

6241 HYGIENE AND SANITATION

(PERMANENT) SECNAVINST 5212.5B
PART II, CHAP. 6, PAR 6240(1) 2 YRS

CARBON PAPERS

THIS DOCUMENT CONTAINS CARBON PAPERS

Confidential Records Management, Inc.
New Bern, NC
1-888-622-4425
10/08

2-Way Memo

Subject: Disposal of STB

To: Betz/
Barbee

Where can we
file this?

<p>ever possible. ssage): guage. ne copy. ssage): age, keep one</p>

To : Danny Shape
NREAD
MCB
Camp Lajeune, NC 28542

DATE OF MESSAGE 19 Sep 86	ROUTING SYMBOL AFZF-DE-ENV
------------------------------	-------------------------------

SIGNATURE OF ORIGINATOR <i>A. J. Rivera</i> A. J. Rivera
TITLE OF ORIGINATOR Env. Prot. Spec

FOLD MESSAGE FOLD

As requested by Tom Barbee, enclosed is the guidance for disposal of STB. Let us know if we can be of further assistance.

Enclosures:

1. Fort Hood local guidance
2. Technical Guide No. 126, Guidance HB01
3. TM43-0003-28

REPLY

From : Commander
HQ, III Corps and Fort Hood
ATTN: AFZF-DE-ENV (A. J. Rivera)
Fort Hood, TX 76544-5057

DATE OF REPLY	ROUTING SYMBOL
SIGNATURE OF REPLIER	
TITLE OF REPLIER	

12 - Snow White

To: Betty
at
B.A.P.

INSTRUCTIONS

1. To avoid any damage to the
contents, please do not
use a sharp object to
open the envelope.
2. If the contents are
not as expected, please
return the envelope
to the sender.

3. Please do not
write on the envelope.
4. Please do not
use the envelope for
other purposes.

5. Please do not
use the envelope for
other purposes.

6. Please do not
use the envelope for
other purposes.

7. Please do not
use the envelope for
other purposes.

8. Please do not
use the envelope for
other purposes.

9. Please do not
use the envelope for
other purposes.

10. Please do not
use the envelope for
other purposes.

11. Please do not
use the envelope for
other purposes.

12. Please do not
use the envelope for
other purposes.

13. Please do not
use the envelope for
other purposes.

14. Please do not
use the envelope for
other purposes.

15. Please do not
use the envelope for
other purposes.

16. Please do not
use the envelope for
other purposes.

17. Please do not
use the envelope for
other purposes.

18. Please do not
use the envelope for
other purposes.

2-Way Memo

Subject: Disposal of STB

To: Betz/
Barbee

To : Danny Shape
NREAD
MCB
Camp Lajeune, NC 28542

INSTRUCTIONS

Use routing symbols whenever possible.
SENDER (Originator of message):
 Use brief, informal language.
 Conserve space.
 Forward original and one copy.
RECEIVER (Replier to message):
 Reply below the message, keep one copy, return one copy.

DATE OF MESSAGE	ROUTING SYMBOL
19 Sep 86	AFZF-DE-ENV
SIGNATURE OF ORIGINATOR	
<i>A. J. Rivera</i>	
A. J. Rivera	
TITLE OF ORIGINATOR	
Env. Prot. Spec	

FOLD _____ MESSAGE _____ FOLD

As requested by Tom Barbee, enclosed is the guidance for disposal of STB. Let us know if we can be of further assistance.

Enclosures:

1. Fort Hood local guidance
2. Technical Guide No. 126, Guidance HB01
3. TM43-0003-28

REPLY

From : Commander
 HQ, III Corps and Fort Hood
 ATTN: AFZF-DE-ENV (A. J. Rivera)
 Fort Hood, TX 76544-5057

DATE OF REPLY	ROUTING SYMBOL
SIGNATURE OF REPLIER	
TITLE OF REPLIER	

1. RETAINED BY ADDRESSEE

5027-107

OPTIONAL FORM 27 (Rev. 7-81)
 GSA FPMR (41 CFR) 101-116
 NSN 7540-00-082-2447

2-Way Memo

Subject: **Disposal of STB**

To: *Betz / BARbee*

From : **Danny Shape**
NREAD
MCB
Camp Lajeuse, NC 28542

INSTRUCTIONS

Use routing symbols whenever possible.
SENDER (Originator of message):
 Use brief, informal language.
 Conserve space.
 Forward original and one copy.
RECEIVER (Replier to message):
 Reply below the message, keep one copy, return one copy.

