DOCUMENT SUMMARY LIST

Item: M295 DECON KIT (WITH SORBENT)
NSN: 6850-01-357-8456
Control Number/PRON: C19NAAXX

Identifies all first tier documents (cited in SOW) (applicable DIDs). Also included are all referenced documents (2nd, (includes DID block 10 references), 3rd and lower tier) which have been tailored.

DOCUMENT CATEGORY:

CATEGORY O - Unless otherwise specified in the solicitation, contract, or contract modifications, all documents are for guidance and information only.

CATEGORY 1 - The requirements contained in the directly cited document are contractually applicable to the extent specified. All referenced documents are for guidance and information only.

CATEGORY 2 - The requirements contained in the directly cited document and the reference documents identified in the directly cited document are contractually applicable to the extent specified. All subsequently referenced documents are for guidance and information only.

CATEGORY 3 - Unless otherwise specified in the solicitation, contract or contract modification, all requirements contained in the directly cited document and all reference and subsequently referenced documents are contractually applicable to the extent specified.

Document Number (Contract Reference) Applicable Tailoring	Document Title	Document Date/ Document Category
1a. MIL-STD-973	Configuration Management	17 Apr 92 Cat 2

See section C clause(s) titled: Value Engineering Change Proposals, Engineering Change Proposals, Deviation and/or Ozone-Depleting Substances.

In the application of MIL-STD-973 Paragraphs 5.4.3, 5.4.4 and 5.4.8 apply, and are tailored as follows:

(1) Page 53, para 5.4.3.4., Delete "a contractor designed form, or a letter" in the first sentence.

(2) Page 53, para 5.4.3.3.2a., Line 5, add "or size" after "weight".

(3) Page 53, Delete para 5.4.3.5., and replace by, "Unless otherwise specified in the contract, requests for critical deviations should be approved or disapproved within 30 calendar days of receipt by the Government and for all other deviations within 60 calendar days of receipt by the Government."

(4) Para 5.4.3.5.1. Minor deviations.
Line 3. Delete "...by the activity...Class II change" and insert "by the Contracting Officer."

(5) Page 55, para 5.4.4.3.2a., Line 7, add "or size" after "weight".

(6) Page 56.Delete paragraph 5.4.4.5 and replace by "Unless otherwise specified in the contract requests for critical waivers should be approved or disapproved within 30 calendar days of receipt by the Government and for all other RFWs within 60 calendar days of receipt by the Government."

(7) Para 5.4.4.5.1. Minor waivers.
Lines 4 and 5. Delete "...Contract Administration Office (CAO)." Insert "...Configuration Manager and a Government Contracting Officer."

(8) Page 61, para 5.4.8.3.4., in line 6 add "or size" after "weight".

(9) Page 61, Add new para 5.4.8.3.4.1., "An RFD shall be supported by test data and analysis, where appropriate, and provided to support the decision regarding acceptance of the nonconformance."

(10) Page 61, Delete para 5.4.8.3.5. and replace by, "Unless otherwise specified in the contract, deviations are approved and authorized only by the Contracting Officer. Critical deviations should be processed within 30 calendar days of receipt by the Government and all other RFDs processed within 60 calendar days of receipt by the Government."

(11) Page 62, para 5.4.8.4, Delete lines 7 thru 10 and replace with "standard. All RFWs shall be submitted as specified in the contract for approval or disapproval and acceptance or rejection by the authorized Contracting Officer."

(12) Page 62, para 5.4.8.4.4., on line 6 add "or size" after "weight".

(13) Page 62, Add new para 5.4.8.4.4.1., "an RFW shall be supported by test data and analysis, where appropriate, and provided to support the decision regarding acceptance of the nonconformance."

1b. Interim Notice 3 (DO)	Configuration Management	13 Jan 95 Cat 2
1c. DI-CMAN-80639B (seq A001)	Engineering Change Proposal	13 Jan 95 Cat 2
1d. DI-CMAN-80640B (seq A002)	Request for Deviation	13 Jan 95 Cat 2
1e. DI-CMAN-80641B (seq A003)	Request for Waiver	13 Jan 95 Cat 2
1f. DI-CMAN-80642B (seq A004)	Notice of Revision	13 Jan 95 Cat 2
2. ANSI/ISO/ASQC Q9002 or equivalent	Model for Quality Assurance in Production, Installation & Servicing	18 Jul 94
3a. NCSL Z540-1 (ES7010)	General Requirements for Calibration Laboratories and Measuring and Test Equipment OR	30 Aug 94
ISO 10012-1 (ES7010)	Quality Assurance Requirements for Measuring Equipment, Part 1: Metrological Confirmation System	1992
3b. DI-QCIC-81006 (DD Form 1423)	Special Inspection Equipment Descriptive Documentation	11 Sep 89 Cat 1

CONTRACT DATA REQUIREMENTS LIST
DD FORM 1423 (MECHANIZED)
CATEGORY: MISC SYSTEM/ITEM: M295 DECON KIT (WITH SORBENT)
TO CONTRACT/PR: C19NAAXX

1. SEQUENCE NUMBER
14. DISTRIBUTION DRFT/REG/REPRO COPIES
2. TITLE OF DATA ITEM
3. SUBTITLE
4. DATA ITEM NUMBER
5. CONTRACT REFERENCE
6. TECHNICAL OFFICE 7. DD 250 8. APP CODE 9. DIST STATEMENT REQUIRED
10. FREQUENCY 11. AS OF DATE 15. TOTAL:
12. DATE OF 1ST SUBMISSION 13. DATE OF SUBSEQUENT SUBMISSION
16. REMARKS

---

1. A001
2. ENGINEERING CHANGE PROPOSAL (ECP)
3. *
4. DI-CMAN-80639B
5. MIL-STD-973
6. AMSSC-HB-ADM(RI) 7. LT 8. - 9.**
10. ASREQ 11. ---
12. ASREQ 13.
14. SEE ADDRESS CODE / /
DISTRIBUTION / /
ATTACHED / /
15. TOTAL 0/ 0/ 0
16. REMARKS
ECP SHORT FORM SHALL BE USED FOR THE SUBMISSION AND PROCESSING OF ALL CLASS II ENGINEERING ACTIONS. **DISTRIBUTION STATEMENT WILL BE ASSIGNED AND IMPLEMENTED BY THE DOD CONFIGURATION MANAGER.

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1. A002
2. REQUEST FOR DEVIATION (RFD)
3.
4. DI-CMAN-80640B
5. MIL-STD-973
6. AMSSC-HB-ADM(RI) 7. LT 8. - 9.**
10. ASREQ 11. ---
12. ASREQ 13.
14. SEE ADDRESS CODE / /
DISTRIBUTION / /
ATTACHED / /
15. TOTAL 0/ 0/ 0
16. REMARKS
**DISTRIBUTION STATEMENT WILL BE ASSIGNED AND IMPLEMENTED BY THE DOD CONFIGURATION MANAGER.

1. A003

2. REQUEST FOR WAIVER (RFW)

3.

14.
SEE ADDRESS CODE / /
DISTRIBUTION / /
ATTACHED / /

4. DI-CMAN-80641B

5. MIL-STD-973

6. AMSSC-HB-ADM(RI) 7. LT 8. - 9.**

10. ASREQ 11. ---

15. TOTAL 0/ 0/ 0

12. ASREQ 13.

16. REMARKS
**DISTRIBUTION STATEMENT WILL BE ASSIGNED AND IMPLEMENTED BY THE DOD CONFIGURATION MANAGER.

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1. A004

2. NOTICE OF REVISION (NOR)

3.

14.
SEE ADDRESS CODE / /
DISTRIBUTION / /
ATTACHED / /

4. DI-CMAN-80642B

5. MIL-STD-973

6. AMSSC-HB-ADM(RI) 7. LT 8. - 9.**

10. ASREQ 11. ---

15. TOTAL 0/ 0/ 0

12. ASREQ 13.

16. REMARKS
THE CONTRACTOR SHALL PREPARE AND SUBMIT A NOR FOR EACH DRAWING, ASSOCIATED LIST, OR OTHER REFERENCED DOCUMENT WHICH REQUIRE REVISION AFTER ECP APPROVAL. **DISTRIBUTION STATEMENT WILL BE ASSIGNED AND IMPLEMENTED BY THE DOD CONFIGURATION MANAGER.

