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U.S. Navy - Naval Medical Field Res. Lab.
Camp Lejeune

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NAVAL MEDICAL FIELD RESEARCH LABORATORY
CAMP LEJEUNE, NORTH CAROLINA 28542

NMFRL-032-hjp
3900.3
1 August 1970

From: Commanding Officer, Naval Medical Field Research Laboratory, Camp Lejeune,
North Carolina 28542
To: Distribution List
Subj: Pesticides and Pest Control Equipment; information concerning
Ref: (a) CO NMFRL ltr NMFRL-032-hjp 3900.3 of 1 September 1969, Subj:
Pesticides and Pest Control Equipment; information concerning
(b) Marine Corps Order 6250.6A of 2 February 1970, Subj: Pest Control
Program
(c) Table of Authorized Materiel, U. S. Marine Corps, NAVMC 1017, Revision
No. 1, 20 April 1970
Encl: (1) Review of Information Concerning Federal Standard Stock Pesticides
(primarily FSC 6840) and Equipment for Pest Control and Pesticide
Dispersal (primarily FSC 3740)

1. Reference (a) is superseded by this letter with the information contained in enclosure (1).
2. This review includes up-to-date published changes related to the procurement, storage, issue and use of subject supplies and equipment. The information contained in enclosure (1) was prepared by the Entomology Division of this laboratory to assist those who have not been able to obtain the numerous references pertinent to the identification and management of these items.
3. References (b) and (c) set forth instructions concerning the procurement, use and reporting of Pesticides and Pest Control Equipment in accordance with Department of Defense and the Secretary of the Navy regulations. These references are valuable to the organization and operation of safe, effective and efficient programs for the control of pests within the military establishment.
4. Additional copies of this review are available on request. Your suggestions and comments on the previous reviews have been incorporated in this report which has been improved by your interest.

Distribution:
List (X)

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Distribution List (X)

PMU 2 Norfolk (2)
PMU 5 San Diego (2)
PMU 6 Pearl Harbor (2)
PMU 7 Naples, Italy (2)
Disease Vector Control Center, Alameda (2)
Disease Vector Control Center, Jacksonville (2)
BuMed (7222) Wash DC (4)
MarCorps Supply Center, Albany (2)
MarCorps Supply Depot, Barstow (2)
MarCorps Supply Activity, Philadelphia (2)
ForSurgeon FMFLant, Norfolk (1)
ForSurgeon FMFPac, Pearl Harbor (1)
StaffMedO HQMC Wash DC (1)
CMC (AO4D) Wash DC (2)
CMC (CSX) Wash DC (1)
CMC (CSY 4) Wash DC (1)
DivSurgeon 1st MarDiv (1)
DivSurgeon 2d MarDiv (1)
DivSurgeon 3d MarDiv (1)
DivSurgeon 5th MarDiv (1)
PrevMedSec 1st MarDiv (1)
PrevMedSec 2d MarDiv (1)
PrevMedSec 3d MarDiv (1)
PrevMedSec 5th MarDiv (1)
DirMilEntomolInfoServ Wash DC (2)
Exec Sec AFPCB Wash DC (15)
NavFacEngCom (63-233) Wash DC (2)
NavFacEngCom (63A) Seattle (2)
NavFacEngCom Norfolk (2)
NavFacEngCom Charleston SC (2)
NavFacEngCom NY (2)
NavFacEngCom Boston (2)
NavFacEngCom New Orleans (2)
NavFacEngCom Chesapeake Div Wash DC (2)
NavFacEngCom San Diego (2)
NavFacEngCom San Bruno Calif (2)
NavFacEngCom Caribbean Div NY (2)
NavFacEngCom PacDiv San Fran (2)
NavFacEngCom European Div NY (2)
LnO AFPCB USDA Gainesville Fla (2)
CO Camp Garcia FT FMFLant Vieques PR (2)
CO Camp Butler FPO San Fran (2)
MarCorps Supply Center (844) 1100 S. Broad St., Phila (2)

