.1	CHROMATOGRAPHY, GAS – Portable chromatograph system complete within a briefcase or attaché case, self-contained computer, database, and display.	1 Complete Kit of any one of three technologies described, or equal or better. Must be available for use at a scene.		R	NA	NA			
1.3.2	SPECTROMETRY, MASS or equal – Portable general mass spectrometry system complete within a briefcase or attaché case, self-contained computer, database, and display.								
1.3.3	SPECTROSCOPY, INFRA-RED: Portable identification system including computer, color display, software, 12 volt or 120 volt; Scans unknown with infra-red light and compares fingerprint with information in a database to identify unknown; Varies between 23 lbs to 45 lbs, depending upon manufacturer. (i.e. SensIR)								
1.4 Colormetric Analysis - Non-Electronic									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
1.4.1	COLORIMETRIC Kit, BASIC – For industrial chemicals spot analysis detection of vapors, gases (i.e. Draeger, MSA, Sensidyne, Matheson)	1 Complete Kit of any one of the three kits listed		R	R	NA			
1.4.2	COLORIMETRIC Kit, CHIP – Industrial chemicals spot analysis detection of vapors, gases; Miniaturized colorimetric tubes in a glass or plastic chip, often several chips to a packet. May include or require special bellows pump, electronic reader depending upon sophistication and manufacturer (i.e. Draeger CMS, or equal).								
1.4.3	COLORIMETRIC Kit, MULTI-SENSING – Adapter specifically designed to read up to five (5) or more tubes simultaneously (each tube can be different), during one reading survey (i.e. Draeger, or equal).								
1.4.4	COLORIMETRIC Kit, WMD Special – WMD chemicals spot analysis detection of vapors, gases; Consists of specially selected industrial chemical colorimetric tubes assembled by the manufacturer with special instruction on how to employ for some WMD chemicals detection. Requires more advanced interpolation of the data derived (i.e. Draeger CDS, or equal)	1 Kit, complete		R	NA	NA			

**Ohio Hazardous Materials and WMD - Technical Advisory Committee
 Hazmat Team Typing - Required Equipment List (v1.3)**

1.5 WMD Biological Detection - Electronic								
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO
1.5.1	AGENT SPECIFIC Biological Detection – A sampling and detection system which will verify presence of a biological substance based upon protein fluorescence, or PCR / DNA replication technologies. This system is agent specific. Devices from different manufacturers should be reviewed as each manufacturer may provide a different array of agents that can be detected. (i.e. Guardian Tetracore, protein fluorescence technology – Anthrax, SEB, Plague, Tularemia, Ricin, Botulinum, Bucella) - Or - (i.e. RAMP Systems, immuno-assay fluorescence technology, - Ricin, Botulinum, Anthrax, Small Pox) - Or - (i.e. Smith Bio-Seq, DNA replication technology, - Anthrax, Small Pox, Tularemia, Plague)	1 Stand-Alone System or Kit, or Equal or Better		R	NA	NA		

Ohio Hazardous Materials and WMD - Technical Advisory Committee
Hazmat Team Typing - Required Equipment List (v1.3)

2. AIR MONITORING									
2.1 Confined Space Monitoring									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
2.1.1	CONFINED SPACE OSHA STANDARD Four Gas: Continuous monitoring, independent displays, built-in alarms, minimum of 10 feet of tubing and sampling wand. Referred to as "Four-in-One" Kits: (O2 Presence in Percent; Combustible Vapor in LEL; CO presence; H2S presence)	See Quantity Required on the Right		3 ea	2 ea	1 ea			
2.1.2	CALIBRATION KIT , for Item # 2.1.1: For each type of the above that may be in inventory. (May be supplied by manufacturer as part of monitoring device kit). One cal kit may serve multiple units.	1 Kit for each type of meter		R	R	R			
2.2 Multiple Gas Monitoring, Toxic									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
2.2.1	TOXIC VAPOR, in ppm: Capable of detecting combustible atmospheres (VOC – Volatile Organic Compounds) and toxic vapors (TIC – Toxic Industrial Compounds); Capable of identifying specific substances; Resistant to damage from chlorinated hydrocarbons. (Example: Photo-ionization Detector such as Minii-Rae 2000, MSA or Scott PID)	See Quantity Required on the Right		2 ea	1 ea	NA			
2.2.2	CALIBRATION KITS: One for each type of the above that may be in inventory. One cal kit may serve multiple units.	1 Unit for each type of instrument		R	R	NA			
2.3 Speciality Gas Capability									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
	Each team must have the ability to detect, identify and quantify each of the following gases. Any one of several technologies may be used to accomplish this, such as colormetric tubes, electrochemical sensors or PID's. Other monitoring devices in the team's inventory may be used to meet this requirement.)								
2.3.1	AMMONIA: Detects Ammonia vapors to ppm, nominal range 0 to 100 ppm. (i.e. Innova, Rae)	1 Unit		R	R	NA			
2.3.2	FREONS, Halogenated Hydrocarbons: Halogen derivative refrigerants (i.e. Tif)	1 Unit		R	R	NA			
2.3.3	HALOGEN GASES: Specifically Chlorine, Bromine (i.e. AirWare; Biosystems; RKL, Innova, Rae)	1 Unit		R	R	NA			
2.3.4	PHOSPHINE:	1 Unit		R	R	NA			
2.3.5	CALIBRATION KITS: Maintenance or Calibration Kit for each of the above devices that may be in inventory, as necessary.	1 per Unit		R	R	NA			

**Ohio Hazardous Materials and WMD - Technical Advisory Committee
Hazmat Team Typing - Required Equipment List (v1.3)**

2.4 WMD Chemical Dedicated Instruments								
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO
2.4.1	NERVE AGENT Detection: This includes GA, GB, GD, GF, VX; (Example APD2000)	Must have a capability to monitor and detect for at least one substance in each of these six categories. This may require one to several instruments, depending on the versatility of each instrument.		R	NA	NA		
2.4.2	BLISTER AGENT – MUSTARDS Detection: This includes H, HD, HN, (Example APD2000)			R	NA	NA		
2.4.3	BLISTER AGENT – LEWISITE Detection: This includes L HL;(Example APD2000)			R	NA	NA		
2.4.4	BLOOD AGENTS Detection: This includes AC, HCN, CK, SA; . Some specialty industrial detection devices are available.(Example APD2000)			R	NA	NA		
2.4.5	CHOKING / VOMITING AGENTS Detection: This includes CG, DP, CL; . Some specialty industrial detection devices are available for Chlorine and Hydrogen Chloride. (Example APD2000)			R	NA	NA		
2.4.6	INCAPACITATING AGENTS Detection: Specifically Pepper Spray. (Example APD2000)			R	NA	NA		
2.4.7	CALIBRATION KITS: Maintenance or Calibration Kit for each of the above devices that may be in inventory, as necessary.	1 for each type of monitoring unit.		R	NA	NA		