ALL THE ABOVE MAY BE SUBMITTED TO:

COMMANDER
U.S.ARMY SOLDIER AND BIOLOGICAL CHEMICAL COMMAND (SBCCOM)
ATTN: AMSSC-HB(RI),CDE Quality Cell
ROCK ISLAND,IL 61299-7390

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1. A005

2. SPECIAL INSPECTION EQUIPMENT DESCRIPTIVE DOC.

3. AIE DESIGN DOCUMENATION

14.
AMSSC-HB-ADM (RI) / 1/
/ /
QAR / /
CO (LT ONLY) / /

4. DI-QCIC-81006

5. SECTION E

6. AMSSC-HB-ADM(RI) 7. XX 8. A 9. N/A

10. ONE/R 11.N/A

15. TOTAL 0/ 1/0

12. ** 13.WHEN REV.

16. REMARKS
*BLOCK 4: DO NOT ADDRESS PARAGRAPHS 10.1, 10.2,10.4.1(f) AND 10.4.2. IGNORE ALL REFERENCE TO THE WORD "SPECIAL" IN DID.SUBMIT FOR ALL TESTS

AND ALL CRITICAL, SPECIAL AND MAJOR CHARACTERISTICS IN SPECIFICATION OR QAP. UNLESS OTHERWISE SPECIFIED, INSPECTION EQUIPMENT INCLUDES STANDARD MEASURING AND TEST EQUIPMENT AND/OR COMMERCIAL OFF THE INSPECTION/TEST EQUIPMENT. **BLOCK 12:SUBMIT 45 DAYS PRIOR TO FA,OR PRODUCTION,IF FA IS WAIVED. THE GOVERNMENT WILL RESPOND WITHIN 45 DAYS OF RECEIPT OF ORIGNALS AND REVISIONS. REVISIONS ARE TO BE SUBMITTED WTHIN 10 DAYS OF RECEIPT OF GOVERNMENT RESPONSE. IF DOCUMENTATION WAS APPROVED ON PRIOR CONTRACT AND NO CHANGES WERE MADE, SUBMIT ONLY EVIDENCE OF PRIOR APPROVALS.

All submissions should be presented in the following formats via e-mail or on PC compatible CD-ROM,100MB Iomega ZIP disks, or 3.5"high density floppy discs

Textual Information	MS Office compatible (i.e. doc.xls,rtf)
Technical Drawings	Windows Metafile,Bitmap,JPEG, DesignCAD 2D or AutoCAD formats
Illustrations/Photos	Windows Metafile,Bitmax,JPEG (i.e.WMF,BMP,JPG,GIF)

Files may be compressed using ZIP program.
WARNING: Large packages may cause delays in delivery using mail internet.
Email subject line must contain end item nomenclature.
email: hornbackr@ria.army.mil
Postal:US ARMY SOLDIER AND BIOLOGICAL CHEMICAL COMMAND(SBCCOM)
ATTN:AMSSC-HB-ADM(RI), CDE QA CELL,BLDG.62,ROCK ISLAND,IL 61299-7390

APPROVED BY: STEPHEN J HANSEN, SDMO, AMSTA-AR-QAD DATE: 04/02/1999

AMC CODE: IG

SECTION C

TDPL:	EA-PRF-1754	DATED:	23 Sep 1999
NSN:	6850-01-357-8456	START:	C19NAAXX
NOMEN:	Decon Kits, Indiv Equip M295 Box of Twenty		

The following engineering exceptions apply to this TDPL:

1. Unless otherwise specified, the issues of the specifications and standards which are DOD adopted shall be those listed in the issue of the DODISS which is dated 1 Jul 1999 and supplement dated 1 Sep 1999. Unless otherwise specified, the issues of specifications and standards not listed in the DODISS shall be the issues of the non-government specifications and standards which is current on 23 Sep 1999.

2. Government Furnished Materiel (GFM):
   a. TM 3-4230-235-10 shall be provided as GFM
   b. Chemical Surety Material (CSM) as required for testing

3. Contract Number, Lot Number, and Date of Manufacture shall be marked on Squad Box and Packet Assembly levels. Lot numbering shall be done in accordance with MIL-STD-1168. In addition to the criteria in Mil-Std-1168, all M295 Kits containing sorbent will have lot numbers ending with an additional letter "S" to indicate sorbent.

4. OZONE DEPLETING CHEMICALS: See Statement of Work – Environmental - Ozone Depleting Chemicals (included)

5. Detailed drawings are provided for reference only as part of TDPL 5-77-3201 (dated 20 Sep 1999) with the following changes:

   Spec EA-PRF-1754 replaces EA-DTL-1754
   Spec PPP-B-636 is cancelled and replaced by ASTM-D1974 and ASTM-D5118
   Spec PPP-T-60 is cancelled, use ASTM D5486-93 Type III
   Spec MIL-P-116 is cancelled, use MIL-STD-2073-1
   Spec MIL-STD-147 is cancelled, use MIL-HDBK-774
   Delete Engineering Change Y67-0042-0001

6. On Special Packaging Instruction P5-77-3201, provided as reference only, the following changes apply:

   In "Size and Remarks" column for the Container, CHANGE:
   FROM: 19 ¼ x 12 ½ x 11 1/8
   TO: As Required
   In Remarks Section, paragraph A, CHANGE:
   FROM: "...assembled in accordance with drawing 5-77-3201..."
   TO: "...assembled in accordance with EA-PRF-1754..."
   In Remarks Section, paragraph F, CHANGE:
   FROM: "...requirements for the unit packing shall be in accordance with EA-D-1754..."
   TO: "...requirements for the unit packing shall be in accordance with EA-PRF-1754..."
   Under "Item Size" (bottom left corner of page 1), CHANGE:
   FROM: 18 x 11 x 9 ½ inches
   TO: maximum 19 inches long, 1832 cubic inches volume.

7. Notice to Accompany the Dissemination of Export-Controlled Technical Data (attached).

8. Statement of Work (attached).

NOTICE TO ACCOMPANY THE DISSEMINATION OF EXPORT-CONTROLLED TECHNICAL DATA

Note: Distribution Statement X. Distribution authorized to U. S. government agencies and private individuals or enterprises eligible to obtain export-controlled technical data in accordance with DOD Directive 5230.25, determination made (05/10/99); The controlling DOD office is: Commander, U.S. Army Soldier Biological Chemical Command, ATTN: AMSSC-HB(RI), Rock Island, IL 61299-7390.

Warning - This TDP contains technical data whose export is restricted by the Arms Export Control Act (Title 22, U.S.C. sec 2751,et seq.) or the Export Administration Act of 1979, as amended, Title 50, U.S.C., App 2401 et seq. Violation of these export laws are subject to severe criminal penalties. Disseminate in accordance with provisions of DOD Directive 5230.25.

1. Export of information contained herein, which includes, in some circumstances, release to foreign nationals within the United States, without first obtaining approval or license from the Department of State for items controlled by the International Traffic in Arms Regulation (ITAR), or the Department of Commerce for items Controlled by the Export Administration Regulations (EAR), may constitute a violation of law.

2. Under 22 U.S.C. 2778 the penalty for unlawful export of items or information controlled under the ITAR is up to 2 years imprisonment, or a fine of $100,000, or both. Under 50 U.S.C., Appendix 2401, the penalty for unlawful export of items or information controlled under the EAR is a fine of up to $1,000,000, or five times the value of the exports, whichever is greater; or for an individual, imprisonment of up to 10 years, or a fine of up to $250,000, or both.

3. In accordance with your certification that establishes you as a "certified US contractor," unauthorized dissemination of this information is prohibited and may result in disqualification as a certified US contractor, and maybe considered in determining your eligibility for future contracts with the Department of Defense.

4. The US Government assumes no liability for direct patent infringement, or contributory patent infringement or misuse of technical data.

5. The US Government does not warrant the adequacy, accuracy, currency, or completeness of the technical data.

6. The US Government assumes no liability for loss, damage, or injury resulting from manufacture or use for any purpose of any product, article, system, or material involving reliance upon any or all technical data furnished in response to the request for technical data.

