

30 June 2008

Final Report

Agent Orange: A History of Its Use, Disposition, and Environmental Fate

Submitted by
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For

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Figure 2.4 A shipment of **Herbicide Orange** in 208-liter drums. The lid (top) of each drum specified the content (Herbicide Butyl Esters of 2,4-D and 2,4,5-T), the Federal Specification Number (FSN), US Port of Embarkation (Mobile, Alabama), destination (ARVN 511th Ordinance Storage Depot, Da Nang, Vietnam), procurement information (including **date, 8/67**), and net weight. Each of the 11 different companies that manufactured military herbicides packed them in new 208-liter 18 gauge steel drums for shipment to Southeast Asia. Each herbicide drum was also marked with a 7.6 -centimeter **color-coded band** around the center to identify the specific military herbicide (**Photograph courtesy of A. L. Young**).

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*SB 3-40

DEPARTMENT OF THE ARMY SUPPLY BULLETIN

HERBICIDES, PEST CONTROL AGENTS,
AND DISINFECTANTS

Headquarters, Department of the Army, Washington, D.C.

18 September 1968

1. Purpose. This bulletin furnishes guidance for Army facilities, other units and troops in the requisitioning of pesticides, rodenticides, fungicides, herbicides, disinfectants, and various sewer treatment compounds.

2. Definitions. a. Herbicides are materials which will destroy, prevent, or mitigate the activity of plant life. Selective herbicides will kill undesirable plants without serious injury to desirable types growing in the same area. Nonselective herbicides will destroy all forms of plant life. Soil sterilants make the soil incapable of supporting plant growth.

b. Pesticides are materials having the ability to destroy, or to mitigate the activity of, insects (insecticides), rodents (rodenticides), fungi (fungicides), nematodes, and other pests. Included under this definition are repellents, which prevent pest attack or damage by making unattractive to those pests the areas under treatment.

c. Disinfectants are materials which destroy disease germs or other harmful microorganisms.

d. Sewer treatment compounds are materials used for removing grease and controlling odors and root growth in sewer systems.

3. Scope. a. Supplies listed herein will normally be utilized at Department of the Army installations and for troop supply. Prior approval of the appropriate commands listed below will be obtained by the installations thereunder for local purchase of items to be substituted for the items listed in this bulletin.

(1) *Herbicides.* CONUS Army Commands, Military District of Washington, or the U.S. Army Materiel Command (acting upon recom-

mendation of the staff agronomist and with the concurrence of the command surgeon); all other installations, including overseas, will obtain, through appropriate channels, prior approval from the Chief of Engineers, ATTN: ENGMC-FB.

(2) *Pesticides.* major commands or major subordinate commands.

b. Requisitions for items not included in this bulletin will have indicated on them the approval of the appropriate command as listed in a above.

c. Requisitions for all items other than FSNs 6840-823-7945 and 6840-864-5430 will be forwarded to Defense General Supply Center, Richmond, Va., routing identifier S9G, from all CONUS installations. Requisitions for FSNs 6840-823-7945 and 6840-864-5430 will be forwarded to Headquarters, U.S. Army Petroleum Center, Cameron Station, Alexandria, Va., routing identifier A95, from all CONUS installations. Oversea installations will utilize appropriate channels. For pesticides, the normal supply should be adequate for operations for a period of 60 days; major commands may issue directives authorizing requisition in accordance with requirements. The supply level of herbicides at installations will be approved by the engineer. The need for any of these items may vary seasonally and within geographic subdivisions of commands.

d. Service schools, laboratories, and other such agencies of the Army are authorized to requisition pesticides as needed for educational and training purposes.

This 1968 Army Bulletin shows the "approved for use" herbicides. All branches of service used the same herbicides.

Armed Forces Pest Management Board

recommends policy, provides guidance, and coordinates the exchange of information on all matters related to DoD pest management



*This Bulletin supersedes SB 3-40, 20 May 1963.