**Ohio Hazardous Materials and WMD - Technical Advisory Committee
Hazmat Team Typing - Required Equipment List (v1.3)**

3. SAMPLING									
3.1 Substance Capture and Bulk Transfer									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
3.1.1	SAMPLING KIT, Basic : to obtain and store liquid and solid samples. Kit shall contain assorted clean glass jars, transfer pipettes, long handle dipper, forceps, funnels, spatula, spoons, sample vials, plastic ziplock bags, evidence bags, labels and permanent marking pens.	1 kit		NA	NA	R			
3.1.2	SAMPLING KIT, Advanced: to obtain and store liquid and solid samples. Kit shall contain assorted clean glass jars, transfer pipettes, swipe sample swabs, long handle dipper, forceps, funnels, spatula, spoons, poly sample jars, sterile glass sample jars, sample vials, plastic ziplock bags, evidence bags, labels, evidence seals, permanent marking pens and chain of custody forms.	1 kit		R	R	NA			
3.2 Bulk Liquid Transfer - Mechanical									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
3.2.1	PUMP, SYPHON, DRUM, Heavy Duty, Stainless Steel: For 55 gallon drums; stainless steel with Teflon piston; and hose	1 of any of these three pumps listed		R	R	R			
3.2.2	PUMP, SYPHON, DRUM, Heavy Duty, High Quality: For 55 gallon drums; PVC construction with Viton gaskets and valves; and hose			R	R	R			
3.2.3	PUMP, ROTARY, Transfer, Metal: Suitable for flammable liquids in 55 gallon drums;			R	R	R			
3.2.4	PUMP, DIAPHRAGM, HAND: Portable hand pump with handle, push-pull diaphragm; (i.e. Gall's, RMC Medical, Hoop, Aramsco)	1		R	R	R			

**Ohio Hazardous Materials and WMD - Technical Advisory Committee
Hazmat Team Typing - Required Equipment List (v1.3)**

3.3 Containerization, Labeling, Documentation									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
3.3.1	PHOTO, ASSESSMENT and RECONISANCE KIT, Film: Camera which provides "instant" printed images for analysis by on-scene personnel / Incident Command conducting hazard assessment. (i.e. Polaroid, Kodak, etc.)	1 Kit		R	R	R			
3.3.2	PHOTO, ASSESSMENT and RECONISANCE KIT, Digital: Camera digital which provides "instant" digital images for analysis by on-scene personnel / Incident Command conducting hazard assessment, and can be downloaded to computer and printed. (i.e. Nikon, Canon, Minolta, etc.)	1 Kit		R	R	NA			
3.4 Transportation									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
3.4.1	CONTAINER, BIOLOGICAL, Plastic: A complete packaging system consisting of locking screw lid and jars of various capacities (6 ml to 500 ml), reinforcing receptacle, and cardboard box, with labels and instructions; Suitable for low threat infectious, blood, and biological. (i.e. Saf-T-Pak)	1 kit, any size		R	NA	NA			

**Ohio Hazardous Materials and WMD - Technical Advisory Committee
Hazmat Team Typing - Required Equipment List (v1.3)**

4. RADIATION MONITORING/DETECTION									
4.1 Gamma, Beta, and Alpha Identification and Survey									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
4.1.1	SURVEY METER, GAMMA: Capable of detecting gamma radiation (10 keV), with visual display meter 0.001 milli-Roentgen to 1 Roentgen per hour scale, and includes counts per minute/counts per second scale (0-60,000CPM). May include additional support utilities such as headphone set, interchangeable probes, computer hardware receptacle. (Victoreen CDV700, Ludlum or equals)	1 Unit, Combination Unit will satisfy Requirement		R	R	R			
4.1.2	SURVEY METER, BETA: Capable of detecting beta particles (50 keV at 45% efficiency or 150 keV at 80% efficiency), with variable visual display readout in Roentgen and milli-Roentgen per hour, and includes counts per minute/counts per second scale. May include additional support utilities such as headphone set, interchangeable probes, and computer hardware receptacle. (Victoreen CDV700, Ludlum or equals)	1 Unit, Combination Unit will satisfy Requirement		R	R	NA			
4.1.3	SURVEY METER, ALPHA: Capable of detecting alpha particles (2.5 MeV with 70% efficiency), with variable visual display readout in Roentgen and milli-Roentgen per hour, and includes counts per minute/counts per second. Can contain a built-in detector or incorporate separate attachable detector probes.	1 Unit, Combination Unit will satisfy Requirement		R	NA	NA			

**Ohio Hazardous Materials and WMD - Technical Advisory Committee
Hazmat Team Typing - Required Equipment List (v1.3)**

4.2 Radionuclide Identification									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
4.2.1	RADIO-NUCLIDE DETECTION: Hand held instrument which includes either an internal or external detector, and also includes an internal memory of a radioactive nuclide library. Graphical display in counts per second, and energy corrected dose. Might be programmable for defined alarm levels. Might require docking station. May support download of stored data to computer display. Displays correct chemical name of identified radionuclide, classification, and nuclide size.	1 Unit		R	NA	NA			
4.3 Dosimeter									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
4.3.1	DOSIMETER, DIRECT READING: Direct reading of accumulated dose, or quantity of gamma and x-ray exposure. Requires hand-held re-charger, scale increments should be in milli-Roentgen. Good for quick, immediate, and initial emergency survey. Electronic dosimeter, with or without alarm in 4.3.3 will also satisfy this requirement.	See Quantity Required on the Right		20 ea	15 ea	10 ea			