7. If the technical data furnished by the Government will be used for commercial manufacturing or other profit potential, a license for such use may be necessary. Any payments made in support of the request for data do not include or involve any license rights.

8. A copy of this notice shall be provided with any partial or complete reproduction of these data that are provided to qualified US contractors.

Section C - Statement of Work
M295 Individual Equipment Decontamination Kit

1.0 Scope

The contractor shall manufacture the M295 Individual Equipment Decontamination Kit (IEDK) in strict compliance with Description EA-PRF-1754C, with kits containing Sorbent in strict compliance with EA-PRF-2166.

2.0 Applicable Documents

TDP EA-PRF-1754	Decontamination Kits, Individual Equipment, M295
EA-PRF-1754C	Decontamination Kits, Individual Equipment, M295: Box of Twenty
EA-PRF-2166	Decontaminating Agent, Sorbent Powder
MIL-STD-1168	Ammunition Lot Numbering and Ammunition Data Card
TDP 5-77-3201 (reference only)	Decontamination Kits, Individual Equipment
MIL-STD-973 (reference only)	Configuration Management
FED-STD-313	Material Safety Data, Transportation Data and Disposal Data...
ASTM D5118	Standard Practice for Fabrication of Fiberboard Shipping Boxes
ASTM D1974	Methods of Closing, Sealing and Reinforcing Fiberboard Boxes

ANSI/ASQC Q90 Series, ISO 9000 Series, QS9000 or Equivalent
ANSI/ASQC Q94, ISO 9004 Series or Equivalent

3.0 Requirements

The contractor shall provide the necessary services, personnel, labor, facilities, materials, supplies, and equipment (except those specifically designated as Government furnished) to perform the following:

3.1 Manufacturing

3.1.1 M295 IEDK. The contractor shall manufacture M295 IEDK in strict compliance with the Performance Purchase Description EA-PRF-1754C.

3.1.2 Government Furnished Material. The Government shall furnish the technical manuals (TM3-4230-235-10) to be included in the finished and packaged boxes. The Government shall furnish the chemical surety material (CSM) required for testing as specified in 4.2.2 of Performance Purchase Description EA-PRF-1754C.

3.2 Engineering Management

3.2.1 Engineering Data and Specifications: The contractor shall establish and maintain technical data throughout the contract depicting the design being utilized and provide the government with data explaining in detail any differences between the detail design in reference TDP 5-77-3201 and the contractor's specific design. If the reference TDP is strictly followed, a memo so stating is sufficient. Commercial drawing formats are acceptable. Technical data is deliverable upon acceptance of First Article.

3.2.2 Configuration Management

3.2.2.1 The contractor shall implement and maintain a Configuration Management Plan (CMP) throughout the life of the contract. MIL-STD-973 contains relevant configuration management information that may be useful.

3.2.2.2 the contractor's technical data, referenced in 3.2.1, and shall conform to Performance Purchase Descriptions EA-PRF-1754C and EA-PRF-2166. As a minimum, the configuration status accounting system shall ensure that the contractor's technical data define the configuration of the items manufactured. The contractor shall include a Government representative in the configuration control process. The Government representative shall be notified of all proposed design changes before implementation. The Government will maintain configuration control of any changes that affect the Performance Purchase Descriptions EA-PRF-1754C and EA-PRF-2166. The contractor shall provide proposed changes to the Performance Purchase Descriptions by letter to the contracting officer. Proposed changes to Performance

Purchase Descriptions EA-PRF-1754C and EA-PRF-2166 will require approval of the Government prior to incorporation into the contract. The contractor will maintain configuration control and approval of any other changes that do not affect Performance Purchase Descriptions EA-PRF-1754C and EA-PRF-2166.

3.3 Specialty Engineering

3.3.1 Safety.

3.3.1.1 Material safety data sheets (MSDS) for the sorbent powder and M295 IEDK are required IAW Federal Standard 313. All MSDSs shall be submitted with the technical data (see 3.2.1).

3.3.1.2 Some of the inspection and/or testing required to be performed under this solicitation/purchase description will require handling and using Chemical Surety Materiel (CSM). CSM is generally defined as chemical agents which can kill, seriously injure, or incapacitate persons through their chemical properties. Any U.S. contractor handling or using CSM must hold a Bailment Agreement with SBCCOM, Aberdeen Proving Ground, MD. The U.S. government will furnish the chemical agents necessary for testing to a U.S. contractor when the agents are requested by a contractor who is certified to handle and store these agents (Bailment Agreement Holder). For performance under any contract resulting from this solicitation/purchase description, the successful contractor is required to have a current Bailment Agreement or utilize an outside lab currently holding a Bailment Agreement. The U.S. government will not provide CSM to, or enter into Bailment Agreements with, concerns located outside of the U.S. Non-U.S. contractors must obtain CSM, and the authorization to use it, from their respective governments. Any CSM provided in this manner must be in the purities specified in the contract.

Following is a list of current CSM Bailment Agreement holders. This list is provided for informational purposes only and may not be all-inclusive:

Battelle
505 King Avenue
Columbus, OH 43201
Phone (614) 424-3062
FAX (614) 424-4905
POC: Marty Toomajian

Veridian Engineering
P.O. Box 400
Buffalo, NY 14225
Phone (716) 632-7500
FAX (716) 631-4183
POC: Michael Moskal

Geomet Technologies, Inc.
8577 Atlas Drive
Gaithersburg, MD 20877
Phone (301) 417-9605
FAX (301) 990-1925
POC: Frank Kelly

Environmental Technologies Group, Inc.
1400 Taylor Avenue, P.O. Box 9840
Baltimore, MD 21234-9840
Phone (410) 321-5200
FAX (410) 321-5255
POC: John Schmidt

IIT Research Institute
10 West 35th Street
Chicago, IL 60616
Phone (312) 567-4236
FAX (312) 567-4286
POC: Gug Sresty

Midwest Research Institute
425 Volker Boulevard
Kansas City, MO 64110
Phone(816) 753-7600
FAX (816) 753-8420
POC: Chris Bailey

Southern Research Institute
2000 Ninth Avenue South
P.O. Box 55305
Birmingham, AL 35255-5305
Phone (205) 581-2219
FAX (205) 581-2698
POC: Dr. Ralph Spafford

Truetech, Inc.
680 Elton Street
Riverhead, NY 11901
Phone (516) 727-8600
FAX (516) 727-7592
POC: Daniel Kohn

Organizations wishing to become CSM Bailment Agreement holders may contact the U.S. Army Soldier Biological Chemical Command Surety Office at (410) 436-2573 or (410) 436-2051, Mr. Brian Kowalski, for further details.

3.3.2 Environmental. The contractor shall eliminate or minimize the use of hazardous materials in fabricating or testing the M295 IEDK. The contractor shall comply with local, state, and federal environmental laws. Reference TDP 5-77-3201 does not require the use of any ozone depleting substance (ODS). The contractor is requested to avoid the use of such substances in the completion of this contract.

3.3.3 Packaging. The kit shall be overpacked in a weather resistant fiberboard box IAW ASTM D 5118 rev 95. Quantity per shipping (exterior) container will be specified per delivery order. Grade of box is dependent upon gross container weight. Container shall be sealed IAW Sealing Method B of ASTM D 1974 rev 94a.

3.4 Test and Evaluation:

3.4.1 First Article Testing (FAT).

3.4.1.1 The contractor shall conduct FAT in accordance to Performance Purchase Descriptions EA-PRF-1754C and EA-PRF-2166. FAT shall be representative of items to be manufactured using the same processes and procedures and at the same facility, with concurrent personnel as would be used during contract production.

3.4.1.2 At least 15 calendar days before the beginning of FAT, the contractor shall notify the Contracting Officer in writing of the time and location of the testing so that the government may witness the tests. The contractor shall submit test reports IAW DID DI-NDTI-80809B.

3.4.2 Unit Functional Acceptance Testing. After Government approval of the contractor FAT the contractor may proceed with production. Production testing is required during the production phase in accordance with Performance Purchase Descriptions EA-PRF-1754C and EA-PRF-2166. Any changes in process, facilities, major equipment or materials may require additional first article testing, as determined by the government.