		Unit pkg.	Price per Unit pkg.	Specification
6840-281-2062	Insect Repellent, Clothing Application, 90% Benzyl Benzoate.	1 gal can	6.10	MIL-I-51022
6840-082-2541	Insect and Leech Repellent, Clothing and Personal Application, 75% Diethyltoluamide Aerosol (Deet).	6 oz dispenser	.66	O-I-503, Type III, Size 2

(2) Item to be issued only when the Army Medical Services require its use in FSN 6545-782-2821 Survival Kit, individual, Hot-Wer environment.

Federal stock No.	Item	Unit pkg.	Price per Unit pkg.	Specification
6840-935-0984	Insect and Leech Repellent, Clothing and Personal Application, 75% Diethyltoluamide (Deet).	1/2 oz bottle	.26	O-I-503, Type II Solution Concentration A

c. *Rodenticides.* To be issued under approval and use limitations per a(2) above.

Federal stock No.	Item	Unit pkg.	Price per Unit pkg.	Specification
6840-753-4972	Rodenticide, Anticoagulant, Water Soluble (in cereal baits, to be diluted 1:9).	1 lb can	.56	O-R-00497
6840-285-7091	Rodenticide, Zinc Phosphide, 75% Powder.	1 oz bottle	.37	O-R-511
6840-089-4664	Rodenticide, Diphacin-Paraffin Bait block with 8-ft red binding tape.	8 oz block 40 per carton	9.19	
6840-246-6436	Rodenticide, Calcium Cyanide, 42% Powder.	1 lb can	.60	O-R-501

d. *Fungicides.* To be issued as required by the using organization or personnel.

Federal stock No.	Item	Unit pkg.	Price per Unit pkg.	Specification
6840-281-2766	Mildew Preventive Tablets, 1 oz.....	1 lb box	\$1.99	MIL-M-10598

5. Herbicides. To be issued as required for use by the installation engineer and under the supervision of personnel trained in their proper use.

Federal stock No.	Item	Unit pkg.	Price per Unit pkg.	Specification
6840-833-1217	Herbicide, Amitrole (90%) (Amino- Triazole) Powder Form.	24 lb pail	\$46.50	O-H-190
6840-027-6467	Herbicide, Borate-Bromacil Mixture 4% Bromacil, 71.2% DTP, 22.8% DTD, 2% Inert Ingredients.	50 lb bag	16.00	
6840-890-2146	Herbicide, Bromacil, 80% Bromacil, 20% Inert Ingredients, Powder Form.	50 lb drum	228.00	
6840-926-9094	Herbicide, Cacodylic Acid (blue) Liquid Form.	55 gal drum	385.00	
6840-684-8975	Herbicide, Chlorate (25%)-Borate Mixture, Powder (Polybor-chlorate).	50 lb bag	5.70	O-H-202
6840-681-9475	Herbicide, Dacthal, 75% Dimethyl Ester of Tetrachloroterephthalic Acid, 25% Inert Ingredients Powder Form.	50 lb drum	118.00	FED O-H-206
6840-577-4204	Herbicide, Dalapon, Sodium Salt Powder (85%).	50 lb drum	348.00	O-H-205
6840-905-4304	Herbicide, Dicamba, 49% Dicamba, 43.1% Inert Ingredients, 7.9% Dimethylamine Salts of Related Acids, Liquid Form.	1 gal bottle	5.25	
6840-815-2799	Herbicide, Diquat, 35.3% Diquat Dibromide, 64.7% Inert Ingredients, Liquid Form.	5 gal drum	120.00	
6840-825-7790	Herbicide, Diuron, Powder Form (80%).	50 lb drum	130.00	MIL-H-51152
6840-965-2071	Herbicide, DSMA, 63% disodium methylarsonate, Powder Form.	100 lb drum	38.20	O-H-204
6840-810-6920	Herbicide, Fenuron, Pellets (25%).....	50 lb bag	60.00	MIL-H-51151
6840-514-0644	Herbicide, Monuron, Powder (80%).....	50 lb drum	113.00	MIL-H-51153