1 August 1970

PESTICIDES AND PEST CONTROL EQUIPMENT; information concerning

NOTE: All items of supply for the control of pests are considered to be Standard Stock if they appear in the Federal Stock Catalogs. All other items are non-standard and require approval of the Entomologist who serves the major military command. Marine Corps procurement of items which are not in local supply requires the requisition to be sent to the Inventory Control Point, Marine Corps Supply Activity, 1100 South Broad Street, Philadelphia, Pennsylvania 19146. Navy procurement of items which are not in local supply requires that (a) the requisitions for an item in FSC Class 6800 be sent to Defense General Supply Center, Bellwood, Petersburg Pike, Richmond, Virginia 23219, or (b) the requisition for an item in FSC Class 3740 be sent to Defense Construction Supply Center, 3990 East Broad Street, Columbus, Ohio 43215. This Review consists of Part I - "Pesticides," Part II - "Equipment for Pest Control and Pesticide Dispersal," and Part III - "Storage and Disposal of Pesticides."

Part I. PESTICIDES.

- References:
- (a) FSC C6800-IL Identification List, 1 January 1970
 - (b) FSC C6800-IL-CB2 Identification List, 1 July 1970
 - (c) FSC C-6800-ML-MC Management Data List, 1 May 1969
 - (d) FSC C-6800-ML-MC Change Bulletin No. 4, 1 July 1970
 - (e) NAVFACINST 6250.12 of 1 April 1970, Subj: Use of Persistent Pesticides; policy on
 - (f) NAVSUP NOTICE 6250 SUP 0462B of 5 June 1970, Subj: Curtailment of Use of DDT in the Department of Defense.
 - (g) Herbicide Manual for Noncropland Weeds, USDA, Agriculture Handbook No. 269.
 - (h) Suggested Guide for Weed Control for 1969, USDA, Agriculture Handbook No. 332.
 - (i) 2,4-D, 2,4,5-T and Related Chemicals for Woody Plant Control in Southeastern United States, Robert M. Romancier, Report No. 16, Georgia Forest Research Council, Macon, Georgia 1965.
 - (j) Military Entomology Operational Handbook, NAVDOCKS MO-310.
 - (k) Manual of Naval Preventive Medicine, NAVMED P-5010, Chapters 9, 10, 11 and 12.

Guide:

Pesticides (Insecticides, Herbicides, Rodenticides, etc) are available in a variety of packages, formulations and concentrations. In order to guarantee that hazardous materials are issued only to personnel who are adequately trained and properly certified as qualified to handle such items, the following controls are established:

- (a) Training and Certification. The Naval Facilities Engineering Command and the Bureau of Medicine and Surgery maintain training facilities and establish certification

Enclosure (1)

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regulations. A person who is responsible for procurement, storage, issue, use and disposal of Pesticides should protect himself by compliance with Department of Defense Instruction 4150.7 of 23 July 1964 and CH-1 of 1 October 1965, Subj: "Pest Control Operations at Military Installations" and related departmental publications.

(b) Classification of Pesticides: Each pesticide is given a control category symbol, I, II or III.

I. Ready-to-use items to be issued to troops, fleet units, and other personnel without special qualifications and training in the mixing and application of toxic chemicals.

II. Items to be issued, when approved by the surgeon (medical officer) and/or engineer officer (maintenance or public works officer), for use by installation engineer (or public works) employees who have valid certificates of training in pest control; or for use by troops under the direct supervision of certified personnel of the respective departmental medical service.

III. Items to be issued only on the approval of the Surgeon General.

Additional controls are published when certain techniques are replaced by improved methods or the development of new compounds causes changes in the recommended pesticides. References (e) and (f) of Part I of this review are examples of these controls. Reference (e) emphasizes the value of the control procedure and specifies those pesticides which are considered general use items and those pesticides which must be applied by, or under the direct supervision of trained and certified personnel. The contents of this reference have been indicated in the following descriptive lists. Reference (f) defines the Navy policy on the use of DDT and requests a report "by message or speedletter" of "on hand stocks of the below listed DDT compounds" and advises that the "compounds reported in accordance" with this reference "are not to be used." The compounds which are not be used are as follows:

<u>FSN</u>	<u>Pesticide</u>
6840-253-3892	Insecticide, DDT, 5% solution, 5-gallon can.
6840-285-4307	Insecticide, DDT, Lindane, indoor fogging, 10% DDT, 2% Lindane, 5-gallon can.
6840-598-7314	Insecticide, DDT, composition 25% DDT, 75% emulsifier and solvent, 55-gallon drum.
6840-254-8770	Insecticide, DDT-Allethrin, aerosol, 12-ounce can.
6840-274-5415	Insecticide, DDT, 10% dust, 2-ounce can.