3.5 Quality Assurance Requirements

3.5.1 The contractor shall perform a comprehensive inspection of all items furnished to the Government to ensure compliance to applicable drawing, specification, and scope of work requirements. The Government will perform verification and witness inspection at the contractor's plant, with acceptance at plant.

3.5.2 The contractor shall conduct inspections and tests of the deliverables prior to shipment, as applicable, to provide assurance that the deliverables meet the quality standards and technical requirements set forth in this scope of work.

3.5.3 The contractor shall prepare a Quality System Plan IAW ANSI/ASQC Q90, ISO 9000 Series. The contractor may use ANSI/ASQC Q90 ISO 9000 or ANSI/ASQC Q94, ISO 9004 Series, to prepare the plan. The plan shall be submitted to the Government for approval. As a living document, proactive modifications or additions to the approved Quality System Plan shall be submitted to the Government for concurrence before implementation. Reactive changes to the plan shall be submitted to the Contracting Officer for approval. The Quality Plan shall conform to the requirements for Government inspections and tests contained in specifications required to substantiate that the deliverables provided under this contract conform to applicable drawings and specifications. The contractor shall maintain the Quality System Plan at the contractor site. At the Government's request, the contractor shall provide the plan to the Government for inspections.

3.5.4 If a test sample fails to meet contractual requirements, the contractor shall immediately take corrective action, at no increase in contract price, on all items in process and final assembly. The contractor shall also take corrective action to prevent recurrence of like defects in remaining production lots.

3.6 Delivery

The contractor shall deliver items in accordance with direction from the government.

NAME: Thomas W. Green OFFICE: AMSSB-RSO-DDN Phone: (309) 782-1780

RESUBMITTAL: No RATIONALE:

MYLARS REQUIRED: No GFM/GFE: Yes DATE: 24 Sep 1999

MATERIAL SAFETY DATA SHEET

LETHAL NERVE AGENT GB

SECTION I - GENERAL INFORMATION

DATE: 14 September 1988
REVISED: 28 February 1996

MANUFACTURER'S ADDRESS:
U.S. ARMY CHEMICAL BIOLOGICAL DEFENSE COMMAND

EDGEWOOD RESEARCH DEVELOPMENT, AND
ENGINEERING CENTER (ERDEC)
ATTN: SCBRD-ODR-S
ABERDEEN PROVING GROUND, MD 20101-5423

Emergency telephone #' s: 0700-1630 EST: 410-671-4411/4414
After: 1630 EST: 410-278-5201, Ask for Staff Duty Officer

CAS REGISTRY NUMBERS: 107-44-8, 50642-23-4

CHEMICAL NAME:
Isopropyl methylphosphonofluoridate

ALTERNATE CHEMICAL NAMES:
O-Isopropyl Methylphosphonofluoridate
Phosphonofluoridic acid, methyl-, isopropyl ester
Phosphonofluoridic acid, methyl-, 1-methylethyl ester

TRADE NAME AND SYNONYMS:
Isopropyl ester of methylphosphonofluoridic acid
Methylisopropoxfluorophosphine oxide

Isopropyl Methylfluorophosphonate
O-Isopropyl Methylisopropoxfluorophosphine oxide
Methylfluorophosphonic acid, isopropyl ester
Isopropoxymethylphosphonyl fluoride
Isopropyl methylfluorophosphate
Isopropoxymethylphosphoryl fluoride
GB
Sarin
Zarin

CHEMICAL FAMILY: Fluorinated organophosphorous compound

FORMULA/CHEMICAL STRUCTURE:
$C_4 H_{10} F O_2 P$

```
          O      CH3
         ||       |
H 3C - P - O-CH
         |       |
         F      CH3
```

NFPA 704 HAZARD SIGNAL:

Health - 4
Flammability - 1
Reactivity - 1
Special - 0

```
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    /    \
   /\ 1  /\
  /  \  /  \
 / 4  \/ 1  \
 \    /\    /
  \  /  \  /
   \/ 0  \/
    \    /
     \  /
      \/
```

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS NAME	FORMULA	PERCENTAGE BY WEIGHT	AIRBORNE EXPOSURE LIMIT (AEL)
GB	C4 H10 F O2 P	100	0.0001 mg/m3

SECTION III - PHYSICAL DATA

BOILING POINT: 158 DEG C (316 DEG F)

VAPOR PRESSURE (mm Hg): 2.9 @ 25 DEG C

VAPOR DENSITY (AIR=1): 4.86

SOLUBILITY: Miscible with water. Soluble in all organic solvents.

SPECIFIC GRAVITY (H2O=1): 1.0887 @ 25 DEG C

FREEZING/MELTING POINT: -56 DEG C

LIQUID DENSITY (g/cc): 1.0887 @ 25 DEG C
1.102 @ 20 DEG C

PERCENTAGE VOLATILE BY VOLUME: 22,000 m/m3 @ 25 DEG C

16,090 m/m3 @ 20 DEG C

APPEARANCE AND ODOR: Colorless liquid. Odorless in pure form.

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT (METHOD USED): Did not flash to 280 DEG F

FLAMMABLE LIMIT: Not applicable

LOWER EXPLOSIVE LIMIT: Not available

UPPER EXPLOSIVE LIMIT: Not available

EXTINGUISHING MEDIA: Water mist, fog, foam, CO2. Avoid using extinguishing methods that will cause splashing or spreading of the GB.

SPECIAL FIRE FIGHTING PROCEDURES: GB will react with steam or water to produce toxic and corrosive vapors. All persons not engaged in extinguishing the fire should be evacuated. Fires involving GB should be contained to prevent contamination to uncontrolled areas. When responding to a fire alarm in buildings or areas containing agents, firefighting personnel should wear full firefighting protective clothing (without TAP clothing) during chemical agent firefighting and fire rescue operations. Respiratory protection is required. Positive pressure, full face piece, NIOSH-approved self-contained breathing apparatus (SCBA) will be worn where there is danger of oxygen deficiency and when directed by the fire chief or chemical accident/incident (CAI)operations officer. In cases where firefighters are responding to a chemical accident/incident for rescue/reconnaissance purposes, they will wear appropriate levels of protective clothing (See Section VIII).

Do not breathe fumes. Skin contact with nerve agents must be avoided at all times. Although the fire may destroy most of the agent, care must still be taken to assure the agent or contaminated liquids do not further contaminate other areas or sewers. Contact with the agent liquid or vapor can be fatal.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Hydrogen may be present.

SECTION V - HEALTH HAZARD DATA

AIRBORNE EXPOSURE LIMITS (AEL): The permissible airborne exposure concentration for GB for an 8-hour workday or a 40-hour work week is an 8-hour time weighted average (TWA)of 0.0001 mg/m3. This value is based on the TWA of GB which can be found in "AR 40-8, Occupational Health Guidelines for the Evaluation and Control of Occupational Exposure to Nerve Agents GA, GB, GD, and VX." To date, the Occupational Safety and Health Administration (OSHA) has not promulgated a permissible exposure concentration for GB.

GB is not listed by the International Agency for Research on Cancer (IARC), American Conference of Governmental Industrial Hygienists (ACGIH), Occupational Safety and Health Administration (OSHA), or National Toxicology Program (NTP) as a carcinogen.

EFFECTS OF OVEREXPOSURE: GB is a lethal cholinesterase inhibitor. Doses that are potentially life threatening may be only slightly larger than those producing least effects.

GB

Route	Form	Effect	Type	Dosage
ocular	vapor	miosis	ECt50	<2 mg-min/m3
inhalation	vapor	runny nose	ECt50	<2 mg-min/m3
inhalation (15 l/min)	vapor	severe incapacitation	ICt50	35 mg-min/m3
inhalation (15 l/min)	vapor	death	LCt50	70 mg-min/m3
percutaneous	liquid	death	LD50	1700 mg/70kg man

Effective dosages for vapor are estimated for exposure durations of 2-10 minutes.