DATE OF MESSAGE	ROUTING SYMBOL
19 Sep 86	AFZF-DE-ENV
SIGNATURE OF ORIGINATOR	
<i>A. J. Rivera</i>	
A. J. Rivera	
TITLE OF ORIGINATOR	
Env. Prot. Spec	

FOLD _____ MESSAGE _____ FOLD

As requested by Tom Barbee, enclosed is the guidance for disposal of SSTB. Let us know if we can be of further assistance.

Enclosures:

1. Fort Hood local guidance
2. Technical Guide No. 126, Guidance HB01
3. TM43-0003-28

REPLY

To : **Commander**
HQ, III Corps and Fort Hood
ATTN: AFZF-DE-ENV (A. J. Rivera)
Fort Hood, TX 76544-5057

DATE OF REPLY	ROUTING SYMBOL
SIGNATURE OF REPLIER	
TITLE OF REPLIER	

CONFIDENTIAL

Department of Justice

Internal Security

CONFIDENTIAL

SECRET

Department of Justice

Internal Security

is requested by the Bureau, enclosed in the envelope for dispatch to the Bureau, to be of further assistance.

- 1. Your best local reference
- 2. Technical Guide No. 100, Criminal Code
- 3. TAC-000-100

CONFIDENTIAL
U.S. DEPARTMENT OF JUSTICE
FEDERAL BUREAU OF INVESTIGATION
WASHINGTON, D.C. 20535

Fort Hood
(Local Guidance)

STB DISPOSAL INSTRUCTIONS

(Reference: TM 43-003-28)

Consultation with Mr. Carl White of WCID (526-6343) indicates the Killeen sewage plant can handle small amounts of STB when prepared in the following manner:

- (1) Obtain a 55 gallon container that has been rinsed thoroughly to be free of chemical residue.
- (2) Add 10 lbs of STB and 20 gallons of water (or more). Mix with a "paddle" (whatever is available to help dissolve the STB).
- (3) Allow to stand $\frac{1}{2}$ hour. Add to the sewer system (floor drain, sink, or toilet) at a rate of about 5 gallons/hour. One gallon every 10 to 15 minutes would be best.

Note: Mixing should be done outside, upwind with rubber gloves, rubber apron, and face shields. Respirators are not required unless the individuals doing the mixing are experiencing problems (e.g., trouble breathing).

For further information, contact Mrs. Eve Cope, 287-8711.

Enclosure 1

Fort Hood
(Local Exchange)

Enclosure 1

DISCLAIMER

THE RECOMMENDED DISPOSAL INSTRUCTION IS FORMULATED FOR USE BY ELEMENTS OF THE DEPARTMENT OF DEFENSE. THE UNITED STATES OF AMERICA IN NO MANNER WHATSOEVER EXPRESSLY OR IMPLIEDLY WARRANTS, STATES, OR INTENDS SAID INSTRUCTION TO HAVE ANY APPLICATION, USE, OR VIABILITY BY OR TO ANY PERSON OR PERSONS OUTSIDE THE DEPARTMENT OF DEFENSE NOR ANY PERSON OR PERSONS CONTRACTING WITH ANY INSTRUMENTALITY OF THE UNITED STATES OF AMERICA AND DISCLAIMS ALL LIABILITY FOR SUCH USE. ANY PERSON UTILIZING THIS INSTRUCTION WHO IS NOT A MILITARY OR CIVILIAN EMPLOYEE OF THE UNITED STATES OF AMERICA SHOULD SEEK COMPETENT PROFESSIONAL ADVICE TO VERIFY AND ASSUME RESPONSIBILITY FOR THE SUITABILITY OF THIS INSTRUCTION TO THEIR PARTICULAR SITUATION REGARDLESS OF SIMILARITY TO A CORRESPONDING DEPARTMENT OF DEFENSE OR OTHER GOVERNMENT SITUATION.