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5. CHEMICAL PROTECTIVE CLOTHING									
5.1 Vapor Protective									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
5.1.1	VAPOR PROTECTIVE ENSEMBLE, NFPA 1991 Industrial Chemicals; At least one for each assigned member, not less than 6 for a Type I Company, and 4 for a Type II Company.	See Quantity Required on the Right		6 ea	4 ea	NA			
5.1.2	VAPOR PROTECTIVE, with 1991 WMD Chemical / Biological Protection: Includes additional NFPA 1991 WMD Chemical / Biological Protection Option; At least one for each assigned member (Can be same ensemble as 5.1.1 if so specified and certified)	See Quantity Required on the Right		6 ea	NA	NA			
5.1.3	VAPOR PROTECTIVE, with 1994 WMD Chemical / Biological Protection: A separate garment per NFPA 1994 Class One for high vapor threat protective ensemble, or Class Two for low vapor threat protective ensemble; (Can be in place of 1991 WMD Chemical / Biological Option)	See Quantity Required on the Right		6 ea	NA	NA			
5.1.4	PRESSURE TEST KIT: Usually supplied by garment manufacturer, includes Magnehelic gauge.	One		R	R	NA			

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5.2 Liquid Splash Protective									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
5.2.1	LIQUID SPLASH PROTECTIVE, NFPA 1992; Industrial Chemicals for liquid contact and splash protection (no vapor protection), can be jumpsuit style or multi-piece ensemble depending on manufacturer design.	See Quantity Required on the Right		6 ea	4 ea	4 ea			
5.2.2	LIQUID SPLASH PROTECTIVE, with NFPA 1994 Class 3 WMD Chemical / Biological Protection: A separate NFPA 1994 Class 3 WMD Chemical / Biological Protection Ensemble which provides for liquid splash protection, and provides a lesser level of physical property protection than NFPA 1992 garment. If selected to be in inventory, meets requirement for item 5.2.1.	See Quantity Required on the Right		6 ea	NA	NA			
5.3 Limited Use Protective									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
5.3.1	LIMITED USE, Splash Protective; Two for each assigned member (Saranated Tyvek or better)	See Quantity Required on the Right		40 ea	30 ea	20 ea			

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6. ANCILLARY PROTECTIVE EQUIPMENT									
6.1 Hand Protection									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
6.1.1	REPLACEMENT GLOVES, Vapor Protective: Compliant to NFPA Standard 1991. Replacement glove inventory must include ample supply of the manufacturer's "outer" glove. The "inner" glove is listed in item # 6.1.3 below.	See Quantity Required on the Right		6 pr	4 pr	NA			
6.1.2	REPLACEMENT GLOVES, Liquid Splash Protective: Compliant to NFPA Standard 1992. Replacement glove inventory must include ample supply of the manufacturer's "outer" glove. The "inner" glove is listed in item # 6.1.3 below. Doubling the number of 6.1.1 replacement gloves will satisfy this requirement, and reduce the number of different types of gloves.	See Quantity Required on the Right		6 pr	4 pr	4 pr			
6.1.3	UNDER-GLOVE: Light weight chemical resistant disposable type glove popularly used as an under-glove or "inner" glove for the 1991 and 1992 ensembles. Also is used separately for light duty work, handling, sampling. (i.e. Silvershield, 4H, Barrier)	24 pair		R	R	R			
6.1.4	HIGH TEMPERATURE Protective Glove: Provides nominal one minute of contact protection for surface temperatures of 800 o F to 1,000 o F, and 1,000 o F to 1,300 o F. Differing heat insulating ratings verses time is dependant upon manufacturer blend of Nomex© / Kevlar© / and PBI©.	2 pair		R	R	NA			
6.1.5	ULTRA-COLD Protective Glove: Gauntlet length minimum elbow; Provides nominal one minute continuous contact protection for liquids (minus) – 260 o F to (positive) + 300 oF. Often not suitable for immersion in liquid nitrogen	2 pair		R	R	NA			

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6.2 Foot Protection									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
6.2.1	BOOTS, CHEMICAL RESISTANT: For use with Vapor Protective or Liquid Protective garments, and originals may be supplied by garment manufacturers. Replacements for NFPA 1991 ensemble must meet NFPA Standard 1991; Replacements for NFPA 1992 ensemble must meet NFPA Standard 1992 or better; Replacements for use with NFPA 1994 ensemble must meet NFPA Standard 1994 or better. In order to reduce the number of boot sets on hand, one set of NFPA 1991 boots will satisfy requirements for both NFPA 1992 and 1994	See Quantity Required on the Right		20 pr	15 pr	10 pr			
6.2.2	BOOTIE, OUTER PROTECTIVE: Disposable chemical protective bootie slip-over that covers entirely a General Work Safety Boot for use in low threat level contamination environments. Not intended to take the place of nor provide protection equivalent to NFPA 1991, 1992 and 1994 CPC boots.	See Quantity Required on the Right		20 ea	15 ea	R			
6.3 Head and Eye Protection									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
6.3.1	HELMET: Light weight construction style helmet to provide head protection when wearing any CPC ensemble. Should include suspension system, and adjustable sizing.	See Quantity Required on the Right		8 ea	6 ea	6 ea			
6.3.2	GOGGLES: For use during sample taking, material testing and qualitative analysis; Wide angle wraparound to prevent frontal and side splash to eyes; Polycarbonate or better lens for impact resistance. Some available to fit over prescription glasses.	6 pair		R	R	R			
6.4 Support System									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
6.4.1	UNDERGARMENT, FIRE RESISTANT: Jumpsuit style garment, with or without pockets, of fire resistant material (Nomex, PBA, Kevlar or blend).	See Quantity Required on the Right		8 ea	6 ea	6 ea			

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7. TECHNICAL REFERENCE								
7.1 Printed References, Industrial and WMD Chemicals								
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO
7.1.1	DATABASE TYPE, Printed: Technical data, physical, chemical and toxicological properties (See Appendix E, Chart # 2)	3 Different References from Chart #2		R	R	R		
7.1.2	GUIDEBOOK TYPE, Printed: Intervention, incident handling, hazard assessment. (See Appendix E, Chart # 3)	2 Different References from Chart #3		R	R	R		
7.1.3	SPECIALTY TYPE, Printed: Special topics (i.e., rail tank car cross sections, pesticides, etc.) or specific information (i.e. incompatibility) (See Appendix E, Chart # 4)	2 Different References from Chart #4		R	R	NA		
7.1.4	STANDARDS TYPE, Printed: adopted consensus standards such as NFPA 471, 472, 473, 1991, 1994 (See Appendix E, Chart # 5)	1 each of: Appropriate NFPA standards		R	R	R		
7.1.5	REGULATORY TYPE, Response Guidelines, Printed: Local, Municipal, and County Response Plans, Regional and State ERP's	1 copy – Local Response Plans 1 copy – County ERP 1 copy - State ERP		R	R	R		
7.1.6	WMD Chemical / Biological Substances; Printed: Technical data, some guidelines, some first aid information. (See Appendix E, Chart #6)	At Least: – Chemical 1 – Biological 2		R	NA	NA		