Symptoms of overexposure may occur within minutes or hours, depending upon dose. They include: miosis (constriction of pupils) and visual effects, headaches and pressure sensation, runny nose and nasal congestion, salivation, tightness in the chest, nausea, vomiting, giddiness, anxiety, difficulty in thinking and sleeping, nightmares, muscle twitches, tremors, weakness, abdominal cramps, diarrhea, involuntary urination and defecation. With severe exposure symptoms progress to convulsions and respiratory failure.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Hold breath until respiratory protective mask is donned. If severe signs of agent exposure appear (chest tightens, pupil constriction, uncoordination, etc.), immediately administer, in rapid succession, all three Nerve Agent Antidote Kit(s), Mark I injectors (or atropine if directed by a physician). Injections using the Mark I kit injectors may be repeated at 5 to 20 minute intervals if signs and symptoms are progressing until three series of injections have been administered. No more injections will be given unless directed by medical personnel. In addition, a record will be maintained of all injections given. If breathing has stopped, give artificial respiration. Mouth-to-mouth resuscitation should be used when approved mask-bag or oxygen delivery systems are not available. Do not use mouth-to-mouth resuscitation when facial contamination exists. If breathing is difficult, administer oxygen. Seek medical attention IMMEDIATELY.

EYE CONTACT: Immediately flush eyes with water for at least 15 minutes, then

don respiratory protective mask. Although miosis (pinpointing of the pupils) may be an early sign of agent exposure, an injection will not be administered when miosis is the only sign present. Instead, the individual will be taken IMMEDIATELY to a medical treatment facility for observation.

SKIN CONTACT: Don respiratory protective mask and remove contaminated clothing. Immediately wash contaminated skin with copious amounts of soap and water, 10% sodium carbonate solution, or 5% liquid household bleach. Rinse well with water to remove decontaminant. Administer Nerve Agent Antidote Kit(s), MARK I injectors only if local sweating and muscular twitching symptoms are observed. Seek medical attention IMMEDIATELY.

INGESTION: Do not induce vomiting. First symptoms are likely to be gastrointestinal. IMMEDIATELY administer Nerve Agent Antidote Kit(s), MARK I injector(s). Seek medical attention IMMEDIATELY.

SECTION VI - REACTIVITY DATA

STABILITY: Stable when pure.

INCOMPATIBILITY: Attacks tin, magnesium, cadmium plated steel, and some aluminum. Slightly attacks copper, brass, and lead; practically no attack on 1020 steels, Inconel & K-monel.

HAZARDOUS DECOMPOSITION: Hydrolyzes to form HF under acid conditions and isopropyl alcohol and polymers under basic conditions.

HAZARDOUS POLYMERIZATION: Does not occur.

SECTION VII - SPILL, LEAK, AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: If leaks or spills of GB occur, only personnel in full protective clothing will remain in the area (See Section VIII). In case of personnel contamination see Section V for emergency and first aid instructions.

RECOMMENDED FIELD PROCEDURES: Spills must be contained by covering with vermiculite, diatomaceous earth, clay, fine sand, sponges, and paper or cloth towels. Decontaminate with copious amounts of aqueous sodium hydroxide solution (a minimum 10 wt.%). Scoop up all material and place in a DOT approved container. Cover the contents with decontaminating solution as above. The exterior of the container will be decontaminated and labeled according to EPA and DOT regulations. All leaking containers will be over packed with vermiculite placed between the interior and exterior containers. Decontaminate and label according to EPA and DOT regulations. Dispose of the material in accordance with waste disposal methods provided below. Dispose of decontaminate according to Federal, state and local regulations. Conduct general area monitoring with an approved monitor to

confirm that the atmospheric concentrations do not exceed the airborne exposure limits (See Sections II and VIII).

If 10 wt.% aqueous sodium hydroxide solution is not available then the following decontaminants may be used instead and are listed in the order of preference: Decontamination Solution No. 2 (DS2), Sodium Carbonate, and Supertropical Bleach Slurry (STB).

RECOMMENDED LABORATORY PROCEDURES: A minimum of 56 grams of decon solution is required for each gram of GB. Decontaminantand agent solution is allowed to agitate for a minimum of one hour. Agitation is not necessary following the first hour. At the end of one hour, the resulting solution should be adjusted to a pH greater than 11.5. If the pH is below 11.5 NaOH should be added until a pH above 11.5 can be maintained for 60 minutes. An alternate solution for the decontamination of GB is 10 wt.% sodium carbonate in place of the 10% sodium hydroxide solution above. Continue with 56 grams of decon for each gram of agent. Agitate for one hour but allow three hours for the reaction. The final pH should be adjusted to above zero. It is also permitted to substitute 5.25% sodium hypochlorite or 25 wt.% Monoethylamine (MEA) for the 10% sodium hydroxide solution above. MEA must be completely dissolved in water before addition of the agent. Continue with 56 grams of decon for each gram of GB and provide agitation for one hour. Continue with same ratios and time stipulations. Scoop up all material and place in a DOT approved container. Cover the contents of the container with decontaminating solution as above. After sealing, the exterior of the container will be decontaminated and labeled according to EPA and DOT regulations. All leaking containers will be over packed with vermiculite placed between the interior and exterior containers. Decontaminate and label according to EPA and DOT regulations. Dispose of the material in accordance with waste disposal methods provided below. Dispose of decontaminate according to Federal, state and local regulations. Conduct general area monitoring with an approved monitor to confirm that the atmospheric concentrations do not exceed the airborne exposure limits (See Sections II and VIII).

WASTE DISPOSAL METHOD: Open pit burning or burying of GB or items containing or contaminated with GB in any quantity is prohibited. The detoxified GB (using procedures above) can be thermally destroyed by incineration in EPA approved incinerators according to appropriate provisions of Federal, state and local Resource Conservation and Recovery Act (RCRA) Regulations.

NOTE: Some states define decontaminated surety material as an RCRA Hazardous waste.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

CONCENTRATION	RESPIRATORY PROTECTIVE EQUIPMENT
< or = 0.0001 mg/m3	A full face piece, chemical canister, air

	purifying protective mask will be on hand for escape. (The M9-, M17-, or M40-series masks are acceptable for this purpose. Other masks certified as equivalent may be used).
> 0.0001 or = 0.2 mg/m3	A NIOSH/MSHA approved pressure demand full face piece SCBA or supplied air respirators with escape air cylinder may be used. Alternatively, a full face piece, chemical canister air-purifying protective mask is acceptable for this purpose (See DA PAM 385-61 for determination of appropriate level)
> 0.2 mg/m3 or unknown	NIOSH/MSHA approved pressure demand full face piece SCBA suitable for use in high agent concentrations with protective ensemble (See DA PAM 385-61 for examples).

VENTILATION:

Local Exhaust: Mandatory. Must be filtered or scrubbed to limit exit concentration to < 0.0001 mg/m3. Air emissions will meet local, state and federal regulations.

Special: Chemical laboratory hoods will have an average inward face velocity of 100 linear feet per minute (lfpm)+/- 10% with the velocity at any point not deviating from the average face velocity by more than 20%. Existing laboratory hoods will have an inward face velocity of 150 lfpm +/- 20%. Laboratory hoods will be located such that cross drafts do not exceed 20% of the inward face velocity. A visual performance test using smoke producing devices will be performed in the assessment of the hoods ability to contain agent GB.

Other: Recirculation of exhaust air from agent areas is prohibited. No connection is allowed between agent areas and other areas through the ventilation system. Emergency backup power is necessary. Hoods should be tested at least semiannually or after modification or maintenance operations. Operations should be performed 20 centimeters inside hood face.

PROTECTIVE GLOVES: Butyl Rubber Glove M3 and M4
Norton, Chemical Protective Glove Set

EYE PROTECTION: As a minimum chemical goggles will be worn. For splash hazards use goggles and face shield.

OTHER PROTECTIVE EQUIPMENT: For general lab work, gloves and lab coat will be worn with mask readily accessible. In addition, daily clean smocks, foot covers, and head covers will be required when handling contaminated lab animals.