HBO1

I. COMMERCIAL CONTRACT.

II. SAFETY AND CONTROL MEASURES. Disposal personnel handling this item should wear coveralls; acid-resistant gloves, apron and boots; chemical safety goggles/facemask. A National Institute for Occupational Safety and Health respirator approved for this item should be available.

III. SANITARY SEWER.

A. Preferred Method. The preferred method of disposal is neutralization followed by discharge into the sanitary sewer. Fill with water (72°F minimum) a large container equipped with a stirring device and add sodium sulfite not to exceed 10 percent (maximum) of the water weight. For every unit weight of sodium sulfite in solution, add 1.8 unit weights of the disposal item; 28 pounds of sodium sulfite are mixed with 35 gallons of water to reduce 50 pounds of the disposal item. Let the mixture stand for 5 minutes and test for a chlorine residual of zero. If necessary add small amounts of sodium sulfite until the residual is zero. Neutralize to pH 7 with 6 molar hydrochloric acid and allow to settle. The pH can be determined by using pH test paper. Decant the supernatant into the sanitary sewer with a large excess of water.

B. Alternative Method.

1. Primary Sewage Treatment. In a sufficiently large container, slowly add the disposal item to water at a rate of 1 pound to 1 gallon of water. Mix, let stand for 15 minutes, and drip into the sanitary sewer or into the final clarifier effluent (in addition to or as a substitute for the usual final chlorinate depending on chlorine demand) at a rate not to exceed 1 gallon per hour for each 100,000 gallons of average daily sewage flow at the sewage treatment plant. NOTE: The sewage treatment plant's effluent shall be tested prior to discharge for total chlorine residual with sufficient frequency to ensure that it complies with applicable State and Federal standards.

2. Secondary Sewage Treatment. In a sufficiently large container, slowly add the disposal item to water at a rate of 1 pound to 1 gallon of water. Mix, let stand for 15 minutes and drip into the final clarifier effluent (in addition to or as a substitute for the usual final chlorination depending upon chlorine demand) at a rate not to exceed 1/2 gallon per hour for each 100,000 gallons of average daily flow at the sewage treatment plant. NOTE: The sewage treatment plant's effluent shall be tested prior to discharge for total chlorine residual with sufficient frequency to ensure that it complies with applicable State and Federal standards.

IV. SANITARY LANDFILL.

A. End Item. Do not bury this item.

B. Sludge. Sludge from the neutralization procedure may be buried in a permitted sanitary landfill.

V. INCINERATION. Do not incinerate this item.

U.S. Army, Environmental Hygiene Agency

Enclosure 2

TECHNICAL MANUAL

DEMILITARIZATION PROCEDURES

FOR

FSC 4230 DECONTAMINATING AND

IMPREGNATING EQUIPMENT

FSC 4410 INDUSTRIAL BOILERS

FSC 6810 CHEMICALS

FSC 6850 MISCELLANEOUS

CHEMICAL SPECIALTIES

This copy is a reprint which includes current
pages from Change 1.

HEADQUARTERS, DEPARTMENT OF THE ARMY

SEPTEMBER 1976

Enclosure 3

Enclosure 3

begins, all equipment and material required for repackaging must be assembled, and all personnel involved be familiar with the repackaging procedure.

g. Duplicate exactly existing labeling (on DANC containers) on outer drum. Drum labeling must also provide a description of the condition of the inner-pack DANC container and quantity of tetrachloroethane it contains. The label must include the following wording verbatim as found on the Department of Agriculture, (DA Label 46) Danger—Tetrachloroethane.

DANGER

Vapor extremely hazardous. Use only in completely enclosed systems. Do not breathe vapor. Do not get in eyes, on skin, on clothing. Do not take internally.

POISON

h. Store drum in a cool, dry area.

3-35. CONUS Shipment of DANC
Forward overpacked DANC units from CONUS activities for storage as follows:

- Use only steel drums of 20 gauge, or greater thickness.
- Overpack DANC, seal, and label outer containers, in accordance with instructions given above (para 3-34).
- Palletize to the greatest extent possible.
- Ship common carrier—less than truck load.
- Freight classification NMFC A-12 Item 47080 sub 2.

f. Ship to Transportation Officer, Pine Bluff Arsenal, AR 71611, Account Number W41G27, and mark for W41R2C.