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7.2 Electronic References, Industrial and WMD Chemicals								
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO
7.2.1	DATABASE TYPE, Electronic: Technical Data, physical, chemical and toxicological properties (See Appendix E, Chart # 7)	1 Program		R	R	NA		
7.2.2	GUIDEBOOK TYPE, Electronic: Intervention, incident handling, hazard assessment. (See Appendix E, Chart # 8)	1 Program		R	R	NA		
7.2.3	SPECIALTY TYPE, Electronic: Special topics (i.e. rail tank car cross sections, pesticides, etc.) or specific information (i.e. incompatibility). (See Appendix E, Chart # 9)	1 Program		R	R	NA		
7.2.4	WMD Chemical / Biological Substances; Electronic: Technical data, some guidelines, some first aid information. (See Appendix E, #10)	1 Program		R	NA	NA		

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7.3 Plume Air Modeling, Program Support									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
7.3.1	AIR MODELING, Database Software: (i.e., Cameo, Radian, or equal)	1 Program		R	R	NA			
7.3.2	AIR MODELING, Overlay / Plume Display Software: (i.e. Aloha, Radian, Charm, Safer, EIS, or equal)	1 Program		R	R	NA			
7.3.3	AIR MODELING, Mapping: Compatible with ground floor database program (i.e. MarPlot, G.I.S., or equal)	1 Program		R	R	NA			
7.4 Computer Hardware and Software									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
7.4.1	COMPUTER, for on-scene use: Desktop mounted in vehicle or laptop, with battery backup, with floppy disc drive, CD or CD-DVD disc drive, modem, ports to support printer/scanner/fax, and at least one extra USB service port; (Also must provide at least one extra telephone modem connection port for possible hard wire connection to the Internet for Type I and Type II).	1 Unit as Described		R	R	NA			
7.4.2	PRINTER, Color, for on scene use: Inkjet or laser or equal color print at rate of at least 10 pages per minute (black and white). This function can be combined with Fax / Scanner / Duplication.	1 Unit as Described		R	R	NA			
7.4.3	FAX Capability, for on scene use: Ability to Fax out or in, either by hard wire or by wireless; This function can be combined with Printer / Scanner / Duplication.	1 Unit as Described		R	R	NA			
7.4.4	DUPLICATION Capability, for on scene use: Ability to reproduce 8 ½ x 11 documents, black and white minimum. This function can be combined with Printer / Fax / Scanner	1 Unit as Described		R	R	NA			
7.4.5	ACCESS To INTERNET, Wireless: Hardware, connections and ports to provide ability to utilize radio or telecommunications network for computer to access the Internet	1 Capability		R	R	NA			

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8. SPECIAL CAPABILITES									
8.1 Advanced Technologies, Vision, Heat, Sound									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
8.1.1	LIGHT AMPLIFICATION, SCOPE, BASIC; Hand-held, portable stand-alone device for diminished light environments (Night Vision); Some configurations available include: Monoculars and binoculars, usually with built-in zoom capability.	1		R	R	NA			
8.1.2	INFRA-RED, SCOPE, Temperature Sensing Only: Hand-held, portable scope; with L.E.D. direct temperature reading display, nominal from -25o F to + 1000o F (i.e. Omega Scope; Cole Palmer, Raynger)	1		R	R	NA			
8.1.3	INFRA-RED, SCOPE, Hand-Held, Imaging: Hand-held camera-like device, provides image of viewing area in infra-red light only (not ambient visual light).(Thermal Imaging Camera)	1		R	R	NA			
8.1.4	CAMERA, VIDEO, Digital: Portable hand-held color video camera, with laser pointer, microphone, mountable on tripod; May have built-in compass, timer; (i.e. Search Systems)	1		R	NA	NA			
8.2 Advanced Technologies, Weather									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
8.2.1	WEATHER STATION, Basic Kit: Tripod or mounting bracket, wind monitor (up to 100 mph), barometer (+ or – 3 mBars), air temperature sensor (-20 to +120 degrees F), internal compass, humidity sensor (0 to 100%); Hardwire connections allow use of vehicle or generator power, and sends data back to digital receiver and/or a host computer, by hardwire and/or wireless transmitter. All data upgraded nominally every second.	1 Weather System		R	R	NA			

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9. INTERVENTION									
9.1 Chemical Intervention									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
9.1.1	NEUTRALIZATION – Acids: for concentrated Acid spills of up to 5 gallons: Should be neutral salt producing and non-polluting; Granular Sesquicarbonate recommended.(i.e. Spill-X A)	An amount sufficient to neutralize 5 gallon spill		R	R	NA			
9.1.2	NEUTRALIZATION – Alkali (Bases): for concentrated Alkali spills, up to 5 gallons; Should be neutral salt producing and non-polluting; Powdered Citric Acid recommended.(I.e. Spill-X C)	An amount sufficient to neutralize 5 gallon spill		R	R	NA			
9.1.3	ENCAPSULATING SPREADABLE POWDER - Pesticides: Granular spreadable / pourable, popular for water-based solvents, water-based pesticide encapsulation; Nominal size – 5 – 10 lbs dispenser box or bag.	1 Container		R	R	NA			
9.1.4	ENCAPSULATING SPREADABLE POWDER - Formaldehyde: Granular spreadable / pourable, popular for formaldehyde solvents, encapsulation; Nominal size – 5 gallon pail kit.(i.e. Spill-X FP)	1 Container		R	R	NA			
9.1.5	ENCAPSULATING SPREADABLE POWDER - Solvents: Granular spreadable / pourable, popular for acids, caustics, solvents, fuels, body fluids, poisons; Encapsulation and solidifies into a acrylic polymer solid; Nominal size – 2 gallon pail. (Spill-X S)	1 Container		R	R	NA			