MONITORING: Available monitoring equipment for agent GB is the M8/M9 Detector paper, detector ticket, blue band tube, M256/M256A1 kits, bubbler, Depot Area

Air Monitoring System (DAAMS), Automatic Continuous Air Monitoring System (ACAMS), real time monitoring (RTM), Demilitarization Chemical Agent Concentrator (DCAC), M8/M43, M8A1/M43A2, Hydrogen Flame Photometric Emission Detector (HYFED), CAM-M1, Miniature Chemical Agent Monitor (MINICAM) and the Real Time Analytical Platform (RTAP).

Real-time, low-level monitors (with alarm) are required for GB operations. In their absence, an Immediately Dangerous to Life and Health (IDLH) atmosphere must be presumed. Laboratory operations conducted in appropriately maintained and alarmed engineering controls require only periodic low-level monitoring.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: When handling agents, the buddy system will be incorporated. No smoking, eating and drinking in areas containing agents are permitted. Containers should be periodically inspected for leaks (either visually or by a detector kit). Stringent control over all personnel practices must be exercised. Decontamination equipment will be conveniently located. Exits must be designed to permit rapid evacuation. Chemical showers, eyewash stations, and personal cleanliness facilities must be provided. Wash hands before meals and each worker will shower thoroughly with special attention given to hair, face, neck, and hands, using plenty of soap and water before leaving at the end of the work day.

OTHER PRECAUTIONS: GB must be double contained in liquid and vapor tight containers when in storage or outside a ventilation hood.

For additional information see "AR 385-61, The Army Toxic Chemical Agent Safety Program," "DA PAM 385-61, Toxic Chemical Agent Safety Standards," and "AR 40-8, Occupational Health Guidelines for the Evaluation and Control of Occupational Exposure to Nerve Agents GA, GB, GD, and VX."

SECTION X - TRANSPORTATION DATA

PROPER SHIPPING NAME: Poisonous liquids, n.o.s.

DOT HAZARD CLASSIFICATION: 6.1, Packing Group I, Hazard Zone A

DOT LABEL: Poison

DOT MARKING: Poisonous liquid, n.o.s. (Isopropyl methylphosphonofluoridate)
UN2810, Inhalation Hazard

DOT PLACARD: Poison

EMERGENCY ACCIDENT PRECAUTIONS AND PROCEDURES: See Sections IV, VII and VIII.

PRECAUTIONS TO BE TAKEN IN TRANSPORTATION: Motor vehicles will be placarded

regardless of quantity. Drivers will be given full information regarding shipment and conditions in case of an emergency. AR 50-6 deals specifically with the shipment of chemical agents. Shipments of agent will be escorted in accordance with AR 740-32.

While the Edgewood Research Development, and Engineering Center, Department of the Army believes that the data contained herein are factual and the opinions expressed are those of the experts regarding the results of the tests conducted, the data are not to be taken as a warranty or representation for which the Department of the Army or Edgewood Research Development, and Engineering Center assume legal responsibility. They are offered solely for your consideration, investigation, and verification. Any use of this data and information must be determined by the user to be in accordance with applicable Federal, State, and local laws and regulations.

MATERIAL SAFETY DATA SHEET

DISTILLED MUSTARD HD

SECTION I - GENERAL INFORMATION

DATE: 22 September 1988
REVISED: 28 February 1996

MANUFACTURER'S ADDRESS:
U.S. ARMY CHEMICAL BIOLOGICAL DEFENSE COMMAND

EDGEWOOD RESEARCH DEVELOPMENT, AND
ENGINEERING CENTER (ERDEC)
ATTN: SCBRD-ODR-S
ABERDEEN PROVING GROUND, MD 20101-5423

Emergency telephone #' s: 0700-1630 EST: 410-671-4411/4414
After: 1630 EST: 410-278-5201, Ask for Staff Duty Officer

CAS REGISTRY NUMBERS: 505-60-2, 39472-40-7, 68157-62-0

CHEMICAL NAME:
Bis-(2-chloroethyl)sulfide

TRADE NAMES AND SYNONYMS:
Sulfide, bis (2-chloroethyl)
Bis(beta-chloroethyl)sulfide
1,1'-thiobis(2-chloroethane)
1-chloro-2(beta-chloroethylthio)ethane
Beta, beta'-dichlorodiethyl sulfide
2,2'dichlorodiethyl sulfide
Di-2-chloroethyl sulfide
Beta, beta'-dichloroethyl sulfide
2,2'-dichloroethyl sulfide
H; HD; HS
Iprit
Kampstoff "Lost"; Lost
Mustard Gas
S-Lost; S-yperite; Schewefel-lost
Senfgas
Sulfur mustard; Sulphur mustard gas
Yellow Cross Liquid
Yperite
Y

CHEMICAL FAMILY: Chlorinated sulfur compound

FORMULA/CHEMICAL STRUCTURE:

PERCENTAGE VOLATILE BY VOLUME: 610 mg/m3 @ 20 DEG C
920 mg/m3 @ 25 DEG C

APPEARANCE AND ODOR: Normally amber to black colored liquid with garlic or horseradish odor. Water clear if pure. The odor threshold for HD is 0.6 mg/m3 (0.0006 mg/L).

SECTION IV - FIRE AND EXPLOSION DATA

FLASHPOINT: 105 DEG C (Can be ignited by large explosive charges)

FLAMMABILITY LIMITS (% by volume): Unknown

EXTINGUISHING MEDIA: Water, fog, foam, CO2. Avoid use of extinguishing methods that will cause splashing or spreading of HD.

SPECIAL FIRE FIGHTING PROCEDURES: All persons not engaged in extinguishing the fire should be immediately evacuated from the area. Fires involving HD should be contained to prevent contamination to uncontrolled areas. When responding to a fire alarm in buildings or areas containing agents, firefighting personnel should wear full firefighter protective clothing (without TAP clothing) during chemical agent firefighting and fire rescue operations. Respiratory protection is required. Positive pressure, full face piece, NIOSH-approved self-contained breathing apparatus (SCBA) will be worn where there is danger of oxygen deficiency and when directed by the fire chief or chemical accident/incident (CAI) operations officer. In cases where firefighters are responding to a chemical accident/incident for rescue/reconnaissance purposes they will wear appropriate levels of protective clothing (See Section VIII).

Do not breathe fumes. Skin contact with nerve agents must be avoided at all times. Although the fire may destroy most of the agent, care must still be taken to assure the agent or contaminated liquids do not further contaminate other areas or sewers. Contact with the agent liquid or vapor can be fatal.

SECTION V - HEALTH HAZARD DATA

AIRBORNE EXPOSURE LIMIT (AEL): The AEL for HD is 0.003 mg/m3 as found in "AR 40-173, Occupational Health Guidelines for the Evaluation and Control of Occupational Exposure to Mustard Agents H, HD, HT." To date, the Occupational Safety and Health Administration (OSHA) has not promulgated a permissible exposure concentration for HD.

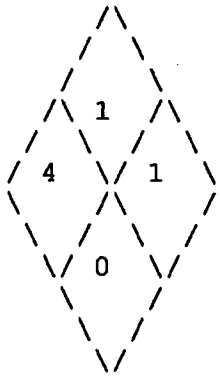
EFFECTS OF OVEREXPOSURE: HD is a vesicant (causing blisters) and alkylating agent producing cytotoxic action on the hematopoietic (blood-forming) tissues which are especially sensitive. The rate of detoxification of HD in the body is very slow and repeated exposures produce a cumulative effect. HD has been

C4 H8 Cl2 S

ClCH2CH2--S--CH2CH2Cl

NFPA 704 HAZARD SIGNAL:

Health - 4
Flammability - 1
Reactivity - 1
Special - 0



SECTION II - HAZARDOUS INGREDIENTS

INGREDIENTS NAME	FORMULA	PERCENTAGE BY WEIGHT	AIRBORNE EXPOSURE LIMIT (AEL)
Sulfur Mustard	C4 H8 Cl2 S	100	0.003 mg/m3

SECTION III - PHYSICAL DATA

BOILING POINT: 422 DEG F 217 DEG C

VAPOR PRESSURE (mm Hg): 0.072 mm Hg @ 20 DEG C
0.11 mm Hg @ 25 DEG C

VAPOR DENSITY (AIR=1): 5.5

SOLUBILITY IN WATER: Negligible. Soluble in fats and oils, gasoline, kerosene, acetone, carbon tetrachloride, alcohol, tetrachloroethane, ethylbenzoate, and ether. Miscible with the organophosphorus nerve agents.