3-36. Shipment of DANC from Overseas Activities
Forward overpacked DANC units from overseas activities for storage as follows:

- Use only steel drums of 16 gauge, or greater, thickness.
- Overpack DANC, seal, and label outer containers, in accordance with instructions given above (para 3-34).

- Palletize to the greatest extent possible.
- Ship via MSC owned vehicles only.
- Ship common carrier if less than truck load from CONUS port to storage site.
- Freight classification NMFC A-12 Item 47080 sub 2.
- Ship to Transportation Officer, Pine Bluff Arsenal, AR 71611, Account Number W41G27, and mark for W41R2C.

3-37. Spills of DANC

a. Decontaminate spills not involving personnel in accordance with instructions in TM 3-220. When a spill occurs, evacuate all personnel not required to clean up the spill.

NOTE

Spills on protective clothing should be decontaminated as soon as possible after removal of the protective clothing, and after evacuation of all personnel not required for clean up.

b. When personnel come in contact with DANC chemicals on unprotected areas of the body, wash the contaminated area with soap and water immediately, then rinse with copious amounts of water, and refer for medical evaluation.

WARNING

Personnel coming in contact with DANC chemicals or personnel ingesting vapor or dust from DANC chemicals, must receive immediate medical attention.

3-38. Area Sampling

The Director of Facilities may sample the atmosphere for tetrachloroethane vapor, when required, by grab air sampling using MSA Tube 85834. Use MSA Tube 82399 to sample for chlorine gas, which may result from an accident involving RH-195, the solid (powder) component of DANC.