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9.2 Environmental Intervention								
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO
9.2.1	PADS, ABSORBANT NON-POLAR SOLVENT, (Pads or Roll): Repels water, absorbs non-polar solvents (straight chain hydrocarbons, oils, some freon liquids, carbon tetrachloride); Nominal pad size 18" x 18";	150 sq feet of coverage		R	R	R		
9.2.2	PADS, ABSORBANT POLAR SOLVENT, (Pads or Roll): Repels non-polar solvents, absorbs polar solvents (water, acids, alkalis, aromatic hydrocarbons, some freon liquids) Nominal pad size 18" x 18";	150 sq feet of coverage		R	R	R		
9.2.3	BOOMS, ABSORBANT NON-POLAR SOLVENT (Pigs, Socks, Booms): Repels water, absorbs non-polar solvents (straight chain hydrocarbons, oils, some freon liquids, carbon tetrachloride); Assorted Diameters	40 feet total length		R	R	R		
9.2.4	BOOMS, ABSORBANT POLAR SOLVENT (Pigs, Socks, Booms): Repels non-polar solvents, absorbs polar solvents (water, acids, alkalis, aromatic hydrocarbons, some freon liquids); Assorted Diameters	40 feet total length		R	R	R		
9.2.5	PILLOWS, ABSORBANT NON-POLAR SOLVENTS: Repels water, absorbs non-polar solvents (straight chain hydrocarbons, oils, some freon liquids, carbon tetrachloride); Nominal size – 2 to 3 gallon absorption capacity each pad.	10 Gallon absorption		R	R	NA		
9.2.6	PILLOWS, ABSORBANT POLAR SOLVENT: Repels non-polar solvents, absorbs polar solvents (water, acids, alkalis, aromatic hydrocarbons, some freon liquids); Nominal size – 2 to 3 gallon absorption capacity each pad.	50 Gallon absorption		R	R	NA		
9.2.7	ABSORBANT SPREADABLE POWDER - Oils: Granular spreadable / pourable, popular for solvents, oils containment; Nominal size – 20 to 45 pound box or bag. (Clay oil sorbant)	1 Container		R	R	NA		
9.2.8	PIPE, PLASTIC: Assortment of various PVC pipe to aid in construction of over-flow and under-flow dams;	3 each		R	R	R		

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9.3 Mechanical Intervention									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
9.3.1	CHLORINE "A", Kit: For repair or plugging leaks in chlorine gas cylinders. (i.e. Indian Springs, Chlorine Specialties).	1 Kit		R	R	NA			
9.3.2	CHLORINE "B", Kit: For repair or plugging of leaks in chlorine one ton cylinders. (i.e. Indian Springs, Chlorine Specialties)	1 Kit		R	R	NA			
9.3.3	CHLORINE "C", Kit: For repair or plugging of leaks in chlorine rail tank cars or highway tank trucks. (i.e. Indian Springs)	1 Kit		R	R	NA			
9.3.4	SULFUR DIOXIDE UPGRADE For Kit "A": Allows for use of Chlorine Kit "A" for sulfur dioxide gas cylinders by providing special parts and gaskets.	1 Kit		R	R	NA			
9.3.5	SULFUR DIOXIDE UPGRADE For Kit "B": Allows for use of Chlorine Kit "B" for sulfur dioxide one ton cylinders by providing special parts and gaskets.	1 Kit		R	R	NA			
9.3.6	SULFUR DIOXIDE UPGRADE For Kit "C": Allows for use of Chlorine Kit "C" for sulfur dioxide rail tank cars by providing special parts and gaskets.	1 Kit		R	R	NA			
9.3.7	PATCH AND REPAIR, PIPE, LIQUIDS, Standard, Kit: Consists of (at a minimum) externally applied single bolt or dual bolt (preferable) steel pipe clamps, with rubber sheeting lining; Assorted sizes ranging from 1/2" dia. pipe to at least 4" dia. pipe; with extra 1/8" neoprene material. (i.e. Lab Safety, Cromwell, Vetter)	1 Kit		R	R	R			

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9.3.8	PATCH, TANKER, LIQUID: Large foam and plastic patch 12" x 7" with 6 feet of ratchet strap for 55 gallon drums. Extendable to 25 feet with extra strapping for highway tanker patching capability. (i.e. Lab Safety or equivalent)	1 Kit		R	R	R		
9.3.9	PATCH, DRUM, LIQUID, Compression, Kit: Consists of assorted patches and plugs, such as compression stopper plugs with butterfly nuts, ball plugs with butterfly nuts, sheet metal screw kit, tapered dowels, "T" bolt patches with 1/4" closed cell foam, 8" x 12" foam patch with bolts, 12" x 29" rubber patch, and 8" x 12" polyethylene patch and clamp with steel strap. (i.e. Lab Safety, Cromwell, or equal)	1 Kit		R	R	R		
9.3.10	PLUGS, CONICAL, LIQUID, Drain: Kit consisting of tapered plastic plugs with eye bolts for holes, drains, gravity flow pipes.	1 Kit		R	R	R		
9.3.11	PLUGS, EXPANSION, LIQUID, Standard, Kit: Kit consisting of plumber's style expansion plugs with wing nut; 1", 1 1/4", 1 1/2", 1 3/4", 2", 2 1/2", 3", 3 1/2", 4" for drains or open butt pipe. Kit commercially available but often is "home derived", assembling pipe plugs from local plumbing distributor.	1 Kit		R	R	R		
9.3.12	PLUGS, DOWELS, LIQUID, Assortment: Long tapered round wood, rubber, or plastic plugs ranging from 1" dia to 5" dia, and 3" long to 10" long	1 Kit		R	R	R		
9.3.13	DOMELID LOCK, Screw Clamp: Secures or tightens highway tanker "manway" lids; Adjustable for width with sliding clamp tongs, and large center screw bolt for tightening. (i.e. Cromwell, Shell Oil, Lid Loc, Clemens, or equal)	Set of at least 4		R	R	R		

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10. DECONTAMINATION									
10.1 Ground Protection									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
10.1.1	SHEETING, PLASTIC, ROLL, Heavy Duty: water repellent polyethylene.	1 Roll		R	R	R			
10.1.2	SHOWER, GROSS DECONTAMINATION: Usually utilized at first "station" in a decontamination corridor process; Can be homemade, many commercial styles available; Water supplied by garden hose or 1 ½" fire department connections; Fits into Catch Basin or comes with its own Catch Basin as a kit.	1		R	R	NA			
10.1.3	EYE WASH, Must have ability to flush eyes at scene. May arrive on other vehicle	1		R	R	R			
10.1.4	CONTAINMENT POOL, PORTABLE, LARGE: Rigid or inflatable sidewalls; Nominal 60" diameter.	3		R	R	R			
10.2 Support Tools for Decontamination									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
10.2.1	STOOLS, Portable: stackable or folding	4		R	R	R			
10.2.2	BRUSHES, LONG HANDLE, SOFT BRISTLE: Toilet type:nominal 16" long, with plastic bristles	4		R	R	R			
10.2.3	BRUSHES, CAR WASH TYPE, Long Handle: Soft bristled wand type brush, May come with garden hose connection to supply a flow of water at brush end.	2		R	R	R			
10.2.4	TOWELS, ABSORBANT, DRYING: Commercial laundry towels	8		R	R	R			
10.2.5	TRAFFIC CONES,	12		R	R	R			
10.2.6	SOAP or DETERGENT, SOFT, Biodegradable	1 Pint		R	R	R			
10.2.7	CHEM-TAPE: Nominal 2" wide in rolls of 50'. Similar to Duct Tape but has chemical resistant outer layer.	4 Rolls		R	R	R			
10.2.8	CLOTHING REMOVAL TOOLS: Such as blunt end medic shears.	1		R	R	R			