SPECIFIC GRAVITY (H2O=1): 1.27 @ 20 DEG C

FREEZING POINT: 14.45 DEG C

LIQUID DENSITY (g/cc): 1.268 @ 25 DEG C
1.27 @ 20 DEG C

found to be a human carcinogen by the International Agency for Research on Cancer (IARC).

Median doses of HD in man are:
LD50 (skin) = 100 mg/kg

ICt50 (skin) = 2000 mg-min/m3 at 70 - 80 DEG F (humid environment)
= 1000 mg-min/m3 at 90 DEG F (dry environment)

ICt50 (eyes) = 200 mg-min/m3

ICt50 (inhalation) = 1500 mg-min/m3 (Ct unchanged with time)

LD50 (oral) = 0.7 mg/kg

Maximum safe Ct for skin and eyes are 5 and 2 mg-min/m3, respectively.

ACUTE PHYSIOLOGICAL ACTION OF HD IS CLASSIFIED AS LOCAL AND SYSTEMIC.

LOCAL ACTIONS: HD effects both the eyes and the skin. SKIN damage occurs after percutaneous absorption. Being lipid soluble, HD can be absorbed into all organs. Skin penetration is rapid without skin irritation. Swelling (blisters) and reddening (erythema) of the skin occurs after a latency period of 4-24 hours following the exposure, depending on degree of exposure and individual sensitivity. The skin healing process is very slow. Tender skin, mucous membrane and perspiration-covered skin is more sensitive to the effects of HD. HD's effect on the skin, however, is less than on the eyes. Local action on the eyes produces severe necrotic damage and loss of eyesight Exposure of eyes to HD vapor or aerosol produces lacrimation, photophobia, and inflammation of the conjunctiva and cornea.

SYSTEMIC ACTIONS: Occurs primarily through inhalation and ingestion. The HD vapor or aerosol is less toxic to the skin or eyes than the liquid form. When inhaled, the upper respiratory tract (nose, throat, trachea) is inflamed after a few hours latency period, accompanied by sneezing, coughing, and bronchitis, loss of appetite, diarrhea, fever, and apathy. Exposure to nearly lethal doses of HD can produce injury to bone marrow, lymph nodes, and spleen as showed by a drop in white blood cell count, thus resulting in increased susceptibility to local and systemic infections. Ingestion of HD will produce severe stomach pains, vomiting, and bloody stools after a 15-20 minute latency period.

CHRONIC EXPOSURE: HD can cause sensitization, chronic lung impairment, (cough, shortness of breath, chest pain), cancer of the mouth, throat, respiratory tract and skin, and leukemia. It may also cause birth defects.

EMERGENCY AND FIRST AID PROCEDURES:

INHALATION: Hold breath until respiratory protective mask is donned. Remove from the source IMMEDIATELY. If breathing is difficult, administer oxygen. If breathing has stopped, give artificial respiration. Mouth-to-mouth resuscitation should be used when approved mask-bag or oxygen delivery

systems are not available. Do not use mouth-to-mouth resuscitation when facial contamination exits. Seek medical attention IMMEDIATELY.

EYE CONTACT: Speed in decontaminating the eyes is absolutely essential. Remove the person from the liquid source, flush the eyes immediately with water for at least 15 minutes by tilting the head to the side, pulling the eyelids apart with the fingers and pouring water slowly into the eyes. Do not cover eyes with bandages but, if necessary, protect eyes by means of dark or opaque goggles. Transfer the patient to a medical facility IMMEDIATELY.

SKIN CONTACT: Don respiratory protective mask. Remove the victim from agent sources immediately. Immediately wash skin and clothes with 5% solution of sodium hypochlorite or liquid household bleach within one minute. Cut and remove contaminated clothing, flush contaminated skin area again with 5% sodium hypochlorite solution, then wash contaminated skin area with soap and water. Seek medical attention IMMEDIATELY.

INGESTION: Do not induce vomiting. Give victim milk to drink. Seek medical attention IMMEDIATELY.

SECTION VI - REACTIVITY DATA

STABILITY: Stable at ambient temperatures. Decomposition temperature is 149 DEG C to 177 DEG C. Mustard is a persistent agent depending on pH and moisture, and has been known to remain active for up to three years in soil.

INCOMPATIBILITY: Rapidly corrosive to brass @ 65 DEG C. Will corrode steel at a rate of .0001 in. of steel per month @ 65 DEG C.

HAZARDOUS DECOMPOSITION: Mustard will hydrolyze to form HCl and thiodiglycol.

HAZARDOUS POLYMERIZATION: Does not occur.

SECTION VII - SPILL, LEAK, AND DISPOSAL PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Only personnel in full protective clothing (See Section VIII) will be allowed in an area where HD is spilled. See Section V for emergency and first aid instructions.

RECOMMENDED FIELD PROCEDURES: The HD should be contained using vermiculite, diatomaceous earth, clay or fine sand and neutralized as soon as possible using copious amounts of 5.25% sodium hypochlorite solution. Scoop up all material and place in a approved DOT container. Cover the contents with decontaminating solution as above. The exterior of the container will be decontaminated and labeled according to EPA and DOT regulations. All leaking containers will be over packed with vermiculite placed between the interior and exterior containers. Decontaminate and label according to EPA and DOT regulations. Dispose of the material in accordance with waste disposal

methods provided below. Dispose of decontaminate according to Federal, state and local regulations. Conduct general area monitoring with an approved monitor to confirm that the atmospheric concentrations do not exceed the airborne exposure limits (See Sections II and VIII).

If 5.25% sodium hypochlorite solution is not available then the following decontaminants may be used instead and are listed in the order of preference: Calcium Hypochlorite, contamination Solution No. 2 (DS2), and Super Tropical Bleach Slurry (STB).

WARNING: Pure, undiluted calcium hypochlorite (HTH) will burn on contact with liquid HD.

RECOMMENDED LABORATORY PROCEDURES: A minimum of 65 grams of decon solution per gram of HD is allowed to agitate for a minimum of one hour. Agitation is not necessary following the first hour if a single phase is obtained. At the end of 24 hours, the resulting solution will be adjusted to a pH between 10 and 11. Test for presence of active chlorine by use of acidic potassium iodide solution to give free iodine color. Place 3 ml of the decontaminate in a test tube. Add several crystals of potassium iodine and swirl to dissolve. Add 3 ml of 50 wt.% sulfuric acid:water and swirl. IMMEDIATE iodine color shows the presence of active chlorine. If negative, add additional 5.25% sodium hypochlorite solution to the decontamination solution, wait two hours, then test again for active chlorine. Continue procedure until positive chlorine is given by solution. A 10 wt.% calcium hypochlorite (HTH) mixture may be substituted for sodium hypochlorite. Use 65 grams of decon per gram of HD and continue the test as described for sodium hypochlorite. Scoop up all material and place in approved DOT containers. Cover the contents with decontaminating solution as above. The exterior of the container will be decontaminated and labeled according to EPA and DOT regulations. All leaking containers will be over packed with vermiculite placed between the interior and exterior containers. Decontaminate and label according to EPA and DOT regulations. Dispose of the material in accordance with waste disposal methods provided below. Dispose of decontaminate according to Federal, state and local regulations. Conduct general area monitoring with an approved monitor to confirm that the atmospheric concentrations do not exceed the airborne exposure limits (See Section VIII).

NOTE: Surfaces contaminated with HD, then rinse and decontaminated may evolve sufficient HD vapor to produce a physiological response. HD on laboratory glassware may be oxidized by its vigorous reaction with concentrated nitric acid.

WASTE DISPOSAL METHOD: Open pit burning or burying of HD or items containing or contaminated with HD in any quantity is prohibited. Decontamination of waste or excess material shall be accomplished according to the procedures outlined above and can be destroyed by incineration in EPA approved incinerators according to appropriate provisions of Federal, State and local Resource Conservation Recovery Act (RCRA) regulations.

NOTE: Some states define decontaminated surety material as a RCRA hazardous waste.