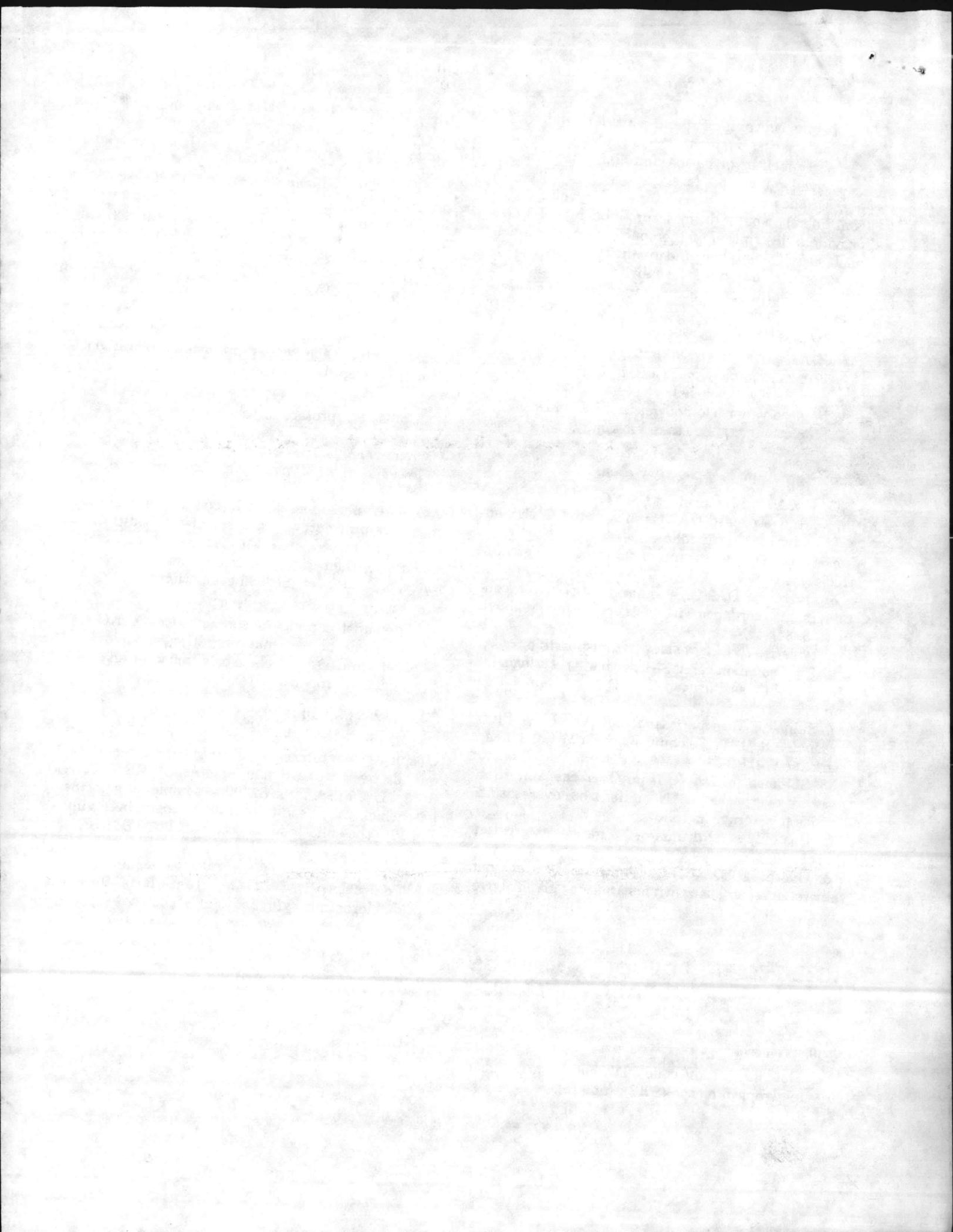
NOTE

No sampling tube for RH-195 (dichlorodimethylhydantoin) is known.

Section XIII. DECONTAMINATING AGENT: SUPERTROPICAL BLEACH (STB) NSN 6850-00-297-6653 (50 LB DRUM)

3-39. General

a. Demilitarization code "D" has been assigned to supertropical bleach (STB). (fig. 18).