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10.3 Water Supply, Distribution Tools									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
10.3.1	ADAPTOR, 1 1/2" (or 2-1/2") to Garden Hose Reducer(s)	2		R	R	R			
10.3.2	MANIFOLD, 1-1/2" (or 2-1/2") female fire hose to multiple garden hose outlets with separate shutoffs	1		R	R	R			
10.3.3	HOSE, GARDEN: 12' TO 24' Lengths	3		R	R	R			
10.3.4	HOSE GARDEN, SHUT-OFF, In Line	3		R	R	R			
10.3.5	WRENCH, HYDRANT, UNIVERSAL	1		R	R	R			
10.3.6	APPLICATOR, NOZZLE, Garden Hose Adjustable	2		R	R	R			
10.3.7	APPLICATOR, PRESSURE, Garden Sprayer	1		R	R	R			
10.4 Collection									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
10.4.1	BUCKETS: Ordinary plastic, 5 gallon capacity	4		R	R	R			
10.4.2	BAGS, HEAVY DUTY YARD, Large	Ten		R	R	R			
10.4.3	DRUM, CONTAINMENT UNIT, 85 to 110 Gallon: Steel or polyethylene drum with removable bolt lid, suitable for multiple uses such as debris collection in De-Con zone, containment for leaking 55 gallon drum and other secondary containment, or catch reservoir for transfer operations.	2		R	R	R			
10.4.4	DRUM, LINER, 85 to 95 Gallon, heavy duty polyethylene	10		R	R	R			

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11. COMMUNICATIONS									
11.1 Radio									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
11.1.1	RADIO, PORTABLE, Intrinsically Safe: Walkie Talkie style, with carrying case, and appropriate support hardware to be worn on person; Those assigned for use in-suit to be equipped with separate private tactical channels..	See Quantity Required on the Right		6 ea	4 ea	4 ea			
11.1.2	RADIO, PORTABLE, In-Suit Communications: Complete with earphone system, microphone system (i.e. built into SCBA facepiece, or throat mic, or bone mic, or ear mic, etc), remote "Push-To-Talk" switch, and necessary attachable hardware and support connector system. Designs and configurations will vary and are influenced by support systems provided by portable radio manufacturer, and manufacturer of SCBA	See Quantity Required on the Right		6 ea	4 ea	NA			
11.1.3	RADIO, PORTABLE, Interchangeable battery: Two batteries assigned per unit, the second set for back-up; Certified intrinsically safe.	2 for ea portable unit		R	R	R			
11.1.4	RADIO, MARCS CAPABLE: Must have portable or mobile radio capable of communicating on MARCS ECOMM talk groups for use in communicating with Command Elements while enroute and at scene.	1 each		R	R	R			
11.2 Cellular Phone									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
11.2.1	PHONE, CELLULAR	1		R	R	R			

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12. RESPIRATORY PROTECTION									
12.1 SCBA and Supplied Air									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
12.1.1	SCBA, COMPLETE, STRUCTURAL, 1 Hour Rating: With bottle; unit must be NFPA and NIOSH certified for routine fire fighter use.	See Quantity Required on the Right		NA	6 ea	6 ea			
12.1.2	SCBA, COMPLETE, WMD CBRN, 1 Hour Rating: With bottle; unit must be NFPA structural fire fighting compliant and NIOSH certified for WMD CBRN threat atmospheres	See Quantity Required on the Right		8 ea	NA	NA			
12.1.3	BOTTLE, Spare: Extra replacement air bottle of same type, and size	1 for each SCBA		R	R	R			
12.1.4	SUPPORT, UMBILICAL AIR: Air from outside source (cascade system or portable air cart) supplied to wearer via umbilical hose system and manifold; Manifold to supply low pressure source to four users;	System to accommodate four users, 150' low pressure air hose each		R	NA	NA			
12.2 Air Purifying Respirators									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
12.2.1	MASK and UNIT, APR, CBRN: Full facepiece, single or dual cartridge style, speaking diaphragm, for use in industrial chemical threat atmospheres AND CBRN atmospheres.	20 each		R	NA	NA			
12.2.2	CARTRIDGES, APR or PAPR, INDUSTRIAL: Cartridges certified only for industrial chemical threat atmospheres; Cartridges to be multi-gas and organic vapor protective, with solid particulate and liquid aerosol protection	20 each		R	NA	NA			
12.2.3	CARTRIDGES, APR or PAPR, CBRN: Cartridges are certified for WMD CBRN threat atmospheres	20 each		R	NA	NA			

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13. TOOLS/OTHER									
13.1 General Purpose, Hand Tools, Large									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
13.1.1	SHOVEL, Steel:	2		R	R	R			
13.1.2	SHOVEL, Polypropylene plastic or equal:	2		R	R	R			
13.1.3	BROOM, Street , Stiff Polypropylene Bristle, with handle	1		R	R	R			
13.1.4	HAMMER, Sledge (7-10 lbs)	1		R	R	R			
13.1.5	BAR, WRECKING 36" or >	1		R	R	R			
13.1.6	COOLER, Rehydration: Industrial quality five to 10 gallon capacity with spigot, carrying handle. Some come with a cup dispenser, 5 – 20 gallon	1		R	R	R			
13.1.7	MEGAPHONE	1		R	R	R			
13.1.8	FIRST AID KIT - May be from other unit on scene	1		R	R	R			
13.1.9	MEDICAL MONITORING, Kit: For both Pre- and Post-entry to monitor baseline vitals; Includes stethoscope, aneroid gage sphygmomanometer, thermometer unit, and scale; Should include forms for documentation.	1 Kit		R	R	R			
13.1.10	ZONE MARKING, Kit: Contains all tools necessary to help set up and identify various hazardous work zones; Barrier tape – 1000 feet rolls, yellow marked “CAUTION – DO NOT ENTER” or equal, and 1000 feet rolls, red marked; DANGER – HAZARDOUS CHEMICAL” or equal;	1		R	R	R			
13.1.11	SCOPE, Spotting: Includes binoculars; Adjustable telephoto spotting scope or binoculars with adjustable focus.	1		R	R	R			