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

CONCENTRATION	RESPIRATORY PROTECTIVE EQUIPMENT
< or = 0.003 mg/m3	A full face piece, chemical canister, air-purifying protective mask will be on hand for escape. (The M9-, M17-, and M40-series masks are acceptable for this purpose. Other masks certified as equivalent may be used.)
> 0.003 mg/m3	NIOSH/MSHA approved pressure demand full face piece SCBA suitable for use in high agent concentrations with protective ensemble. (See DA PAM 385-61 for examples).

VENTILATION:

Local Exhaust: Mandatory. Must be filtered or scrubbed. Air emissions shall meet local, state and federal regulations.

Special: Chemical laboratory hoods will have an average inward face velocity of 100 linear feet per minute (lfpm) +/- 10% with the velocity at any point not deviating from the average face velocity by more than 20%. Existing laboratory hoods will have an inward face velocity of 150 lfpm +/- 20%. Laboratory hoods will be located such that cross drafts do not exceed 20% of the inward face velocity. A visual performance test using smoke producing devices will be performed in assessing the ability of the hood to contain agent HD.

Other: Recirculation of exhaust air from agent areas is prohibited. No connection between agent area and other areas through the ventilation system is permitted. Emergency backup power is necessary. Hoods should be tested semiannually or after modification or maintenance operations. Operations should be performed 20 centimeters inside hoods.

PROTECTIVE GLOVES: Butyl Rubber gloves M3 and M4
Norton, Chemical Protective Glove Set

EYE PROTECTION: As a minimum, chemical goggles will be worn. For splash hazards use goggles and face shield.

OTHER PROTECTIVE EQUIPMENT: For laboratory operations, wear lab coats, gloves and have mask readily accessible. In addition, daily clean smocks, foot covers, and head covers will be required when handling contaminated lab animals.

MONITORING: Available monitoring equipment for agent HD is the M8/M9 detector paper, blue band tube, M256/M256A1 kits, bubbler, Depot Area Air Monitoring System (DAMMS), Automated Continuous Air Monitoring System (ACAMS),CAM-M1,

Hydrogen Flame Photometric Emission Detector (HYFED), the Miniature Chemical Agent Monitor (MINICAM), and Real Time Analytical Platform (RTAP).

Real-time, low-level monitors (with alarm) are required for HD operations. In their absence, an Immediately Dangerous to Life and Health (IDLH) atmosphere must be presumed. Laboratory operations conducted in appropriately maintained and alarmed engineering controls require only periodic low-level monitoring.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: When handling agents, the buddy system will be incorporated. No smoking, eating, or drinking in areas containing agents is permitted. Containers should be periodically inspected for leaks, (either visually or using a detector kit). Stringent control over all personnel practices must be exercised. Decontaminating equipment will be conveniently located. Exits must be designed to permit rapid evacuation. Chemical showers, eyewash stations, and personal cleanliness facilities must be provided. Wash hands before meals and shower thoroughly with special attention given to hair, face, neck, and hands using plenty of soap and water before leaving at the end of the work day.

OTHER PRECAUTIONS: HD should be stored in containers made of glass for Research, Development, Test and Evaluation (RDTE) quantities or one-ton steel containers for large quantities. Agent will be double-contained in liquid tight containers when in storage.

For additional information see "AR 385-61, The Army Toxic Chemical Agent Safety Program," "DA PAM 385-61, Toxic Chemical Agent Safety Standards," and "AR 40-173, Occupational Health Guidelines for the Evaluation and Control of Occupational Exposure to HD Agents H, HD, and HT."

SECTION X - TRANSPORTATION DATA

FORBIDDEN FOR TRANSPORT OTHER THAN VIA MILITARY (TECHNICAL ESCORT UNIT) TRANSPORT ACCORDING TO 49 CFR 172

PROPER SHIPPING NAME: Poisonous liquids, n.o.s.

DOT HAZARD CLASS: 6.1, Packing Group I, Hazard Zone B

DOT LABEL: Poison

DOT MARKING: Poisonous liquids, n.o.s. Bis-(2-chloroethyl) sulfide
UN 2810, Inhalation Hazard

DOT PLACARD: POISON

EMERGENCY ACCIDENT PRECAUTIONS AND PROCEDURES: See Sections IV, VII and VIII.

PRECAUTIONS TO BE TAKEN IN TRANSPORTATION: Motor vehicles will be placarded regardless of quantity. Drivers will be given full information regarding shipment and conditions in case of an emergency. AR 50-6 deals specifically with the shipment of chemical agents. Shipment of agents will be escorted in accordance with AR 740-32.

While the Edgewood Research Development, and Engineering Center, Department of the Army believes that the data contained herein are actual and the opinions expressed are those of the experts regarding the results of the tests conducted, the data are not to be taken as a warranty or representation for which the Department of the Army or Edgewood Research Development, and Engineering Center assume legal responsibility. They are offered solely for your consideration, investigation, and verification. Any use of these data and information must be determined by the user to be in accordance with applicable Federal, State, and local laws and regulations.

ADDENDUM A
ADDITIONAL INFORMATION FOR THICKENED HD

TRADE NAME AND SYNONYMS: Thickened HD, THD

HAZARDOUS INGREDIENTS: K125 (acryloid copolymer, 5%) is used to thicken HD. K125 is not known to be hazardous except in a finely-divided, powder form.

PHYSICAL DATA: Essentially the same as HD except for viscosity. The viscosity of HD is between 1000 and 1200 centistoke @ 25 DEG C.

FIRE AND EXPLOSION DATA: Same as HD.

HEALTH HAZARD DATA: Same as HD except for skin contact. For skin contact, don respiratory protective mask and remove contaminated clothing IMMEDIATELY. IMMEDIATELY scrape the HD from the skin surface, then wash the contaminated surface with acetone. Seek medical attention IMMEDIATELY.

SPILL, LEAK, AND DISPOSAL PROCEDURES: If spills or leaks of HD occur, follow the same procedures as those for HD, but dissolve THD in acetone before introducing any decontaminating solution. Containment of THD is generally not necessary. Spilled THD can be carefully scraped off the contaminated surface and placed in a fully removable head drum with a high density, polyethylene lining. THD can then be decontaminated, after it has been dissolved in acetone, using the same procedures used for HD. Contaminated surfaces should be treated with acetone, then decontaminated using the same procedures as those used for HD.

NOTE: Surfaces contaminated with THD or HD and then rinse-decontaminated may evolve sufficient HD vapor to produce a physiological response.

SPECIAL PROTECTION INFORMATION: Same as HD.

SPECIAL PRECAUTIONS: Same as HD with the following addition. Handling the THD requires careful observation of the "stringers" (elastic, threadlike attachments) formed when the agents are transferred or dispensed. These stringers must be broken cleanly before moving the contaminating device or dispensing device to another location, or unwanted contamination of a working surface will result.

TRANSPORTATION DATA: Same as HD.

Note: The offeror shall fill in only the unit price blocks and price for First Article costs. All other spaces are for Government evaluation Purposes Only.

DAAE20-99-R-0169
M295 Decontamination Kit
Pricing Evaluation Sheet

Nomenclature: **M295 Decontamination Kit**
NSN: **6850-01-357-8456**
P/N: **5-77-3201**

	Range	Ordering Period 1 Unit Price	Wgt.	Ordering Period 2 Unit Price	Wgt.	Ordering Period 3 Unit Price	Wgt.	Ordering Period 4 Unit Price	Wgt.	Ordering Period 5 Unit Price	Wgt.	Total Amount
1	1000 - 4000		20%		20%		20%		20%		20%	
2	4001 - 9000		40%		40%		40%		40%		40%	
3	9,001 - 15,000		30%		30%		30%		30%		30%	
4	15,001 - 25,000		10%		10%		10%		10%		10%	
Weighted Avg. Unit Price			100%		100%		100%		100%		100%	
Most Likely Quantity		12,600		9,463		9,466		9,466		9,462		
Evaluated Price												

First Article Cost [ ]

Total Evaluated Amount

Note 1: The production rate for ranges 1 - 3 is between 800 - 1200 depending on actual order quantity.

Note 2: The production rate for range 4 is between 1200 - 1600 depending on actual order quantity.