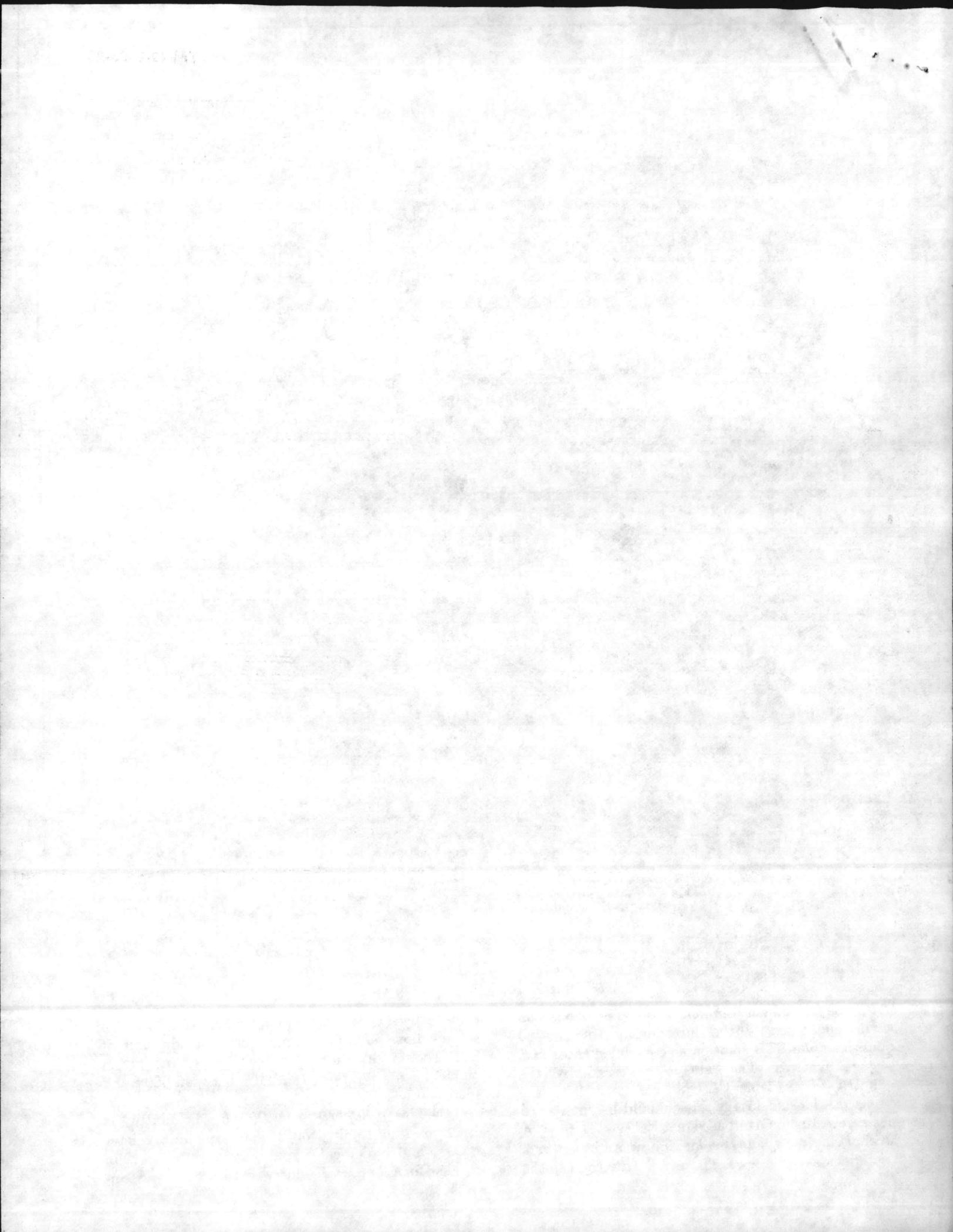
AR601381

Figure 18. Decontaminating Agent, STB.

b. The fundamental principle for STB disposal in small quantities is the introduction of limited quantities of a STB solution at controlled rates into sewage systems. The rate is governed by the quantity of available C1 (chlorine) that is to be released. Chlorine dosage rates should be such as to not exceed 10 mg C1/l based on total sewage flow. A level of chlorine above this maximum might act as a bactericide on the sewage flora. In order to keep the

chlorine level as low as possible and the dilution with sewage flow as high as practical, introduction of STB should take place at the time of maximum municipal sewage flow, normally between 0600 and 1800 hours.

(1) *Use of Supertropical Bleach.* The mixture is used for decontamination of nerve agents, blister agents, and biological agents, and can be used in powder form, or as a slurry with water and an-



tisetting compound. STB is packaged in 50 pound metal drums.

(2) *Composition.* STB is a mixture of chlorinated lime and calcium oxide in white powder form which, when manufactured, contains approximately 30 percent available chlorine. For purposes of disposal, it is essentially the same as chlorinated lime.

(3) *Hazardous Properties.* STB is a strong oxidizing agent, is very caustic and reacts with water to produce heat and toxic and corrosive vapors. It is extremely corrosive to metal containers.

NOTE

Before disposal, adequate prior coordination will be accomplished with appropriate representatives of Facilities Engineering Directorate, the Medical Activity, Health and Environment Service, and the Safety Office.

3-40. Health and Safety Precautions

STB water mixture can be highly irritating to the skin, eyes, and respiratory system.

WARNING

Instructions for safe handling and disposal of STB provided in these procedures should be carefully followed.

a. Initial phases of this disposal procedure should be technically supervised by a qualified environmental coordinator.

b. Minimum protective equipment will include rubber gloves, rubber apron, and face shield. Requirements for respiratory protection will be determined by the Facilities Engineering Directorate based on local circumstances of the disposal operations.

3-41. Preparation of Disposal

a. STB is basically a disinfectant and oxidizing agent, and can be safely disposed of by introduction into the sanitary sewage system. Specific procedures are outline below:

b. Preparation of STB—Water Moisture

(1) Obtain at least two 55-gallon drums, or any containers of this approximate volume. [If quantities to be disposed of are such that disposal will take more than one week, a ceramic crock or rubber plastic-lined container should be used, to avoid deterioration (corrosion) of the container by the STB.]

(2) Modify one container such that chlorine solution can be introduced into sewer at a controlled rate.

(3) Using second container, fill half-way with water and then carefully mix in approximately 30 pounds of STB (the quantity of STB should be

proportionately changed if container volume is other than 55 gallons).

(4) Fill container with water to within 6 inches of the top, mix well, and allow to stand for 15 minutes.