Since no disposition is directed for pesticides which become obsolete, these supplies must be retained in storage until disposal orders are published. To assist in the proper storage and disposal of pesticides, Part III of this review has been prepared from numerous unofficial sources of information.

Review No. TAM No. Category Symbol	Descriptive Information	Specification FSC Catalog Index No.	Price/Package FSN
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HERBICIDES

- | | | | | |
|----|----|---|---|--|
| II | 1. | <u>Amino: P/N Tordon 101</u> , a benzoic acid compound which is more effective than 2,4-D for the control of various resistant weeds and certain woody plants. Since it is compatible with 2,4-D, dalapon and certain other herbicides, it is mixed occasionally with another compound to produce desired results (Picloram-2,4-D). | MFG. FED Code 71983
660399-500 | \$57.00/DR (5 gallons)
6840-629-1638 |
| II | 2. | <u>Amino: P/N Tordon 101</u> , special packaging of item No. 1 above. The 16-gauge drum shall have a 3-inch wide white band at the center line. This item is for tactical purposes only and not for base type pest control operations. | MFG FED Code 71983
660472-500 | /DR (55 gallons)
6840-926-9093 |
| II | 3. | <u>Amitrole (Amizol)</u> , 90% amino triazole and 10% inert ingredients. For suggested uses of this water soluble powder see reference (g), page 6, and reference (h), page 5. Local procurement. | FED O-H-190
660962-500 | \$46.50/DR (50 pounds)
6840-833-1217 |
| II | 4. | <u>Borate-Bromacil Mixture</u> . This granular mixture contains 71.2% disodium tetraborate pentahydrate, 22.8% disodium tetraborate decahydrate, 4.0% bromacil and 2% inert ingredients. | (Procurement approval not required)
Spec not given
660989-500 | \$20.20/BG (50 pounds)
6840-027-6467 |
| II | 5. | <u>Bromacil 80%</u> . This wettable powder contains 80% bromacil and 20% inert ingredients. See reference (h), page 6. | Spec not given
661525-500 | \$256.00/DR (50 pounds)
6840-890-2146 |

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- II 6. Cacodylic: P/N Phytar 560G. The 16-gauge drum shall have a 3-inch wide Blue band at the center line. This item is for tactical purposes only and is not for base type pest control.
- MFG FED Code 03670 /DR (55 gallons)
662417-500 6840-926-9094
- II 7. Chlorate-Borate. This water soluble powder contains a mixture of 73% disodium octoborate tetrahydrate, 25% sodium chlorate and 2% inert ingredients including the spreading agent. See reference (g), page 14. (Polybor)
- FED O-H-202 \$7.59/BG (50 pounds)
662521-500 6840-684-8975
- II 8. Copper Sulfate. This water soluble crystalline herbicide contains 80.16% cupric sulfate, pentahydrate, approximately 19.84% inert ingredients. Ph of 5% solution, 2.3.
- Spec not given /BG (50 pounds)
662932-500 6840-063-3981
- II 9. Dalapon 85%. This water soluble powder contains 85% 2,2-dichloropropionic acid sodium salt and 15% inert ingredients. See reference (g), page 10, and reference (h), page 7. (Dowpon, Radapon)
- FED O-H-205 \$40.70/DR (50 pounds)
663214-500 6840-577-4204
- II 10. 2,4-D. This liquid form herbicide contains 2,4-dichlorophenoxyacetic acid. See reference (g), page 15, and reference (h), page 12. See Review No. 11 and No. 12. (Amine) Type II
- FED O-H-200 \$10.10/CN (95 gallons)
663777-249 6840-664-7060
- II 11. 2,4-D. See Review No. 10 and No. 12. Type III LVE
- FED O-H-200 \$23.10/DR (5 gallons)
663777-498 6840-577-4194
- II 12. 2,4-D. See Review No. 10 and No. 11. Type III LVE
Local procurement. Packed in 16-gauge drums.
- FED O-H-200 \$181.00/DR (55 gallons)
663777-747 6840-577-4195