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13.2 General Purpose, Hand Tools, Small								
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO
13.2.1	HAMMER	1		R	R	R		
13.2.2	SCREWDRIVER, Flat, Kit	1 Kit of 3 Different		R	R	R		
13.2.3	SCREWDRIVER, PHILLIPS, Kit	1 Kit of 3 Different		R	R	R		
13.2.4	PLIERS, COMBINATION, Kit	1 Kit of 3 Different		R	R	R		
13.2.6	PLIERS, LOCKING, Vice Grip Type, Kit	1 Kit of 3 Different		R	R	R		
13.2.7	WRENCH, ALLEN, Complete Set, English (~9 piece)	1 Kit		R	R	R		
13.2.8	WRENCH, ALLEN, Complete Set, Metric (~9 piece)	1 Kit		R	R	R		
13.2.9	WRENCH, CRESCENT, Adjustable, Kit	1 Kit of 2		R	R	R		
13.2.10	WRENCH, PIPE, Adjustable Kit	1 Kit of 2		R	R	R		
13.2.11	WRENCH, UNIVERSAL, Bung Cap	1		R	R	R		
13.2.12	WRENCH, COMBINATION, Ordinary Kit	1 Kit of 10		R	R	R		
13.2.13	CHISEL, COLD, Standard or Hex	1 Chisel		R	R	R		
13.2.14	PUNCH, PIN, Spring Loaded	1		R	R	R		
13.2.15	KNIFE, PUTTY, Scrapping	1		R	R	R		
13.2.16	KNIFE, GENERAL UTILITY, Cutting	1		R	R	R		
13.2.17	SHEARS, Cutting	1		R	R	R		
13.2.18	STRAPS, RACHET, Tie-down	2		R	R	R		

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13.3 Special Purpose Tools									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
13.3.1	GROUNDING, CABLE: Insulated or non-insulated 3/16" or better carbon steel, 25 feet minimum, equipped with either "C" clamp / screw bolt or 3/4" pin point hand clamps.	Set of 3		R	R	R			
13.3.2	GROUNDING, ROD	1		R	R	R			
13.3.3	VESTS, I.C.S., Haz-Mat Group: For all of the positions within the HM Group	1 Set		R	R	R			
13.3.4	NON-SPARKING, Hammer, Sledge: 7 to 10 lbs	1		R	R	R			
13.3.5	NON-SPARKING, Hammer, Claw: 20 to 24 oz	1		R	R	R			
13.3.6	NON-SPARKING, SCREWDRIVER, FLAT, Kit	1 kit of 3		R	R	R			
13.3.7	NON-SPARKING, SCREWDRIVER, PHILLIPS, Kit	1 kit of 3		R	R	R			
13.3.8	NON-SPARKING, PLIERS, ORDINARY, Utility	1		R	R	R			
13.3.9	NON-SPARKING, PLIERS, WIRE, Side Cutting	1		R	R	R			
13.3.10	NON-SPARKING, PLIERS, LONG-NOSE, Needle	1		R	R	R			
13.3.11	NON-SPARKING, WRENCH, BUNG, Universal	1		R	R	R			
13.3.12	NON-SPARKING, WRENCH, CRESCENT, Adjustable, Kit	1 Kit of 2		R	R	R			
13.3.13	NON-SPARKING, WRENCH, PIPE, Adjustable Kit	1 Kit of 2		R	R	R			
13.3.14	NON-SPARKING, KNIFE, PUTTY, Scrapping	1		R	R	R			
13.3.15	NON-SPARKING, SHEARS, Cutting	1		R	R	R			
13.3.16	REFRIGERATOR, UTILITY, Small	1		R	R	NA			
13.3.17	PERSONAL ACCOUNTABILITY SYSTEM	1		R	R	R			
14. PERSONNEL									
14.1 Number and Training Level of Personnel									
INVENTORY	ITEM NAME AND DESCRIPTION	REQUIREMENT	NOTES	Type 1	Type 2	Type 3	YES	NO	
14.1	PERSONNEL, NUMBER, The hazmat team shall consist of sufficient trained personnel so as to insure a response of the minimum number of personnel as shown for each team type to each incident.	See Quantity Required on the Right		20	15	10			
14.2	PERSONNEL, TRAINING, Hazmat Team members shall have completed training equal to the OSHA Hazardous Materials Technician Course (AWR-6 hrs, OPS-16 hrs, TECH-36 Hrs, Total 58 hrs)			NA	15	10			
14.3	PERSONNEL, TRAINING, Hazmat Team members shall have completed training equal to the OSHA Hazardous Materials Technician Course (AWR-6 hrs, OPS-16 hrs, TECH-36 Hrs, Total 58 hrs) AND have completed 24 hrs of WMD Tech Training (Center for Domestic Preparedness, Anniston, AL or equivalent)			20	NA	NA			

APPENDIX E

Printed and Electronic Reference Materials

CHART # 2: List of Printed Database Technical References

User Code	Reference Title – Printed DATABASE
PD-01	CHRIS Manual (3 volumes), U.S.C.G.
PD-02	Comprehensive Guide to Hazardous Properties of Chemical Substances (Patnaik)
PD-03	Condensed Chemical Dictionary (Hawleys)
PD-04	Condensed Chemical Dictionary (LEWIS)
PD-05	Dangerous Properties of Industrial Materials (SAX)
PD-06	Dictionary of Chemical Names & Synonyms (SYNAPSE)
PD-07	Farm Chemicals Handbook (MEISTER) (also listed as a specialty reference)
PD-08	Fire Fighters' handbook of Hazardous Materials (Baker)
PD-09	Fire Hazard Properties of Flammable Liquids, Gases and Solids (NFPA 325)
PD-10	Handbook of Toxic and Hazardous Chemicals & Carcinogens (Sittig)
PD-11	Hazardous Chemicals Desk Reference (Lewis)
PD-12	Hazardous Materials Field Guide (Bevelacqua)
PD-13	Hazardous Materials Handbook (Pohanish)
PD-14	Merck Index (CHAPMAN – HALL)
PD-15	Pocket Guide to Chemical Hazards (NIOSH)
PD-16	Toxic and Hazardous Chemicals Safety Manual (ITI)
PD-17	Toxic Exposure Desk Reference (Cooper)
PD-18	ASTDR Toxicological Profiles (CRC Press – US Public Health Service)

