



NZTIWF TECHNICAL GROUP

Paper #002

Disposal of Septic Tank Waste Contaminated with Chemicals from Clandestine Methamphetamine Laboratories

2018 Edition - Version 1

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INTRODUCTION

Throughout New Zealand there has been a growing problem with Methamphetamine (“P”) production and use.

There are procedures in place for the Police units who find these “P” Labs and the clean-up organisations that decontaminate the buildings. However there is no literature or procedures for dealing with Septic Tank Waste that has been contaminated with chemicals from these illegal laboratories.

Many “P” Labs are set up on properties with connections to sewer mains which often mean’s the chemicals have long since passed through the local treatment plant before the Lab has been discovered. With the dilution factor of the sewer system it may not have had any noticeable effect on the treatment facility at all.

When these labs are set up in buildings connected to a septic tank or holding tank system there is likely to be a cocktail of chemicals in a relatively concentrated mix. This may be harmful to not only the Liquid Hazardous Waste Operators, but the treatment plant facility staff and the treatment plant itself.

This document has been written to provide advice to NZ Trade Waste Officers and Liquid Hazardous Waste Operators should they find themselves faced with a septic tank that has been contaminated in this way.

ACKNOWLEDGEMENTS

This Guide has been produced from information supplied by the following organisations:

- Timaru District Council
- Waste Management Technical Services Ltd
- Hills Laboratories
- New Zealand Police
- Massey University Wellington, Nick Kim – Senior Lecturer – School of Health Sciences

Definitions

“P” Lab	-	A clandestine methamphetamine laboratory
TWO	-	Trade Waste Officer
LHWO	-	Liquid Hazardous Waste Operator
EHO	-	Environmental Health Officer

Types of Contaminated Sites

There are two main types of contaminated “P” sites.

- The first is a site that has been contaminated through “P” use and for the purposes of this document we will treat septic wastes from these sites as any other septic waste.
- The second is a site that has been contaminated by chemicals used in the manufacture of Methamphetamine. These are the sites that this document will focus on.

Current Protocols

Upon finding a clandestine lab the NZ Police enlist Chem Couriers to remove any remaining chemicals. These are delivered to ChemWaste for disposal.

The local council’s Environmental Health Officers (EHO’s) receive notification of the lab from the NZ Police and once the Police have finished with the property it is handed over to the decontamination companies to remove any contaminated materials from the buildings. These companies adhere to their own guidelines.

It is strongly recommended that each TWO put procedures in place with their local EHO’s in order to ensure they are notified when these Labs are found.

Common Contaminants

Common contaminants found in these types of illegal Industries include, - but are not limited to:

Acetone	Sodium Hydroxide
Lithium	Sulphuric Acid
Toluene	Anhydrous Ammonia
Hydrochloric Acid	Lantern or Lighter Fluid
Pseudoephedrine	Ether
Red Phosphorus	Antifreeze
Iodine Crystals	Other drugs containing Pseudoephedrine
Heavy Metals	

Sampling and Testing Suite

Based on the commonly found contaminants mentioned above, Hill Laboratories have designed a Sampling Suite that will test for all of these contaminants.

For a specific quote for your council to cover these contaminants please contact Hill Laboratories on 0508 44 555 22. Please use quote number 87743 as a reference for this Testing Suite.

Sample bottles required:

1 x UP1L - Unpreserved, Polyethylene 1L bottle

1 x N250 - Nitric Acid Preserved, Polyethylene 250ml bottle

2 x VOC40 – Ascorbic Acid Preserved, Amber Glass, Teflon lined lid 40ml

In addition to the above testing it is recommended to do onsite pH testing as well.

If using a different Testing Laboratory please forward them the list of chemicals above and request that they provide a testing suite to cover these.