- II 13. 2,4-D - 2,4,5-T mixture. This solution contains 33.5% low volatile ester of 2,4-D (2.0 lb. 2,4-D acid equivalent/gallon), 31.9% low volatile ester of 2,4,5-T (2.0 lb. 2,4,5-T/gallon) and 34.6% inert ingredients. See reference (g), page 16, and reference (h), page 12. (Ded-Weed LV33) Local procurement.
- FED O-H-200 \$297.00/DR (55 gallons)
 FED O-H-200A 6840-825-7792
 664340-500
- II 14. 2,4-D - 2,4,5-T. High volatile ester. This solution contains 50% N-butyl 2,4-dichlorophenoxyacetate, 50% N-butyl 2,4,5-T trichlorophenoxyacetate. The drum shall have an Orange band 3-inches wide at the center line of the drum body. This item is for tactical purposes only and is not for base type pest control operations.
- Spec not given 580 pounds
 664608-500 /DR (55 gallons)
 6840-926-9095
- II 15. Dicamba 49%. This water soluble salt contains 49% dicamba, 7.9% dimethylamine salts of related acids and 43.1% inert ingredients. It is in liquid form. See reference (g), page 8 and reference (h), page 7.
- Spec not given \$26.20/BT (1 gallon)
 664903-500 6840-905-4304
- II 16. Diquat. This liquid herbicide is a non-volatile and nonflammable contact poison. It contains 35.3% diquat dibromide and 64.7% inert ingredients. See reference (g), page 11, and reference (h), page 7.
- Spec not given \$120.00/DR (5 gallons)
 665466-500 6840-815-2799
- II 17. DOPA, Dimethyl Tetrachloroterephthalate. This wettable powder contains 75% dimethyl ester of tetrachloroterephthalic acid and 25% inert ingredients. It is odorless. (Dacthal) See reference (g), page 9, and reference (h), page 7.
- FED O-H-206 \$35.80/Fiber Drum (50 pounds)
 666029-500 6840-681-9475
- II 18. DSMA, Disodium Methylarsonate. This water soluble powder contains 63% disodium methylarsonate. (DMA) See reference (g), page 8, and reference (h), page 8.
- FED O-H-204 \$31.60/Fiber Drum (100 pounds)
 666592-500 6840-965-2071

19. Duron 80%. This finely ground water dispersible powder contains 80% active ingredients (3-/3,4 dichlorophenyl)-1, 1-dimethylurea, 20% inert ingredients. See reference (g), page 18, and reference (h), page 7. (Karmex)
- MIL-H-51152 \$122.00/DR (50 pounds)
667155-500 6840-825-7790
20. Fenuron 25%. This pelletized form of Fenuron contains 25% 3-phenyl-1, 1-dimethylurea and 75% inert ingredients. (Dybar) Local Procurement. See reference (g), page 18, and reference (h), page 7.
- MIL-H-51151 \$60.00/BG (50 pounds)
667718-500 6840-810-6920
21. Monuron 80%. This water dispersible powder contains 80% 3-(p-chloro-phenyl)-1, -dimethylurea and 20% inert ingredients. See reference (g), page 18, and reference (h), page 9. (Telvar)
- MIL-H-51153 \$118.00/DR (50 pounds)
668281-500 6840-514-0644
22. Picloram. This pelletized herbicide contains 11.6% picloram potassium salt and 88.4% inert ingredients.
- Spec not given \$52.00/DR (50 pounds)
668844-500 6840-990-1464
23. Silvex Ester. LVE. This liquid form, emulsion concentrate, contains 58.9% to 65.1% of any suitable low volatile ester derivative of 2-(2,4,5-trichlorophenoxy) propionic acid (4 lb. min. acid equivalent per gallon) and 24.9 to 41.1% inert ingredients. See reference (g), page 17, and reference (h), page 10.
- FED O-H-215 \$77.00/DR (5 gallons)
669407-500 6840-882-4810
24. Simazine. This water dispersible powder contains 80% 2-chloro-4, 6-BIS-ethylamino-/S-triazine and 20% inert ingredients. See reference (g), page 19, and reference (h), page 10. See item No. 25.
- FED O-H-207 Type I \$12.75/BG or CN (5 pounds)
669970-500 6840-814-7334
25. Simazine. See Item No. 24. Local procurement.
- FED O-H-00207 Type I /DR (50 pounds)
670252-500 6840-781-8195
26. Penac. This liquid herbicide contains 16.1% 2,3,6-trichlorophenylacetic acid, sodium salt and 83.9% inert ingredients.
- Spec not given \$228.00/DR (30 gallons)
670418-500 6840-929-7951