Agent Blue

Federal stock No.	Item	Unit pkg.	Price per Unit pkg.	Specification
6840-990-1464	Herbicide, Picloram, 11.6% Potassium Salt, 88.4% Inert Ingredients, Pellet Form.	50 lb drum	\$69.00	
6840-629-1638	Herbicide, Picloram-Silvex Salt (Tordon 101) Liquid Form.	5 gal drum	57.00	
6840-926-9093	Herbicide, Picloram-Silvex Salt (Tordon 101) (White), Liquid Form.	55 gal drum	385.00	
6840-882-4810	Herbicide, Silvex, Low Volatile Ester (4 lb acid per gallon).	5 gal drum	77.00	
6840-814-7334	Herbicide, Simazine, Powder (80%)	5 lb bag	12.75	O-H-207 Type I
6840-664-7060	Herbicide, 2,4-D, Liquid Form (4 lb acid/gal) Amine Salt.	5 gal can	11.95	O-H-200 Type II
6840-577-4194	Herbicide, 2,4-D, Low Volatile Liquid Ester (4 lb acid per gal).	5 gal drum	18.30	O-H-200 Type III Class 2
6840-577-4195	Herbicide, 2,4-D, Low Volatile Liquid Ester (4 lb acid/gal).	55 gal drum	181.00	O-H-200 Type III Class 2
6840-825-7792	Herbicide, 2,4-D, 2,4,5-T mixture Low Volatile Liquid Ester (2 lb each acid/gal).	55 gal drum	297.00	
6840-582-5440	Herbicide, 2,4,5-T, Low Volatile Liquid Ester (4 lb acid per gal).	5 gal can	32.60	O-H-210 Type II Class 2
6840-577-4201	Herbicide, 2,4,5-T, Low Volatile Liquid Ester (4 lb acid per gal).	55 gal drum	348.00	O-H-210 Type II Class 2
6840-926-9095	Herbicide, 2,4-D and 2,4,5-T (orange).	55 gal drum	385.00	MIL-H-51147 & MIL-H-51148

On VA "Exposure List"

Agent White

Herbicides
on the VA
"Exposure List"

Agent Orange

6. Disinfectants. To be issued as required by the using organization or personnel.

Federal stock No.	Item	Unit pkg.	Price per Unit pkg.	Specification
6840-810-6396	Disinfectant, Food Service, Type I	4.47 oz pouch	.50	MIL-D-11309D
6840-530-7109	Disinfectant, Germicidal and Fungicidal Concentrate, Liquid.	1 gal bottle	1.00	O-D-406 Type I
6840-753-4797	Disinfectant, Germicidal and Fungicidal Powder, Phenol Type.	1 oz pouch	.14	MIL-D-51061

7. Deodorant.

Federal stock No.	Item	Unit pkg.	Price per Unit pkg.	Specification
6840-721-6055	Deodorant, General Purpose, Liquid Pressurized Dispenser.	16 oz can	.41	P-D-00200

Note. Above item for issue only to Hospitals and other medical facilities for use "in areas where patients have draining flesh wounds and/or patients who are in casts with deteriorating flesh". The provisions of paragraph 4-6b(1) (a)2, AR 40-5, are still valid. This item should not be issued for masking odors in latrines.

8. Miscellaneous. To be issued as required for use by the installation Engineer and under the supervision of personnel trained in their proper use.

Federal stock No.	Item	Unit pkg.	Price per Unit pkg.	Specification
6840-063-3981	Algicide (Cuprose)	50 lb bag	\$24.50	
6840-062-4337	Sewer Treatment Compound	50 lb pail	15.00	
6840-062-4338	Sewer Treatment Compound	55 gal drum	200.00	

By Order of the Secretary of the Army:

W. C. WESTMORELAND,
General, United States Army,
Chief of Staff.

Official:

KENNETH G. WICKHAM,
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