CHART # 3: List of Printed Guidebook Type References

User Code	Reference Title – Printed GUIDEBOOK
PG-21	Emergency Action Guides (AAR)
PG-22	Emergency Care for Hazardous Materials Exposure
PG-23	Emergency Handling of Hazardous Materials (AAR)
PG-24	Emergency Response Guidebook (DOT)
PG-25	Fire Protection Guide to Hazardous Materials (NFPA)
PG-26	First Responder's Pocket Guide to Hazardous Materials Emergency Response
PG-27	Hazardous Materials Data Section, Fire Protection Guide (NFPA 49)
PG-28	Hazardous Materials Injuries (Stutz)
PG-29	Haz-Mat Quick Guide (NFPA)
PG-30	Material Safety Data Sheets library (GENIUM)
PG-31	Material Safety Data Sheets library, other

CHART # 4: List of Printed Specialty References

User Code	Reference Title – Printed SPECIALTY
PS-41	Chemical Manufacturer's Directory of Trade Name Products (ASH)
PS-42	Clinical Handbook on Economic Poisons (USDHHS)
PS-43	Farm Chemicals Handbook (MEISTER) (also listed as a specialty reference)
PS-44	Fire Protection Guide to Hazardous Materials Reactions, Section 491M (NFPA)
PS-45	Gardner's Chemical Synonyms and Trade Names (ASH)
PS-46	Handbook of Reactive Chemical Hazards (BREITHERICK)
PS-47	Hazardous Chemical Spill Cleanup (Robinson)

PS-48	Medical Management of Biological Casualties (USAMRIID)
PS-49	Quick Selection Guide to Chemical Protective Clothing (Forsberg)
PS-50	Rapid Guide to Chemical Incompatibilities (Pohanish)
PS-51	Specialty Chemicals Source Book (SYNAPSE)
PS-52	Specialty Chemicals Source Book (SYNAPSE) (also listed as a specialty reference)
PS-53	Tank Car Manual (GATX)
PS-54	Guide to Occupational Exposure Values (ACGIH)
PS-55	Guide to Threshold Limit Values and Biological Indices (ACGIH)

CHART # 5: List of Printed Regulatory References

User Code	Reference Title – Printed REGULATORY
PR-62	Hazardous Materials Emergency Response Plan (Local Authority)
PR-63	Hazardous Materials Incident Contingency Plan
PR-64	NFPA Standard # 1991
PR-65	NFPA Standard # 1992
PR-66	NFPA Standard # 1994
PR-67	NFPA Standard # 471
PR-68	NFPA Standard # 472, Competence of Responders to Haz-Mat Incidents
PR-69	NFPA Standard # 473
PR-71	Title 29, CFR (Code of Federal Regulations, - Labor –OSHA)
PR-72	Title 49, CFR (Code of Federal Regulations, - Transportation)

CHART # 6: List of Printed WMD Chemical / Biological References

User Code	Reference Title – Printed WMD REFERENCES
PW-81	Bacteriological Warfare (Harris)
PW-82	Chem-Bio Handbook (JANE'S)
PW-83	Chemical and Biological Warfare Agents (Ellison)
PW-84	Chemical Warfare Agents: Toxicity at Low Levels (CRC)
PW-85	Emergency Action for Chemical and Biological Warfare Agents (Ellison)
PW-86	Guide to Germ Warfare
PW-87	Infectious Disease Handbook (West)
PW-88	Management of Chemical Warfare Agent Casualties (Sidell)
PW-89	Medical Management of Biological Casualties (USAMRIID)
PW-90	Medical Management of Chemical Casualties (Aberdeen Proving Ground)

CHART # 7: List of Electronic Database Software References

User Code	Reference Title – Electronic DATABASE Software
ED-101	CHRIS Volumes (U.S.C.G.)
ED-102	Condensed Chemical Dictionary (Hawleys)
ED-103	Cooper's Chemical Dictionary (COOPER)
ED-104	Dangerous Properties of Industrial Materials (SAX)
ED-105	Dictionary of Chemical Names & Synonyms (SYNAPSE)
ED-106	Farm Chemicals Handbook (MEISTER)
ED-107	Hazardous Materials Handbook (Pohanish)
ED-108	Pocket Guide to Chemical Hazards (NIOSH)
ED-109	Merck Index (MERCK)
ED-110	ChemKnowledge (Micromedex) Formerly known as TOMES
ED-111	Integrated Risk Information System Database – IRIS (EPA)
ED-112	Pesticide Facts Database (EPA)
ED-114	ASTDR Toxicological Profiles (CRC Press – US Public Health Service)
ED-115	Chemical Synonyms & Trade Names (Ash)
ED-116	HazMaster-G3; for computer, PalmOS, PocketPC, Linux (Pocket Mobility)
ED-117	HazGuide Chemical Explorer (Collection of ED-101, 108 and the ERG)

CHART # 8: List of *Electronic Guidebook* Software References

User Code	Reference Title – Electronic GUIDEBOOK Software
EG-121	Emergency Handling of Hazardous Materials (AAR)
EG-122	Emergency Response Guidebook (DOT 2000)
EG-123	FastSearch (COLE PALMER)
EG-124	Fire Protection Guide to Hazardous Materials (NFPA)
EG-125	Handbook of Safety, Health, of Hazmat Substances (GENIUM)
EG-126	Haz-Mat Quick Guide (NFPA)
EG-127	Material Safety Data Sheets library (GENIUM)

CHART # 9: List of *Electronic Specialty* Software References

User Code	Reference Title – Electronic SPECIALTY Software
ES-131	Cooper's Toxic Exposure (LEWIS)
ES-132	Dictionary of Chemical Names and Synonyms (COLE PALMER)
ES-133	Dictionary of Environmental Health Safety (Wiley)
ES-134	Handbook of Industrial Chemical Additives (SYNAPSE)
ES-135	ChemKnowledge (Micromedex) – Formerly "TOMES"
ES-136	Handbook of Reactive Chemical Hazards (BREThERICK)

CHART # 10: List of *Electronic WMD* Software References

User Code	Reference Title – Electronic WMD Chemicals Software
EW-01	Cobra
EW-02	C-BAISS
EW-03	First Responder CHEM-BIO (Tempest Publishing)