- II 27. 2,4,5-T. This solution contains 2,4,5-trichlorophenoxyacetic acid, low volatile ester, 4 lb. acid equivalent per gallon. See reference (g), page 17, and reference (h), page 12. Type II, Class 2.
- FED O-H-210 \$33.50/PL (5 gallons)
671096-333 6840-582-5440
- II 28. 2,4,5-T. See item No. 27. Local procurement.
- FED O-H-210A \$348.00/DR (55 gallons)
671096-666 6840-577-4201
29. M-1960. Clothing Application Only. This insect repellent MUST NOT BE APPLIED TO THE SKIN. It contains 30% propanediol, 30% benzyl benzoate, 30% butylacetanilide and 10% polyoxyethylene/20/sorbitan monooleate. It is necessary to follow the directions carefully when the impregnation of uniforms is necessary.
- II K4440 II E 1867A
- MIL-I-12123 \$7.56/CN (1 gallon)
671659-500 6840-270-6200
- II 30. Benzyl Benzoate 90%. Clothing Application Only. This compound is an excellent repellent when it is properly used on the clothing. It is especially effective against ticks and chiggers. The formulation contains 90% benzyl benzoate and 10% emulsifier.
- MIL-I-51022 \$6.10/CN (1 gallon)
672222-500 6840-281-2062
- I 31. DEET. Clothing - Personal Application. This special polyethylene 1/2-ounce bottle contains 75% diethyltoluamide (DEET) and 25% ethanol. It is part of a Survival Kit, Individual, Hot-Wet Environment (FSN 6545-782-2821).
- FED O-I-00503 \$0.47/BT (1/2-ounce)
672785-500 6840-935-0984
- I K4430 II E 3551B 32. DEET. Insect and Leech Repellent. Clothing and Personal Application. This solution contains 75% diethyltoluamide (DEET) and 25% denatured alcohol. The 2-ounce polyethylene bottle is unbreakable. READ THE DIRECTIONS ON THE BOTTLE. Type II. Solution A. (Do not order 6840-656-1632 - it is nonstandard)
- FED O-I-503 \$0.20/BT (2 ounces)
673349-333 6840-753-4963

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III 33. DEET. See Item No. 32. THIS ITEM IS TO BE ISSUED ONLY AS DIRECTED BY THE SURGEON GENERAL.

FED O-I-503 /CN (1 gallon)
673349-666 6840-864-5430

I
K4435 II B
9999A 34. DEET. Insect and Leech Repellent. Clothing and Personal Application. This 6-ounce pressurized can contains 71.25% N,N-diethyltoluamide (DEET), 3.75% other toluamides and 25% inactive ingredients (propellant). It may be used to apply the repellent to the clothing or on skin surfaces but FOLLOW THE DIRECTIONS on the can.

FED O-I-503 Type II Size 2 \$0.59/CN (6 ounces)
674474-500 6840-082-2541

II 35. Repellent, Stick Form. This stick form repellent contains 65% 2-ethylhexanediol-1,3, 11% ozokerite 871 mas., 22% stearic acid, 2% inert ingredients. This item is part of a Survival Kit. It is inferior to the recommended item No. 31 above.

P/N 6-12 FSCM 61637 \$0.32/Cartridge
675085-500 6840-142-8965

II 36. Aluminum Phosphide. The tablets (item No. 36) and the pellets (item No. 37) are formulated to contain 55% aluminum phosphide, 41% ammonium carbamate and 4% paraffin. Special training is required before these items can be used in the treatment of grain pests in stored rice, wheat, barley, corn, oats, sorghum, millet and rye.

FSCM31618 3 tubes - 30 tablets
675652-333 \$4.61/Each Tube per can
6840-145-0016

II 37. Aluminum Phosphide, Pellet form: See item No. 36 above.

FSCM 31618 \$23.30/1660 Pellets - flask
675652-666 6840-442-5698

II 38. Baygon Roach Bait. This insecticide in dry granular bait contains 2% o-Isopropoxyphenyl methylcarbamate and 98% inert ingredients. Although it must be applied by certified personnel it is not necessary to obtain approval by the area entomologist prior to procurement. It is recommended for the control of German and brown banded cockroaches.

Spec not given, FSCM 32766 /BT (5 pounds)
689393-333 6840-498-4057