Recommended Procedures

1. Once notification is received by the TWO it is recommended that they in turn notify their LHWO's not to take any action until preliminary testing can be undertaken to determine the contents. This is done in the interest of the safety of their staff and to avoid any accidental exposure or disposals to local treatment plants.
2. The site should be secured to prevent any accidental exposure (see Safety Section).
3. Safety measures to be put in place (see Safety Section).
4. Open the Tank and allow venting for **at least 10 minutes**.
5. Ensure that the tank is **gently** mixed to provide representative samples and then use a sampling pole to obtain the samples.
6. Initial sampling of the tank is done to determine composition. This should be done by the TWO or other suitably trained person (see sampling section for testing requirements). This should be completed prior to any emptying or cleaning of the septic tank.
7. Replace the tank lid and secure the site. Place notification signs warning of the danger.
8. Package and send samples with paperwork to Testing Laboratory.
9. Once results are in then they should be forwarded to Waste Management Technical Services (WMTS) who can then advise on safe method of transport and the paperwork required.
10. Once these steps are completed then the tank can be emptied (following the advice from WMTS). Remember to follow all the same safety protocols.
11. The work should be able to be completed without having to physically enter the vessel but should this be necessary then confined space procedures and full BA gear will need to be in place.
12. The tank should be flushed twice with water and this water also removed to the disposal site. This will dilute the composition so it is recommended to record the estimated amount of flush water used and notify WMTS. See Safety section for recommended PPE.

Disposal Sites

As mentioned earlier ChemWaste can dispose most chemicals however they cannot process septic waste on site so they are not an option for contaminated sewage wastes.

Waste Management Technical Services can process this waste, however they do need to know what the composition is in order to process it and recommend how to safely transport.

www.wastemanagement.co.nz

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Auckland - 30 Neals Road, East Tamaki 09 274 7963

Rotorua - 13 Hyland Cres, Rotorua 07 3492542

Wellington - 57-59 Port Road, Seaview 04 568 0780

Christchurch - 88 Francella Street, Bromley 03 376 4191

Safety

Due to the complex and unknown mix of chemicals that could be present in septic tanks it is important to take as many safety precautions as possible.

The area should be cordoned off at a reasonable distance to prevent any non-essential staff entering the area.

When the site is left unattended the tank should be kept closed and cones and barrier arms or security fencing used to secure the area. Please consider the type of neighborhood when deciding on what is suitable (if there are likely to be children nearby then security fencing would be more suitable than barrier arms).

Warning signs should also be erected to warn of the danger.

The potential for flammable liquids and vapor to be present is a concern and all practicable steps should be taken to remove/prevent any ignition sources from the area.

During the initial testing phase there is a need to gently mix the contents of the tank in order to collect a representative sample. As there could be solvents, flammable substances and toxic fumes it is important that exposure is minimized as much as possible.

Please ensure that the Tank is allowed to vent for at least 10 minutes once opened to allow for any built up vapors to dissipate before commencing work.

The following is a list of the minimum recommended PPE:

- Tyvec disposable overalls
- Disposable gloves
- Safety Boots
- Safety Glasses
- Gas detector – This may not alert you to all of the potential airborne contaminants found in these situations so proceed with caution – just because it isn't alerting doesn't mean it is safe.

It is also recommended to source a mask with suitable replaceable cartridges to remove as many of the potential fumes as possible. Consult with your local safety equipment supplier for an appropriate unit (take this document with you as a reference).

Given the potentially potent cocktail of chemicals it is prudent to have a safety watch available at all times when both testing and cleaning. **IMPORTANT** – always stay upwind of the tank and the safety watch should be positioned at least 5 to 8m further back.

For rescue procedure purposes it would be advisable for the person working directly with the tank to be wearing a safety harness and be attached to a rope and winch/pulley that is anchored upwind at a reasonable distance.

Entry into the vessel should not be required but if it is necessary then confined space procedures and full BA gear will be required.

These safety recommendations are just a guide and advice should be sought from your companies Health and Safety department to ensure all practicable steps have been taken. It is the responsibility of the PCBU to manage the risks in accordance with all current Health and Safety legislation.