3-42. Disposal Procedures

The methods for disposal will be one or a combination of the following:

a. Delivery of the dry STB to personnel of local sewage plant.

b. Metering the standard mix of STB in 2 gallon quantities, into the sewage system by pouring down a toilet, with a maximum disposal rate of 5 gallons of STB solution per hour.

c. Concept of Operations—STB must be diluted to the extent that it will not exceed a dosage rate of 10 mg of chlorine per liter of sewage, as determined, at the entry point to the sewage treatment plant. To remain below this dose rate and aid in the mixing of STB, the following techniques will be used:

(1) Obtain at least two 55 gallon drums or an equivalent of this approximate volume. If quantities to be disposed of are such that disposal will take more than a week, a ceramic crock or rubber/plastic lined container is to be used. This will avoid deterioration of the slurry and corrosion effects on the metal container.

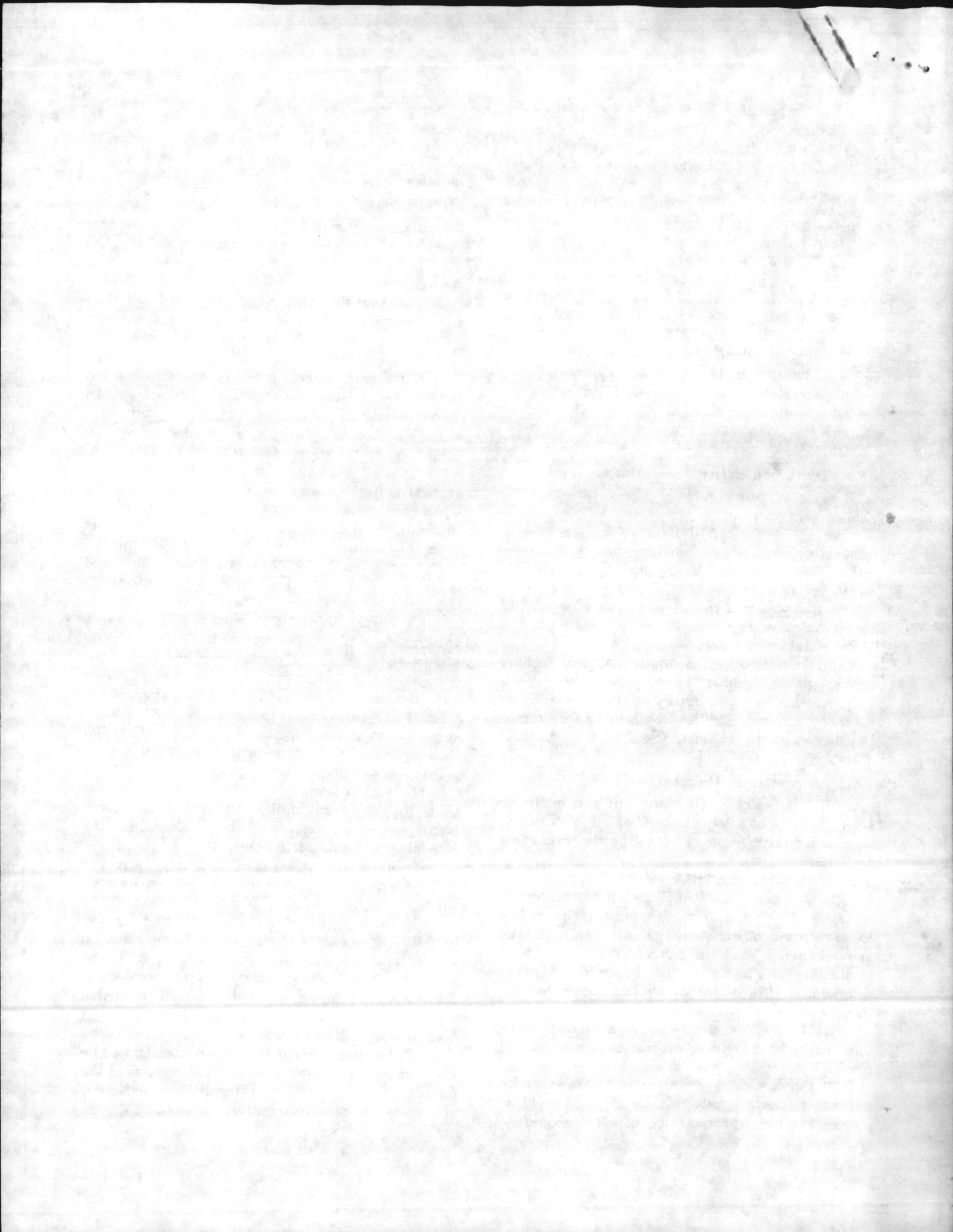
(2) In each drum add 1 pound of STB for every two gallons of water. The total liquid volume should not exceed 50% of the container volume. Mix the contents well by hand using a paddle type apparatus and allow to stand for half an hour prior to disposal.

(3) If the disposal is to take place into a sewage system that serves population in excess of 10,000 then the STB solution can be introduced via a flush toilet at the rate not to exceed 5 gallons/hour.

(4) With a sewer serving a population of less than 10,000, consultation with sewage treatment plant personnel must take place, to determine the allowable feed rate of the slurried STB.

(5) Prior to disposal of STB in any form, the local sewage treatment authorities should be consulted, either in the civilian community or at the installation (e.g., post, camp, or station) to insure that they are aware of the proposed disposal and do not object to the same. If there is an objection to the proposed disposal, a sanitary engineer, or Medical Service Corps personnel at the lowest available command level should be requested to assist in discussions with the local sewer authorities.

d. Siphon supernatant liquid into container to be used for metering flow. Insoluble material left in the mixing container should be removed periodically, and placed in sanitary landfill.



e. The controlled flow container should be placed such that the chlorine solution can be introduced into sewage as outlined below for the type of sewage treatment system involved. There are two basic types of system, primary sewage treatment facilities and secondary sewage treatment facilities.

3-43. Installation Having Primary Sewage Treatment Only

a. Introduce the chlorine solution into the sanitary sewer to wet well at head of the sewage treatment plant at a maximum rate of 10 milligram (mg) chlorine to one liter of sewage.

CAUTION

Chlorine levels in final effluent should not be permitted to exceed the most stringent of Federal, State or local stream standards or discharge limits, and in no case should exceed 10 mg chlorine per liter effluent.

b. It is recommended that the solution be fed to system only between the hours of 0600 to 2200, to avoid periods of minimal sewage flow.

c. For example, if average sewage flow is 1,000,000 gallons per day, the 55 gallons of STB water mixture (containing 30 pounds of STB) should be trickled into the sewer at a rate that will extend the flow over the period 0600 to 2200 hours.

3-44. Installation Having Secondary Sewage Treatment Facilities

a. Introduce chlorine solution into sewage treatment plant just ahead of the final clarifier at the

maximum rate of 5.0 mg chlorine to one liter sewage. (If adequate detention time is provided for at the final effluent point of the plant, the chlorine solution may instead be introduced at that point, in the same concentration.)

b. If significant recycling of final clarifier flow to secondary treatment is practiced, effect of the chlorine on biological processes must be evaluated, and the rate of feed reduced, if necessary. This precaution is even more applicable to plants utilizing the activated sludge process.

NOTE

If effluent chlorination is practiced, discharge of the solution should be ahead of the chlorine detention basin, and chlorination should be stopped or reduced during such discharge.

CAUTION

Chlorine levels in final effluent should not be permitted to exceed the most stringent of Federal, State and local stream standards or discharge limits, and in no case should exceed 1.0 mg chlorine per liter effluent.

c. As noted above, the solution should be fed into the plant only between 0600 and 2200 hours.

d. For a plant having an average flow of 1,000,000 gallons per day, four 55 gallon containers of solutions, prepared as specified in paragraph 3-41, could be disposed of over the period 0600 to 2200 hours, provided limits cited in the CAUTION, above, are not exceeded.

Section XI. ANTISETTING COMPOUNDS, DECONTAMINATING SLURRY

NSN 6850-00-656-0926 (12½ LB CAN)

NSN 6810-00-270-6217 (6½ LB DRUM)

3-45. General

a. Demilitarization code "C" has been assigned to Antisetting Compounds (fig. 19 and 20).

